# Former Manufacturing Plant, Soils Human Health Risk Assessment Gibbsboro, New Jersey

## Administrative Order Index No. II CERCLA-02-99-2035

Prepared for
The Sherwin-Williams Company
101 Prospect Avenue
Cleveland, Ohio 44115

October 2017

GRADIENT
www.gradientcorp.com
20 University Road
Cambridge, MA 02138
617-395-5000

543980

# Table of Contents


Page

Executive Summary ..... ES-1

1 Introduction ..... 1
- 1.1 Site Description ..... 1
- 1.2 Future Site Uses ..... 2
- 1.3 Report Organization ..... 2

2 Exposure Areas ..... 4

3 Potential Receptors and Exposure Pathways ..... 5
- 3.1 North of Foster Avenue ..... 5
- 3.2 South of Foster Avenue ..... 6
- 3.3 East of United States Avenue ..... 6
- 3.4 Undeveloped Area ..... 6
- 3.5 FMP Buildings ..... 7

4 Data Summary ..... 8
- 4.1 General Data Considerations ..... 8
- 4.2 Soil ..... 9
- 4.3 Sediment ..... 10
- 4.4 Surface Water ..... 10
- 4.5 Sub-slab and Indoor Air Data ..... 10

5 Selection of Chemicals of Potential Concern ..... 11
- 5.1 Data Used and Screening Criteria ..... 11
- 5.2 Screening Results ..... 12
- 5.3 Screening for Tentatively Identified Compounds ..... 13
- 5.4 Chromium Data ..... 14
- 5.5 Vapor Intrusion Screening ..... 15

6 Exposure Point Concentrations ..... 17

7 Exposure Assessment ..... 18
- 7.1 Quantification of Exposure ..... 18
  - 7.1.1 Incidental Ingestion of Soil ..... 19
  - 7.1.2 Dermal Contact with Soil ..... 22
  - 7.1.3 Inhalation of Particulates and VOCs from Soil ..... 25
  - 7.1.4 Incidental Ingestion and Dermal Contact with Sediment ..... 28
  - 7.1.5 Dermal Contact with Surface Water ..... 29
- 7.2 Adult Lead Model ..... 34
- 7.3 IEUBK Model ..... 36

8 Toxicity Assessment ..... 37
8.1 Overview of Toxicity Values ..... 37
8.2 Lead ..... 39

9 Risk Characterization ..... 41
9.1 Calculation of Cancer Risk ..... 41
9.2 Calculation of Non-cancer Hazard ..... 42
9.3 Risk Characterization for Lead ..... 43
9.4 Risk Results ..... 43
9.4.1 North of Foster Avenue ..... 44
9.4.2 South of Foster Avenue ..... 45
9.4.3 East of United States Avenue ..... 45
9.4.4 Undeveloped Area ..... 46
9.4.5 Undeveloped Area and Upper Hilliards Creek ..... 46

10 Uncertainty ..... 48
10.1 Uncertainties in Exposure Assumptions ..... 48
10.1.1 Exposure Pathways ..... 48
10.1.2 Exposure Point Concentrations ..... 48
10.1.3 Exposure Frequency and Duration ..... 50
10.1.4 Soil and Sediment Ingestion Rates ..... 50
10.1.5 Skin Surface Area Exposed to Sediment ..... 51
10.2 Uncertainty in COPCs ..... 51
10.2.1 COPC Selection ..... 51
10.2.2 Tentatively Identified Compounds ..... 51
10.3 Uncertainties in Dermal Absorption ..... 52
10.4 Uncertainties in Toxicity Reference Values ..... 52
10.5 Uncertainties Associated with Indoor Air Exposures ..... 53
10.6 Uncertainties in Setting a Target Lead Risk ..... 53

11 Conclusions ..... 55

References ..... 57

Appendix A Sample Locations Used in Risk Assessment
Appendix B Data Used in Risk Assessment
Appendix C-1 Risk Calculations for 5% Cr(VI) Analysis
Appendix C-2 Risk Calculations for 100% Cr(VI) Analysis
Appendix D EPH Screening Results
Appendix E Screening for Tentatively Identified Compounds
Appendix F Sub-slab and Indoor Air Screening
Appendix G ProUCL Output
Appendix H Blood Lead Modeling Results

# *List of Tables*


Table 1 FMP Exposure Areas and Receptors

Table 2 Number of Sample Locations by Exposure Area

Table 3 Surrogate Screening Criteria

Table 4 Screening Criteria for Compounds with Multiple Forms

Table 5 Summary of COPCs

Table 6 Analytes Eliminated as COPCs Due to Low Detection Frequency

Table 7 TICs Retained as COPCs

Table 8 Adult Lead Model Input Values

Table 9 IEUBK Model Input Values

Table 10 Summary of Total Cancer Risks and Non-cancer Hazards by Exposure Area

Table 11 Summary of Lead Risks

Table 12 COPCs that Would Be Eliminated if Pre-2005 Data Were Removed from HHRA

# *List of Figures*


Figure 1 FMP Site Location Map

Figure 2 FMP Exposure Areas

Figure 3 FMP Zoning Map

Figure 4 Conceptual Site Model – Former Manufacturing Plant (FMP)

Figure 5 NFA Exposure Area – Soil Sample Locations

Figure 6 SFA and EUSA Exposure Areas – Soil Sample Locations

Figure 7 UNDV Exposure Area – Soil Sample Locations

Figure 8 UHC Sediment and Surface Water Sample Locations

# *Abbreviations*

| | |
|---|---|
| µg | Microgram |
| ALM | Adult Lead Model |
| AOC | Administrative Order on Consent |
| APH | Air-Phase Petroleum Hydrocarbon |
| ATSDR | Agency for Toxic Substances and Disease Registry |
| bgs | Below Ground Surface |
| BKSF | Biokinetic Slope Factor |
| BLL | Blood Lead Level |
| CalEPA | California Environmental Protection Agency |
| CDC | Centers for Disease Control and Prevention |
| cm | Centimeter |
| $cm^2$ | Square Centimeter |
| CN- | Cyanide Ion |
| COPC | Chemical of Potential Concern |
| Cr(III) | Trivalent Chromium |
| Cr(VI) | Hexavalent Chromium |
| CSF | Cancer Slope Factor |
| CSM | Conceptual Site Model |
| dL | Deciliter |
| DOE | United States Department of Energy |
| ELCR | Excess Lifetime Cancer Risk |
| EPA | United States Environmental Protection Agency |
| EPC | Exposure Point Concentration |
| EPD | Effective Predictive Domain |
| EPH | Extractable Petroleum Hydrocarbon |
| EUSA | East of United States Avenue |
| FMP | Former Manufacturing Plant |
| FS | Feasibility Study |
| FSST | Former Service Station/Tavern |
| ft | Foot |
| g | Gram |
| GI | Gastrointestinal |
| GM | Geometric Mean |
| GSD | Geometric Standard Deviation |
| HCN | Hydrogen Cyanide |
| HEAST | Health Effects Assessment Summary Tables |
| HHRA | Human Health Risk Assessment |
| HI | Hazard Index |

| | |
|---|---|
| HQ | Hazard Quotient |
| IEUBK | Integrated Exposure and Uptake Biokinetic |
| in | Inch |
| IRIS | Integrated Risk Information System |
| IUR | Inhalation Unit Risk |
| kg | Kilogram |
| LMS | Linearized Multistage |
| LOAEL | Lowest Observed Adverse Effect Level |
| m | Meter |
| $m^2$ | Square Meter |
| $m^3$ | Cubic Meter |
| mg | Milligram |
| NHANES | National Health and Nutrition Examination Survey |
| NJDEP | New Jersey Department of Environmental Protection |
| NOAEL | No Observed Adverse Effect Level |
| NFA | North of Foster Avenue |
| OR | Office/Residential |
| ORNL | Oak Ridge National Laboratory |
| OTP | Office/Technical Park |
| PAH | Polycyclic Aromatic Hydrocarbon |
| PAR | Pathways Analysis Report |
| PEF | Particulate Emissions Factor |
| PCB | Polychlorinated Biphenyl |
| PO | Professional Office |
| PPRTV | Provisional Peer-Reviewed Toxicity Value |
| RAGS | Risk Assessment Guidance for Superfund |
| RAIS | Risk Assessment Information System |
| RDCSRS | Residential Direct Contact Soil Remediation Standards |
| RfC | Reference Concentration |
| RfD | Reference Dose |
| RI | Remedial Investigation |
| RME | Reasonable Maximum Exposure |
| RSL | Regional Screening Level |
| s | Second |
| SCSR | Site Characterization Summary Report |
| SFA | South of Foster Avenue |
| SRC | Soil Remediation Criteria |
| SVOC | Semi-volatile Organic Compound |
| TAL | Target Analyte List |
| TCL | Target Compound List |
| TEF | Toxic Equivalency Factor |

| | |
|---|---|
| TIC | Tentatively Identified Compound |
| TPH | Total Petroleum Hydrocarbons |
| | |
| UCLM | Upper Confidence Limit on the Mean |
| UHC | Upper Hilliards Creek |
| UNDV | Undeveloped Area |
| | |
| VC | Vinyl Chloride |
| VF | Volatilization Factor |
| VISL | Vapor Intrusion Screening Level |
| VOC | Volatile Organic Compound |
| | |
| XRF | X-Ray Fluorescence |

# Executive Summary

The Sherwin-Williams Company (Sherwin-Williams) is conducting a Remedial Investigation/ Feasibility Study (RI/FS) pursuant to Administrative Order on Consent (AOC) Index No. II CERCLA-02-99-2035 (US EPA Region II, 1999). This report presents the results of a Human Health Risk Assessment (HHRA) that was conducted for the Former Manufacturing Plant (FMP) in Gibbsboro, New Jersey.

The HHRA characterized the risk to human health from exposure to soil, sediment, and surface water at the FMP. The FMP was divided into four exposure areas: North of Foster Avenue (NFA), South of Foster Avenue (SFA), the Undeveloped Area (UNDV), and East of United States Avenue (EUSA). A section of Upper Hilliards Creek (UHC) is evaluated together with the UNDV for some receptors. The receptors evaluated in this HHRA included a Construction Worker, Utility Worker, and Outdoor Worker; child and adult Recreator; and adult and child Resident. Soil exposure pathways included incidental ingestion of soil, dermal contact with soil, and inhalation of vapors and particulates potentially emitted from soil. Soil was evaluated in the 0- to 10-foot (ft) or 0- to 2-ft depth interval, depending on the receptor. Sediment exposure pathways included incidental ingestion and dermal contact. Surface water exposure pathways included dermal contact while wading.

Chemicals of potential concern (COPCs) were determined for each exposure area and medium. COPCs in soil and sediment were determined by comparing the detected concentrations to conservative risk-based screening criteria (the lower of the United States Environmental Protection Agency [EPA] residential Regional Screening Level [RSL] or the New Jersey Residential Direct Contact Soil Remediation Standards [NJ RDCSRS]). COPCs in surface water were determined by comparing to EPA RSLs for tap water. In the absence of an RSL, the lower of the New Jersey surface water quality standard and federal Ambient water quality standard was used for surface water. Soil COPCs included metals, cyanide, polycyclic aromatic hydrocarbon (PAH) compounds, polychlorinated biphenyl (PCB) compounds, pesticides, semi-volatile organic compounds (SVOCs), volatile organic compounds (VOCs), and tentatively identified compounds (TICs). Sediment COPCs included metals, cyanide, PCB compounds, PAH compounds, and a TIC. Surface water COPCs included metals, cyanide, PAH compounds and VOCs. It should be noted that the COPCs in each medium were not necessarily COPCs in every exposure area.

Cancer risks and non-cancer hazards were evaluated following EPA guidance, using conservative estimates of exposure that tend to overestimate rather than underestimate, risk. An example of this conservatism is the assumption that a future Resident would live on the site for 26 years. Cancer risks are characterized as the incremental probability that an individual will develop cancer over a lifetime due to site-related exposures under the specific exposure scenarios evaluated. EPA's target cancer risk range is 1 in 1 million ($1 \times 10^{-6}$) to 1 in 10,000 ($1 \times 10^{-4}$). Non-cancer hazards are expressed as a total hazard index (HI) and EPA uses a target HI of 1. An HI less than or equal to 1 indicates that adverse non-cancer health effects are not expected, even in susceptible populations. An HI greater than 1 does not mean that adverse health effects will occur, only that further evaluation is warranted. Risk from exposure to lead was evaluated using blood lead models, pursuant to EPA guidance. At EPA's direction, lead risks are reported as the

probability of having a blood lead level (BLL) greater than 5 µg/dL.[1] EPA considers lead risks to exceed the target risk threshold if the probability of having a BLL greater than the blood lead target is greater than EPA's goal of 5%.

Chromium was detected in soil in all exposure areas evaluated and in sediment from UHC. In soil, chromium risks were calculated using Cr(VI) data. At the direction of EPA, chromium risks were calculated two ways in sediment, assuming that Cr(VI) is either 5% or 100% of the total chromium concentration. The 5% value is based on the ratio developed from the FMP soil data, while 100% was selected by EPA as a worst-case assumption.

Cancer risks for the Utility, Construction, and Outdoor Workers were within or below EPA's target risk range in all four exposure areas. Non-cancer hazards for the Utility and Outdoor Workers were below EPA's target HI in all four exposure areas. For the Construction Worker, non-cancer hazards exceeded EPA's target HI in the NFA and UNDV.

Cancer risks for the adult and child Resident exceeded EPA's target risk range in the NFA, SFA, and UNDV. Non-cancer hazards for the child Resident exceeded EPA's target HI in the NFA, SFA, and UNDV. Non-cancer hazards for the adult Resident exceeded EPA's target HI in the UNDV, but not the other three exposure areas.

*Assuming 5% Cr(VI) in sediment:* Cancer risks for the adolescent Recreator were within EPA's target risk range in the UNDV, which includes exposure to UHC. Risks for the child and adult Recreators and hazards for all Recreator receptors exceeded EPA's target risk range and HI. For the Recreators, exposure to sediment was the major contributor to cancer risk and non-cancer hazard.

*Assuming 100% Cr(VI) in sediment:* Cancer risks exceeded EPA's target risk range for all Recreators in the UNDV. Non-cancer hazards for all Recreators exceeded EPA's target HI. Exposure to sediment was the major contributor to cancer risk and non-cancer hazard.

The analytes with the greatest contribution to risk or hazard varied by exposure area and receptor, but generally included the following COPCs:

- **Soil:** Arsenic, antimony, hexavalent chromium, cyanide, benzo(a)pyrene, Aroclor 1260, and 1,2,4-trimethylbenzene (TIC)
- **Sediment:** Arsenic and chromium (evaluated as Cr(VI))[2]

Lead risks were evaluated for exposure to soil for a child Resident; a child, adolescent, and adult Recreator; a Utility Worker; a Construction Worker; and an Outdoor Worker. Lead risks exceeded EPA's target of 5% for the child Resident in the NFA, SFA, and UNDV; for the Construction and Outdoor Worker in the SFA; and the Construction Worker in the UNDV. Lead risks exceeded EPA's target of 5% in the UNDV+UHC for the child Recreator, largely due to exposure to sediment in UHC.

[1] EPA's May 2017 comment letter (US EPA Region II, 2017) directed that a target BLL of 5 µg/dL rather than 10 µg/dL be used in this HHRA for both adults and children, "consistent with recommendations provided by the EPA Lead Technical Review Workgroup for other Region 2 Superfund Sites" (no citation provided). EPA's OLEM Directive 9200.2-167 (US EPA, 2016a) indicates that evidence provided by current scientific literature supports the use of a target blood lead level less than 10 µg/dL.

[2] Cr(VI) is a risk driver in sediment only for the assumption that Cr(VI) is 100% of the total chromium concentration.

Risks to commercial workers from vapor intrusion were evaluated separately for eight buildings (1 Foster Avenue, 2 Foster Avenue, 4 Foster Avenue, 5 Foster Avenue, 7 Foster Avenue, 10 Foster Avenue, former 6 East Clementon Road, 3 US Avenue). The sub-slab and indoor air data were screened against health-based values that are protective of commercial worker exposures. Overall, the exceedances of criteria for the indoor air data indicate a potential risk to commercial workers. The VI risks may be underestimated, due to elevated detection limits for non-detected VOCs in sub-slab soil gas data, and VOCs without screening criteria that were detected at elevated concentrations in sub-slab soil gas and/or indoor air. Based on site observations and background sources (*i.e.*, non-site related indoor sources) of VOCs, many of the indoor air exceedances may be a result of contaminant sources unrelated to sub-slab vapor. However, it is not known whether VOCs detected in indoor air could have been present in sub-slab soil gas at levels below the detection limit, and thus whether the presence of these compounds in indoor air could be related to vapor intrusion.

# 1 Introduction

The Sherwin-Williams Company (Sherwin-Williams) is conducting a Remedial Investigation/ Feasibility Study (RI/FS) pursuant to Administrative Order on Consent (AOC) Index No. II CERCLA-02-99-2035 (US EPA Region II, 1999). RI activities are being conducted at the Sherwin-Williams/Hilliards Creek Site (Hilliards Creek Site), which includes the Former Manufacturing Plant Area (FMP Area) and Kirkwood Lake, located in Gibbsboro and portions of Voorhees, New Jersey. This report presents the results of a Human Health Risk Assessment (HHRA) that was conducted for the FMP Area in Gibbsboro, New Jersey.

This HHRA presents the risk assessment methodology and results for the evaluation of cancer risk and non-cancer hazard for the FMP Area (Figure 1). This HHRA is conducted in accordance with United States Environmental Protection Agency (EPA) guidance, the Pathways Analysis Report (PAR) submitted to EPA in September 2016 (Gradient, 2016), the comments received from the Agency on the PAR in December 2016 (US EPA Region II, 2016), and the comments received from the Agency on the draft HHRA in May 2017 (US EPA Region II, 2017).

## 1.1 Site Description

The Site Characterization Summary Report (SCSR) for the FMP presents the site description, site history, summary of previous investigations and the RI, and a summary of results (Weston, 2016). The general areas evaluated as part of the HHRA for the FMP are discussed below and shown on Figure 2. The zoning is shown on Figure 3.

- **Former Manufacturing Plant (FMP).** The FMP consists of 23.4 acres, and the extent is outlined on Figure 2. The areas within this boundary are considered as "onsite" for the purposes of this report. The northern section of the FMP is bounded by Clementon Road to the west, United States Avenue to the east, Foster Avenue to the south, and to the north by Silver Lake and commercial property. The southern section is bounded by Foster Avenue to the north, residential properties along West Clementon Road to the west, and United States Avenue to the east. The property to the south of the FMP includes vacant land and a cemetery. (Silver Lake and the portions of Hilliards Creek southwest of Clementon Road will be evaluated under a separate HHRA.) The FMP property, and the properties to the north of the FMP, are zoned as Office/Technical Park (OTP) (Figure 3). The former plant site is currently utilized as an office and light industrial park and is owned by Brandywine Realty Trust.

Several off-site areas were evaluated (Figure 2):

- The section of United States Avenue that contains soil borings and the Former Service Station/Tavern (FSST) at the corner of United States Avenue and Berlin Road. The street appears to lie within the area zoned as OTP, while the FSST is currently vacant and is zoned as Professional Office (PO).

- The off-site undeveloped areas to the south of the FMP on both sides of Hilliards Creek. This area is zoned as Office/Residential (OR). This area includes a cemetery, a portion of Hilliards Creek, and a wooded area north of Bridgewood Lake.
- **Upper Hilliards Creek (UHC).** Hilliards Creek originates at Silver Lake, flows through a culvert under a paved portion of the FMP in a southeasterly direction, daylights south of Foster Avenue, and flows through a culvert under West Clementon Road. UHC is the portion of HC between Foster Avenue and West Clementon Road, a distance of approximately 0.2 mile. The land adjacent to the portion of UHC that flows through the FMP is zoned as OTP. South of the FMP property boundary, the land adjacent to UHC is zoned as OR.

## 1.2 Future Site Uses

The FMP is zoned as OTP (Figure 3). This area is currently used as an office and industrial park, and the likely future use will be for commercial/industrial purposes. The FSST is zoned as PO and it is assumed that it will be used for commercial purposes. The off-site area to the south of the FMP is zoned as OR; thus, it could potentially be developed for either commercial office or residential use, but the likely future use includes the existing cemetery and undeveloped land.

## 1.3 Report Organization

This report is organized into the following sections that detail the exposure pathways and analysis methods incorporated into the HHRA:

- **Section 2. Exposure Areas** – This section defines each of the exposure areas that were evaluated in the HHRA.
- **Section 3. Potential Receptors and Exposure Pathways** – This section presents potentially complete routes of exposure and potentially exposed populations evaluated in the HHRA.
- **Section 4. Data Summary** – This section provides an overview of the available data and the data handling procedures applied in the HHRA.
- **Section 5. Selection of Chemicals of Potential Concern** – This section presents a preliminary screening level analysis to identify chemicals of potential concern (COPCs) for each environmental medium and exposure area.
- **Section 6. Exposure Point Concentrations** – This section describes the methods used to develop exposure point concentrations (EPCs) for the HHRA.
- **Section 7. Exposure Assessment** – The quantitative exposure assessment methods and exposure parameter assumptions are defined in this section for each receptor population evaluated in the HHRA.
- **Section 8. Toxicity Assessment** – This section provides the sources for identification of non-cancer and cancer toxicity values used in the risk characterization of the HHRA.
- **Section 9. Risk Characterization** – This section presents the results of the risk evaluation.

- **Section 10. Uncertainties** – This section discusses the inherent uncertainties associated with the assumptions used to calculate risks.
- **Section 11. Conclusions** – This section presents the overall conclusions of the risk assessment.

# 2 Exposure Areas

The FMP was divided into four exposure areas for the HHRA. The exposure areas are geographic designations created for the risk assessment in order to define areas with similar anticipated use (based on zoning and other considerations) or similar levels of contamination. The exposure areas are shown on Figure 2 and discussed below.

- **North of Foster Avenue (NFA).** This includes the area of the FMP located north of Foster Avenue, and comprises approximately 10.5 acres. It includes the areas around the former building at 6 East Clementon Road, the buildings at 2, 4, and 10 Foster Avenue and 3 United States Avenue, and Lakeside Manor. The former building at 6 East Clementon Road has been removed and only the building slab currently remains. The building at 10 Foster Avenue is used for commercial office space. The buildings at 2 and 4 Foster Avenue and 3 United States Avenue are currently used as warehouse and office space. Most of this area consists of paved parking lots with small landscaped areas. Lakeside Manor includes a function hall (near Silver Lake) called "Lakeside Manor," and the building slab of a former barn near United States Avenue. Workers and delivery persons may enter the property from United States Avenue. Function attendees access the property by driving from Foster Avenue. The area between the function hall and the lake is landscaped. The portion between the building and United States Avenue is unpaved.
- **South of Foster Avenue (SFA).** This is a developed area of the FMP south of Foster Avenue (approximately 5.2 acres). Most of this area is covered by buildings or paved/unpaved parking lots, except for the grassy area adjacent to Hilliards Creek. There are buildings used for office space at 1, 5, and 7 Foster Avenue.
- **Undeveloped Area (UNDV).** This area includes approximately 14 acres of undeveloped land in the southern portion of the FMP and south of the FMP. The portion within the FMP includes an area associated with the former waste water settling lagoons that were used during site operations and areas in the Hilliards Creek floodplain. The portion south of the FMP includes a cemetery, a wooded area north of Bridgewood Lake, and UHC and the associated floodplain. UHC is the portion of Hilliards Creek between Foster Avenue and West Clementon Road, a distance of approximately 0.2 mile. For the purpose of this report, UHC is evaluated together with the UNDV.
- **East of United States Avenue (EUSA).** This exposure area includes the area of United States Avenue that has soil borings, plus a 0.5-acre FSST parcel at the corner of United States Avenue and Berlin Road. The service station/tavern previously located on the parcel has been removed.

# 3 Potential Receptors and Exposure Pathways

The potential receptors, exposure media, and exposure pathways evaluated in the HHRA are discussed below by exposure area. Table 1 summarizes the receptors evaluated in each exposure area, as well as current land use and zoning. A conceptual site model (CSM) is presented in Figure 4. The CSM provides information regarding potential chemical sources, potentially affected environmental media, contaminant exposure pathways, and potential receptors located in the various exposure areas. For the potential exposure pathways, the CSM identifies those that are complete, complete but insignificant, or incomplete. Insignificant pathways are those that are possible but expected to have a negligible contribution to overall exposure. Insignificant and incomplete pathways are eliminated from further consideration in the risk assessment.

## 3.1 North of Foster Avenue

The NFA is currently an office industrial park (Figure 3). The receptors evaluated in the NFA include a Utility Worker, a Construction Worker, and an Outdoor Worker. Risks for individuals who currently work at or visit the site (*e.g.,* office workers and visitors to Lakeside Manor) were not evaluated, because their risk would be lower than the risk for an Outdoor Worker.

A current/future Utility Worker may conduct maintenance on subsurface utilities under current conditions or if the area is redeveloped. This worker was assumed to be exposed to surface and subsurface soil (0-10 ft) *via* incidental ingestion, dermal contact, and inhalation of particulates and volatiles emitted from soil. The exposure frequency is 10 days/year, and the exposure duration is 25 years.

A future Construction Worker was evaluated to account for exposures during potential future redevelopment. The construction project is assumed to last 1 year; thus, the exposure duration is 1 year, and the exposure frequency is 250 days/year. The Construction Worker is assumed to be exposed to surface and subsurface soil (0-10 ft) *via* incidental ingestion, dermal contact, and inhalation of particulates/volatiles from soil.

A future Outdoor Worker may be exposed to surface soil (0-2 ft) *via* incidental ingestion, dermal contact, and inhalation of particulates/volatiles from soil while working outdoors at the site. The Outdoor Worker is assumed to have an exposure frequency of 225 days/year and an exposure duration of 25 years.

Although the NFA is not zoned as residential, a hypothetical future adult and child Resident were evaluated to account for potential redevelopment for mixed use residential/commercial purposes. The hypothetical future Resident may be exposed to surface soil (0-2 ft) *via* incidental ingestion, dermal contact, and inhalation of particulates/volatiles generated from soil. The hypothetical future Resident is assumed to have an exposure frequency of 350 days/year, and an exposure duration of 6 years as a child and 20 years as an adult, for a total exposure of 26 years (US EPA, 2014).

## 3.2 South of Foster Avenue

The SFA is currently used as an office industrial park, and is zoned as an Office Technical Park (Figure 3). The receptors evaluated in the SFA include a Utility Worker, a Construction Worker, an Outdoor Worker, and a hypothetical future adult and child Resident. The exposures for these receptors are assumed to be the same as those in the NFA. Although the SFA is not zoned as residential, a hypothetical future adult and child Resident were evaluated to account for potential redevelopment for mixed use residential/commercial purposes.

## 3.3 East of United States Avenue

The EUSA includes the area of United States Avenue with soil borings, and the FSST. The FSST is zoned as Professional Office (PO), and it is assumed that it will be used for commercial purposes (Figure 3). Receptors evaluated in the EUSA include a current/future Utility Worker, a future Construction Worker, a future Outdoor Worker, and a hypothetical future adult and child Resident. The exposures for these receptors are assumed to be the same as those in the NFA. Although the EUSA is not zoned as residential, a hypothetical future adult and child Resident were evaluated to account for potential redevelopment for mixed use residential/commercial purposes.

Note that a total of 11 soil borings were installed in United States Avenue for delineation purposes. Four of the eleven borings had samples from depths of less than 10 ft, and these data were used in the HHRA. The other seven borings included samples only from depths of greater than 10 ft, and these data were not used in the HHRA.

## 3.4 Undeveloped Area

The UNDV encompasses undeveloped areas within and south of the FMP, including UHC, and is evaluated as a single exposure area. The receptors evaluated in the UNDV include a future Utility Worker, a future Construction Worker, a future Outdoor Worker, and a future adult, adolescent (6-16 years old), and child (0-6 years old) Recreator. A current/future adult and child Resident were also evaluated, because the area south of the FMP is zoned as OR (Figure 3). All receptors are exposed to soil *via* incidental ingestion, dermal contact, and inhalation of particulates/volatiles generated from soil. The Utility and Construction Workers are exposed to soil 0-10 ft. The Outdoor Worker, Recreator, and Resident are exposed to soil 0-2 ft. The workers and the Resident have the same exposure duration and frequency as those described above for the NFA.

The Recreator is assumed to represent an individual visiting the site while engaging in passive recreation.[3] The Recreator is assumed to visit the site 150 days/year (3 days/week for 50 weeks/year). The exposure durations are 6 years for the child Recreator (0-6 years old), 10 years for the adolescent Recreator (6-16 years old), and 26 years for the adult Recreator. The Recreator is assumed to be exposed to surface soil (0-2 ft) *via* incidental ingestion, dermal contact, and inhalation of particulates/volatiles generated from soil. The Recreator is also

[3] This Recreator could be either a hypothetical future Resident of the UNDV or an individual who resides near the Site. Thus, exposure to UHC was not evaluated for a Resident separately from a Recreator, because the exposure scenario would be the same.

assumed to contact sediment and surface water two days per week during the five warmest months of the year (May through September) (44 days/year) while potentially wading in UHC. Due to the shallow nature of UHC (approximately 6 inches [in] deep) it is assumed that swimming will not occur. The Recreator is assumed to be exposed to sediment *via* incidental ingestion and dermal contact, and surface water via dermal contact for 44 days/year, for 6 years as a child, 10 years as an adolescent, and 26 years as an adult. It was assumed that no significant ingestion of surface water will occur during a wading scenario.

## 3.5 FMP Buildings

Several of the commercial buildings at the FMP have been evaluated for the potential for vapor intrusion through the collection of sub-slab soil gas and indoor air data (Lockheed Martin, 2009; Sherwin-Williams, 2016a). Sub-slab data were collected in five sampling rounds from 2008-2015, at one or more of eight buildings (1 Foster Avenue, 2 Foster Avenue, 4 Foster Avenue, 5 Foster Avenue, 7 Foster Avenue, 10 Foster Avenue, former 6 East Clementon Road, 3 US Avenue). Indoor air data were collected at three buildings (2 Foster Avenue, 4 Foster Avenue, and 3 US Avenue) in four sampling rounds (August 2015, twice in December 2015, and October 2016). Samples were collected from various locations throughout the buildings (office spaces/cubicles, reception areas, hallways, warehouse), including the raised crawl space in 3 US Avenue. Samples were collected during the evening when tenants were not present, with ventilation systems running normally. The sub-slab and indoor air data were screened to evaluate the potential for risks to commercial workers *via* vapor intrusion.

# 4 Data Summary

This section summarizes the available data for the site and provides the rationale for the data used in the HHRA. The data used in the HHRA includes the RI site characterization data and the historical data collected by Sherwin-Williams and EPA. The RI data are from 2005-2015, while the historical data used are from 1991-2003. Additional soil data were collected in September and October 2016 and analyzed for chromium, as hexavalent chromium [Cr(VI)]), and/or New Jersey extractable petroleum hydrocarbons (NJ EPH) to better characterize the FMP (Sherwin-Williams, 2016b).

The data used include the following:

- **Soil.** RI data: 1,048 samples (including 64 field duplicates) collected from 332 soil borings. Historical data: 203 samples (including 14 field duplicates) collected from 141 soil borings. Total: 1,251 soil samples (including 78 field duplicates) from 476 locations.
- **Sediment.** RI data: 13 samples (including one field duplicate). Historical data: 4 samples. Total: 17 sediment samples from 15 locations.
- **Surface Water.** RI data: 10 samples (no field duplicates). Historical data: 7 samples. Total: 17 surface water samples from 11 locations.

Table 2 lists the number of soil, sediment, and surface water sample locations by exposure area included in the HHRA. Appendix A lists the soil sample locations, and the individual samples, included in the HHRA. Appendix B presents the data used in the HHRA. Sample locations are shown on Figures 5 through 8, which correspond to different exposure areas: NFA; SFA and EUSA; UNDV; and UHC, respectively.

Samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), Target Analyte List (TAL) metals plus cyanide, and petroleum hydrocarbons, although not all samples were analyzed for all analyte groups.

In addition, sub-slab and indoor air data were collected in multiple years (2008, 2009, 2014, 2015, and 2016) from several buildings at the FMP to characterize the vapor intrusion (VI) pathway. These samples were analyzed for VOCs, air-phase petroleum hydrocarbons (APH), methane, and/or hydrogen sulfide.

## 4.1 General Data Considerations

Several sets of field duplicate samples were collected for quality control and quality assurance. The field duplicate samples were averaged with their parent sample to obtain one result per sample. At sediment and surface water locations that were sampled more than once, the HHRA included both samples as independent data points.

The site sampling data include the results from the field X-ray fluorescence (XRF) screening conducted during sampling activities, which were utilized to make field decisions on additional step-out sampling to aid in delineating the extent of contamination. The XRF data were not used in the HHRA because these screening data are not as accurate as laboratory data, and the existing laboratory data are adequate to describe site conditions and support the calculation of EPCs for the risk assessment.

In soil, xylenes were analyzed either as total xylenes or as individual isomers (o-xylene, m/p-xylene), depending on the sampling date. In soil 0-10 ft, a total of 320 samples were analyzed for individual xylenes, and 169 samples were analyzed for total xylenes. To avoid double counting risks from xylenes, risks for soils were evaluated only for total xylenes. The results for individual xylenes were summed to generate a value for total xylenes for each sample. The total xylenes concentrations were used in the Appendix C, Table 2 series screening tables for soil. The total xylenes concentration was calculated as follows:

- The total xylene concentration is the sum of the detected concentrations for all isomers (o-xylene, m+p-xylene).
- If the xylene isomers are not detected, the total xylene is not detected, then the minimum detection limit of the xylene isomers is used.

In sediment and surface water, xylenes were reported consistently within each exposure area; therefore, risks were evaluated for xylenes as they are reported in the Appendix C tables.

Chromium was analyzed as total chromium in FMP soil, sediment, and surface water during the RI. Due to the higher human toxicity of Cr(VI) and in order to properly evaluate the human health risks at the site, Sherwin-Williams collected additional soil samples in the Fall of 2016 throughout the FMP and analyzed them for both total chromium and Cr(VI) (Sherwin-Williams, 2016b). The range of total chromium concentrations in the 2016 dataset (146 samples, 2.4-4,040 milligrams per kilogram [mg/kg]) was similar to that in the previous combined RI/historical dataset (1,051 samples, 0.92-4,040 mg/kg; sampled 1991-2015).

The petroleum present in the subsurface at the FMP is a light mineral spirit containing low concentrations of target compounds (Weston, 2016). A total of 225 samples were analyzed for total petroleum hydrocarbons (TPH) by EPA Method 418.1. A total of 97 samples (in 0- to 10-ft depth interval) were analyzed by the New Jersey Department of Environmental Protection (NJDEP) EPH method, which reports results by carbon-range fraction. The soil data analyzed for TPH were not used in the HHRA due to the more detailed information provided by the carbon-range fractions in the EPH analysis.

Tentatively identified compounds (TICs) were reported with the analytical data, however, only those with published toxicity factors were included in the HHRA. The methodology used to select the TICs included in the HHRA is discussed in Section 5.

## 4.2 Soil

Soil samples collected from depths of 0-2 ft below ground surface (bgs) were used to assess exposure to surface soil for the adult, adolescent, and child Recreators; adult and child Residents; and Outdoor Workers. Soil samples from 0-0.5 ft bgs were used to evaluate lead risks to child

Residents. EPA's "Superfund Lead-Contaminated Residential Site Handbook" (US EPA, 2003a) recommends that child Resident risks evaluated with the Integrated Exposure and Uptake Biokinetic (IEUBK) Model be based on soil samples from a depth of 0-1 in. The shallowest soil sampling available for this Site is from a depth of 0-0.5 ft, and this depth interval was used to calculate lead EPCs for the child Resident. For the child Recreator, soil samples collected from 0-2 ft bgs were selected at the direction of EPA because mean lead concentrations were higher in the 0-2 ft interval than the 0-0.5 ft interval in the UNDV. Soil samples collected from depths of 0-10 ft bgs were used to assess exposure to surface and subsurface soil for a Construction Worker and Utility Worker. The available data are adequate to describe site conditions and support the calculation of EPCs for the risk assessment.

## 4.3 Sediment

Sediment samples collected from a depth of 0-0.5 ft bgs were used in the HHRA, because Recreators are likely exposed only to the surface sediments. All 17 sediment samples collected from UHC were used in the HHRA. The available data are adequate to describe site conditions and support the calculation of EPCs for the risk assessment.

## 4.4 Surface Water

Surface water samples from all depths were used in the HHRA. The metals concentrations from unfiltered samples were used to evaluate surface water exposure because it is assumed that dermal contact occurs with unfiltered surface water. All 17 surface water samples collected from UHC were used in the HHRA. The available data are adequate to describe site conditions and support the calculation of EPCs for the risk assessment.

## 4.5 Sub-slab and Indoor Air Data

Sub-slab data from 2008, 2009, 2014, and 2015, and indoor air from 2015 and 2016 were used in the screening evaluation, to evaluate the potential for risks to commercial workers *via* vapor intrusion. Sub-slab samples were analyzed for VOCs, APH, methane, and hydrogen sulfide. Indoor air samples were analyzed for VOCs and methane.

# 5 Selection of Chemicals of Potential Concern

## 5.1 Data Used and Screening Criteria

A screening-level analysis was conducted to identify the COPCs to be evaluated in the quantitative risk assessment. The maximum detected soil and sediment concentrations were screened against risk-based screening criteria for soil. The soil screening criteria were the lower of either the EPA Regional Screening Levels (RSLs) for residential soil or the New Jersey Residential Direct Contact Soil Remediation Standards (NJ RDCSRS) (US EPA, 2016b; NJDEP, 2011a). The EPA RSLs used for screening were those where non-cancer hazards are calculated with a target hazard quotient (HQ) of 0.1 and cancer risks are calculated with a target risk of 1 x $10^{-6}$ (US EPA, 2016b). The maximum detected surface water concentrations were screened against the EPA RSL for tap water (US EPA, 2016b). In the absence of an RSL, the lower of the New Jersey surface water quality standard and the federal ambient water quality standard was used (NJDEP, 2011b; US EPA, 2015a).

For several compounds with no published screening criteria, a screening value for a suitable surrogate compound was used (Table 3). For acenaphthylene and phenanthrene, structurally related polycyclic aromatic hydrocarbons (PAHs) (acenaphthene and anthracene, respectively) were used as surrogate compounds (US EPA, 2010a; US FDA, 2010; FLDOH, 2010). For benzo(g,h,i)perylene, pyrene was used as a surrogate because it was the most chemically similar PAH with the lowest reference dose (RfD) within Group 2 PAHs (US EPA, 2010a). For 4-nitrophenol, 2,4-dinitrophenol was used as a surrogate compound based on a comparative toxicity study that indicates a higher toxicity for 2,4-dinitrophenol (Koizumi *et al*., 2001). For the remaining compounds, surrogates were chosen based on compounds with similar structures that were expected to be toxicologically similar.

For several compounds, the EPA RSL table offers soil criteria for multiple species or forms of a given compound. In most cases, little information is available about the specific form of a compound present at the site because the results are reported only as the total analyte (*e.g.*, total thallium). For analytes that have screening criteria for multiple forms, either the most conservative value (lowest RSL) or the criterion for the most generic or widely applicable form (*e.g.*, thallium soluble salts) was selected (Table 4).

As per NJDEP guidance (2010a), total EPH concentrations were calculated as the sum of the detects in the individual hydrocarbon fractions. The total EPH was first screened against the screening criterion of 1,700 mg/kg established for petroleum hydrocarbons other than No. 2 fuel oil and/or diesel fuel. Samples with an exceedance were then screened against sample-specific Soil Remediation Criteria (SRC) calculated using the NJDEP EPH calculator (NJDEP, 2010b). The sample-specific SRCs were based on residential exposure to be conservative.

Chromium was analyzed as total chromium in the FMP sediment and surface water. Total chromium concentrations were screened against the RSL for Cr(VI), and chromium was retained as a COPC in sediment and surface water. Total chromium does not exceed the RSL for Cr(III)

in any exposure area or medium, thus risks were not evaluated for Cr(III). The assumptions used for the chromium data are discussed in Section 5.4.

As noted in Section 4, field duplicate samples were averaged with their parent sample to obtain one result per sample. Note that this approach sometimes resulted in cases where the maximum value used for screening is actually an average of two samples.

Soil screening was done separately for each of the depth intervals used for receptors in the exposure area (*i.e.*, 0-0.5 ft, 0-2 ft, and 0-10 ft). The screening to determine COPCs was conducted using all the data from the list of TCL/TAL compounds (*i.e.*, compounds on the standard analyte list of VOCs, SVOCs, metals, inorganics, pesticide/PCBs).

## 5.2 Screening Results

The results of the screening evaluation and the identification of COPCs for each medium and exposure area are summarized in Table 5; only analytes that are COPCs in at least one exposure area are listed. Detailed screening results by exposure area and medium are presented in Appendix C[4] (Tables 2.1-2.14). Analytes with maximum concentrations above the risk-based screening criteria were retained as COPCs for the risk assessment. Compounds were not eliminated as COPCs based on background concentrations.

The COPCs retained for the HHRA include a total of 43 COPCs (Table 5). Soil COPCs retained in one or more exposure areas include 15 metals, cyanide, 2 pesticides, 3 PCBs (Aroclors), 9 PAHs, 4 SVOCs, and 5 VOCs. Sediment and surface water COPCs include 12 metals, cyanide, 2 PCBs (Aroclors), 8 PAHs, and 4 VOCs.

As per NJDEP guidance (2010a), total EPH concentrations were first screened against the screening criterion of 1,700 mg/kg established for petroleum hydrocarbons other than No. 2 fuel oil and/or diesel fuel. A total of 38 of 97 samples had detected EPH, and, of these, 6 samples had a total EPH concentration above 1,700 mg/kg (Appendix D). The EPH concentrations for these 6 samples were then entered into the NJDEP EPH calculator to calculate sample specific, health-based SRC (Appendix D). All six samples had total EPH below their respective sample-specific SRC (Appendix D).[5] Therefore, the EPH hydrocarbon fractions were not retained as COPCs.

Four analytes (calcium, magnesium, potassium, and sodium) were not retained as COPCs because they are essential human nutrients, present at low concentrations, and toxic at only very high doses (US EPA, 1989).

EPA guidance notes that a chemical can be excluded from a quantitative risk assessment if it is detected infrequently and is not detected in other media or at high concentrations (US EPA, 1989). Analytes with exceedances of screening criteria in only one exposure area and that had a low detection frequency (generally less than 5%), were not retained as COPCs (US EPA, 1989).

[4] Appendix C includes the EPA Risk Assessment Guidance for Superfund (RAGS) Part D Planning Tables. The RAGS Planning Tables use a numbering system and a format that is determined by EPA.

[5] Sample MPSB0308-SS-AE-AF included a parent and field duplicate sample, which were averaged to be consistent with how all other data were treated. The average of the parent and field duplicate samples (4,427 mg/kg) was below its screening criterion (5,100 mg/kg) (Appendix E, Table 2). It is noted that parent sample MPSB0308-SS-AE-AF-0 had a EPH concentration (5,450 mg/kg) above its sample-specific SRC (5,000 mg/kg), while its field duplicate (MPSB0308-SS-AE-AF-1) had an EPH concentration (3,404 mg/kg) below its sample-specific SRC (5,300 mg/kg).

These analytes are indicated with "LDF" on the Appendix C Table 2 series screening tables. Several analytes were eliminated as COPCs due to low detection frequency in soil, but none were eliminated in sediment or surface water. The rationale for the elimination of these soil compounds is discussed below, and the data for these compounds are summarized in Table 6.

- Aroclor 1248 was detected in seven samples site-wide, all from the NFA. Only one sample (MPS0019, 1.5-2 ft bgs) had a concentration (0.44 mg/kg) above the screening criterion of 0.2 mg/kg. The detection frequency was 2.5% for soil 0-10 ft, and 6.7% for soil 0-2 ft. Aroclor 1248 is not a COPC in any other exposure area. Based on the detection frequencies, Aroclor 1248 was retained as a COPC in soils 0-2 ft, and eliminated as a COPC in soils 0-10 ft.
- 1,2,4,5-Tetrachlorobenzene was detected in five samples from the NFA with a detection frequency of 1.6% in soil 0-10 ft and 2.7% in soil 0-2 ft. Only one subsurface soil sample (MPSB0143, 4.5-5 ft bgs) had a detected concentration (4.4 mg/kg) above the screening criterion of 2.3 mg/kg. 1,2,4,5-Tetrachlorobenzene is not a COPC in any other exposure area.
- 2,6-Dinitrotoluene was detected in one sample from the NFA, at a detection frequency of 0.3% in soil 0-10 ft. The sample (TB-38, 8-9.6 ft) had a concentration of 1.2 mg/kg, above the screening criterion of 0.36 mg/kg. 2,6-Dinitrotoluene is not a COPC in any other exposure area.
- 2-Hexanone was detected in the NFA (MPSB0151, 1.5-2 ft) at 860 mg/kg, above the screening criterion of 20 mg/kg. The detection frequency in the NFA was 0.5% in soil 0-10 ft, and 1.6% in soil 0-2 ft. 2-Hexanone is not a COPC in any other exposure area.
- Bromomethane was detected in three samples site-wide, two in the NFA, and one in the EUSA. One sample in the NFA (MPSB0150 4.5-5 ft bgs) had a concentration of 1.5 mg/kg, above the screening criterion of 0.68 mg/kg. In the NFA, the detection frequency was 1% in soil 0-10 ft. Bromomethane is not a COPC in any other exposure area.

EPA recommends conducting risk assessments for "the most important chemicals (*e.g.*, those contributing 99 percent of the risk)" (US EPA, 1989). The analytes discussed above had exceedances in only one exposure area, a low detection frequency, and are not COPCs in other exposure areas; therefore, these analytes were eliminated as COPCs.

## 5.3 Screening for Tentatively Identified Compounds

An evaluation was conducted for TICs reported by the laboratory in samples being used in the HHRA. The laboratory does not run calibration standards for the TICs. TICs are identified by the laboratory instrumentation based on a comparison between the sample spectra and the spectra stored in an electronic library. Since the laboratory does not run calibration standards for the TICs, the compound identification is not certain, and all TIC concentrations are considered estimated (J) values. The TIC data have not been validated.

Appendix E, Table 1 presents a list of the TICs detected in soil (0-10 ft), sediment (0-0.5 ft), and surface water, the number of samples where each TIC was detected, and the range of concentrations reported for each TIC. The soil depths were limited to 0-10 ft, as 10 ft is the deepest depth used in the HHRA. Similarly, sediment depths were limited to 0.5 ft, which is the

deepest depth used in the HHRA. Surface water samples from all depths were included in the dataset. Many TIC names are similar, *i.e.*, the same compound is reported with different suffix values, or with a slightly different spelling (different commas, dashes, or spaces); thus, in Appendix E, Table 1, the suffix values have been removed in order to consolidate the list of TICs. Since the same TIC may be detected at multiple retention times in the same sample, the TIC concentrations are based on the maximum detection of each TIC per sample and analysis.

The list of TICs was reviewed to determine those that have toxicity factors and screening values published by EPA. The search was conducted using EPA's RSL Table (US EPA, 2016b), which lists toxicity factors for over 800 analytes from the following sources: EPA's Integrated Risk Information System (IRIS), EPA's Provisional Peer-Reviewed Toxicity Values (PPRTVs), EPA's Health Effects Assessment Summary Tables (HEAST), the Agency for Toxic Substances and Disease Registry (ATSDR), and the California Environmental Protection Agency (CalEPA). RSLs were identified for a total of 25 TICs in soil and sediment. No RSLs were identified for any TICs detected in surface water. The TICs were screened against the EPA RSLs, by medium, exposure area, and depth interval (soil 0-10 ft and 0-2 ft, sediment 0-0.5 ft) (Appendix E, Tables 2, 3, and 4). The TICs are grouped by analysis (VOC *vs.* SVOC) in Appendix E, Table 1, but not in Appendix E, Tables 2, 3, and 4 in order to consolidate results for each TIC.

TICs with exceedances of screening criteria were evaluated for detection frequency to be consistent with the screening for the target analytes. In general, TICs with exceedances that had a detection frequency of less than 5% (within an exposure area and soil depth interval) were eliminated as COPCs. However, to be conservative, TICs with exceedances with a detection frequency less than 5% were retained as COPCs in the SFA if they were COPCs in the NFA, and *vice versa*, within a given soil depth interval (0-10 ft or 0-2 ft). Thus, the three trimethylbenzene TICs in the NFA and SFA 0-10 ft soil, and the benzo(j)fluoranthene TIC in the NFA and SFA 0-2 ft soil, were retained as COPCs. The following TICs were eliminated as COPCs in all exposure areas due to low detection frequency: 2,3,3,4,4,5-hexachloro-1,1-biphenyl; 2,3,3,4,4-pentachloro-1,1-biphenyl; 2,3,4,4,5-pentachloro-1,1-biphenyl; 3,3,4,4,5,5-hexachloro-1,1-biphenyl; 7,12-dimethylbenz[a]anthracene; and 1,2,3-trichlorobenzene (see Appendix E). The TICs retained as COPCs, for the exposure areas where they have exceedances, include 4 TICs in 0-10 ft soil, 2 TICs in 0-2 ft soil, and 1 TIC in sediment (Table 7).

## 5.4 Chromium Data

The soil dataset included a total of 146 soil samples (from 46 borings) that were analyzed for both total chromium and, in the case of soil samples collected in September and October 2016, for hexavalent chromium [Cr(VI)]. These data were used to examine the relationship between Cr(VI) and total Cr (Sherwin-Williams, 2016b). The ratio of Cr(VI) to total Cr was calculated for each sample, using the detection limit for samples with non-detected Cr(VI). For the entire dataset, the Cr(VI) ratio ranged from 0.01% to 30%, with an average Cr(VI) ratio of 5%. It should be noted, however, that the maximum value of 30% was determined to be an outlier[6] and is not considered representative of the overall dataset (Sherwin-Williams, 2016b).

In sediment, data collected from UHC were analyzed for total chromium, but not hexavalent chromium. At the direction of EPA, this HHRA evaluated the risk from Cr(VI) in sediment using two different assumptions for the Cr(VI)/Cr ratio. Cr(VI) was assumed to be either 5% or 100% of the total chromium concentration for UHC sediment. The 5% is based on the average ratio

[6] This sample was collected from a location under the slab of a former building, in an area containing fill materials.

from the soil data, since the percent Cr(VI) in UHC sediment is likely to be no higher than in FMP soil. The 100% was selected by EPA as a worst-case assumption. Since surface water was not analyzed for Cr(VI), the HHRA used the conservative assumption that the Cr(VI) concentration is equivalent to the total Cr concentration, to be consistent with the previous HHRAs for the other Sherwin-Williams sites in this area.

## 5.5 Vapor Intrusion Screening

Sub-slab and indoor air samples were screened against screening criteria calculated using the US EPA Vapor Intrusion Screening Level (VISL) calculator (Version 3.5.1) (US EPA, 2016c). Screening criteria were calculated separately for indoor air and sub-slab soil gas using the default exposure assumptions for the commercial worker scenario based on a target HQ of 1 and a target cancer risk of 1 x $10^{-6}$ (US EPA, 2016c). Several compounds detected in one or more indoor air samples did not have screening criteria (Appendix F).

The sub-slab data indicated that all detected concentrations from samples collected from 1 Foster Avenue, 10 Foster Avenue, 5 Foster Avenue, 6 Clementon Road (same as former 6 East Clementon Road), and 7 Foster Avenue were below the sub-slab screening criteria (Appendix F). Exceedances of sub-slab screening criteria were observed in samples collected from 2 Foster Avenue, 3 US Avenue, and 4 Foster Avenue. A total of 12 VOCs were detected at concentrations above the sub-slab screening criteria in at least one sample, including 1,2,3-trimethylbenzene, 1,2,4-trimethylbenzene, benzene, cyclohexane, ethylbenzene, m,p-xylenes, n-hexane, n-nonane, o-xylene, tetrachloroethene, trichloroethene, and vinyl chloride (VC) (Appendix F, Table 2). The high detected concentrations of aliphatic and aromatic compounds, benzene, ethylbenzene, xylene, toluene, and 1,2,4-trimethylbenzene, resulted in elevated detection limits for other VOCs in sub-slab data. In some cases, the detection limits for non-detected VOCs exceeded their respective sub-slab screening criterion. In addition, sub-slab criteria were not available for several VOCs. The uncertainties associated with elevated detection limits and VOCs with no screening criteria are discussed in Section 10.

In the indoor air data, a total of 10 VOCs were detected at concentrations above the EPA indoor air screening criteria in at least one sample, including acrolein, benzene, benzyl chloride, bromodichloromethane, chloroform, 1,2-dichloroethane, ethylbenzene, naphthalene, 1,1,2,2-tetrachloroethane, and trichloroethene (Appendix F, Table 6). The compounds with exceedances were generally similar between sampling rounds. Indoor air data were also screened against NJDEP Vapor Intrusion Non-Residential Indoor Air Screening Levels (NJDEP, 2013). A total of six VOCs (1,2-dichloroethane, benzene, chloroform, ethylbenzene, naphthalene and trichloroethylene) were detected at concentrations above NJDEP Non-Residential Indoor Air Screening Levels (Appendix F, Table 6). Several detected VOCs have no indoor air screening criteria. The uncertainties associated with detected VOCs with no indoor air criteria are discussed in Section 10.

Overall the exceedances of criteria for the indoor air data indicate a potential risk to commercial workers. However, the extent to which sub-slab soil gas contributes to the detected VOCs in indoor air has not been determined. Benzene and ethylbenzene were the only analytes with exceedances of criteria in both sub-slab and indoor air at 2 Foster Avenue and 3 US Avenue, and benzene was the only analyte with exceedances in both sub-slab and indoor air at 4 Foster Avenue. It should be noted that several VOCs were detected in indoor air above screening criteria. These VOCs were not detected in sub-slab soil gas, but their detection limits were above

the sub-slab criteria. Therefore, it is uncertain whether these VOCs have exceedances in sub-slab soil gas as well as indoor air.

While the number of indoor air exceedances increased in 2016 from 2015, this may be a result of contaminant sources unrelated to sub-slab vapor. The buildings underwent renovations that could have contributed to the detected concentrations. Based on a site visit performed by Weston, multiple potential sources of background VOCs (*i.e.*, non-site related indoor sources) were identified (*e.g.*, evidence of paint, cleaning products, adhesives, aerosol lubricants, solvents, detergents, brake fluid, smoking) (Sherwin-Williams, 2016a).

As discussed in Section 10.5, there are several uncertainties associated with the evaluation of VOCs in indoor air. The VI risks estimated from sub-slab data may be biased low due to elevated detection limits in the sub-slab data. The detection limits for 27 non-detected VOCs in sub-slab soil gas exceeded their respective screening criterion, but risk was not evaluated for non-detects. In addition, it is not known whether VOCs detected in indoor air could have been present in sub-slab soil gas at levels below the detection limit, and thus whether the presence of these compounds in indoor air could be related to vapor intrusion. Also, several compounds detected in sub-slab soil gas and/or indoor air (and the TICs reported in indoor air) did not have screening criteria. Several of these compounds were detected at high concentrations, however, risks from these compounds were not assessed due to the absence of screening criteria. Therefore, VI risks based on sub-slab soil gas and/or indoor air data may be underestimated.

# 6 Exposure Point Concentrations

In a risk assessment, an EPC represents the concentration of a chemical in an environmental medium to which an individual is exposed. Soil and sediment EPCs were calculated by exposure area using the data from the depth range appropriate for each receptor. EPCs for the non-lead COPCs were calculated as the 95% upper confidence limit on the mean (UCLM), or the maximum value, whichever is lower (EPCs for lead are discussed below). The individual results from all samples within the appropriate depth interval were used to calculate the soil EPC. The 95% UCLM values were calculated using EPA's ProUCL software Version 5.1 (US EPA, 2016d; Outputs provided in Appendix G) using the option that specifies whether a value is a non-detect. If the 95% UCLM is higher than the maximum detected value, or if it cannot be calculated due to too few data points or too few detects, the maximum detected concentration within the exposure area was used as the EPC. EPCs for TICs were calculated using the detected concentrations only, and were calculated as the 95% UCLM, or the maximum value, whichever is lower. The ProUCL output files are presented in Appendix G.

Lead risks from incidental soil and sediment ingestion were evaluated using EPA's blood lead model known as the Adult Lead Model (ALM) (US EPA, 2003b) for non-residential adult receptors (Recreators, Construction Workers, and Utility Workers), and EPA's blood lead model known as the IEUBK model (US EPA, 1994a, 2010b) for the child Recreator and Resident (Appendix H). Both models estimate a central tendency (geometric mean [GM]) BLL on the basis of average or typical exposure parameter values. Therefore, for lead, EPCs for soil were the arithmetic mean of all the samples within the exposure area from the appropriate depth interval (0-0.5 ft for child Residents,[7] 0-2 ft for adult Recreators and Outdoor Workers, and 0-10 ft for Construction and Utility Workers). For the child Recreator, soil samples collected from 0-2 ft bgs were selected at the direction of EPA because lead concentrations were higher in the 0-2 ft interval (mean concentration of 665 mg/kg) than the 0-0.5 ft depth (mean concentration of 339 mg/kg). The arithmetic mean is used as the EPC consistent with EPA guidance (US EPA, 2003b).

Chromium is a COPC in UHC sediment. As previously discussed, risks were evaluated in two ways, assuming that the Cr(VI) in sediment is either 5% or 100% of the of the total chromium concentration. The 5% evaluation was done by multiplying the chromium EPCs in soil and sediment by 5%. The risk calculations for the 5% Cr(VI) assumption are presented in Appendix C-1, and the risk calculations for the 100% Cr(VI) assumption are presented in Appendix C-2.[8]

[7] EPA's Superfund Lead-Contaminated Residential Site Handbook (US EPA, 2003a) recommends that child Resident risks be evaluated based on soil samples from a depth of 0-1 in. The shallowest soil sampling available for this Site is from a depth of 0-0.5 ft; therefore, this depth interval was used to calculate lead EPCs for the child Resident.
[8] Please note that Appendix C-2 includes only the tables that pertain to the recreator risks for the UNDV+UHC.

# 7 Exposure Assessment

## 7.1 Quantification of Exposure

This section discusses the basis for calculating human intake levels resulting from exposures to COPCs other than lead and describes each input parameter (lead risk inputs are discussed in Section 7.2). Exposure estimates represent the daily dose of a chemical taken into the body, averaged over the appropriate exposure period, expressed in the units of mg of chemical per kg of human body weight per day. The primary source for the exposure equations used in the HHRA is the EPA's Risk Assessment Guidance for Superfund (RAGS) (US EPA, 1989).[9] The generalized equation for calculating chemical intakes is shown below:

$$I = \frac{EPC \times CR \times EF \times ED}{BW \times AT}$$

where:

| | | |
|---|---|---|
| I | = | Intake,[10] the amount of chemical at the exchange boundary (mg/kg body weight-day) |
| EPC | = | Exposure Point Concentration, the chemical concentration contacted over the exposure period at the exposure point (*e.g.*, mg/kg in soil) |
| CR | = | Contact Rate, the amount of contaminated medium contacted per unit time or event (*e.g.*, soil ingestion rate [mg/day]) |
| EF | = | Exposure Frequency, how often exposure occurs (days/year) |
| ED | = | Exposure Duration, how long exposure occurs (years) |
| BW | = | Body Weight, the average body weight over the exposure period (kg) |
| AT | = | Averaging Time, period over which exposure is averaged (days) |

Exposure factors (*e.g.*, contact or ingestion rate, exposure frequency, exposure duration, body weight) are the parameters that are used to calculate a receptor's exposure for a given exposure scenario. The values used for each exposure factor are summarized in Appendix C (Table 4.1) and are discussed in detail below. The exposure factor input values are consistent with current EPA guidance. When appropriate, exposure parameters were based on site-specific considerations and professional judgment.

Several COPCs (identified in Appendix C, Table 6.1) are considered carcinogens with mutagenic modes of action to account for potentially increased susceptibility to mutagenic carcinogens for early life exposures (US EPA, 2005). Cancer risks for the Resident and Recreator were calculated separately for carcinogens with mutagenic modes of action to account for potentially increased susceptibility to mutagenic carcinogens for early life exposures (US EPA, 2005). For the mutagens, intakes were calculated separately for the following age groups: 0-2 years old, 2-6

[9] Note that this approach is not used to evaluate lead. Consistent with EPA guidance, lead risk is evaluated using blood lead models.
[10] Expressed as a Dose for dermal contact and Concentration for inhalation exposure.

years old, 6-16 years old, and 16-26 years old, with exposure durations of 2, 4, 10, and 10 years, respectively.

### 7.1.1 Incidental Ingestion of Soil

For the incidental soil ingestion pathway, intake was calculated as:

$$Intake\left(\frac{mg}{kg \cdot day}\right) = \frac{C_{soil}\left(\frac{mg}{kg}\right) \times B \times IR_{soil}\left(\frac{mg}{day}\right) \times FS \times EF\left(\frac{days}{yr}\right) \times ED(yrs) \times 10^{-6}\ \frac{kg}{mg}}{BW(kg) \times AT(days)}$$

where:

| | | |
|---|---|---|
| $C_{soil}$ | = | Concentration of the Chemical in Soil (mg/kg) |
| B | = | Relative Bioavailability, the relative oral absorption fraction (unitless) |
| $IR_{soil}$ | = | Soil Ingestion Rate (mg/day) |
| FS | = | Fraction of Soil from the site (unitless) |
| EF | = | Exposure Frequency (days/year) |
| ED | = | Exposure Duration (years) |
| BW | = | Body Weight (kg) |
| AT | = | Averaging Time (days) |

Conservative EPA-recommended values were used for each of the input parameters. The basis for each value used is detailed below.

*Soil Concentrations ($C_{soil}$).* The lower of either the 95% UCLM or the maximum detected concentration in soil was used as the EPC.

*Relative Bioavailability (B).* To accurately quantify potential exposures from incidental ingestion of soil, it is important to consider the amount of a chemical that is solubilized in gastrointestinal (GI) fluids and absorbed across the GI tract into the bloodstream. A chemical present in soil may be absorbed less completely than the same dose of the chemical administered in toxicity studies used to evaluate safe dose levels. A relative bioavailability estimate for a specific compound represents the absorption fraction from soil (the exposure route of concern) relative to the absorption fraction from food or water (in most toxicity studies, chemical doses are administered in food or water).

It is widely recognized that bioavailability of many metals and organics from soil tends to be considerably lower than bioavailability from food or water. EPA guidance recognized the need to make adjustments for the reduced bioavailability of compounds in soil. In Appendix A of EPA's RAGS (US EPA, 1989, p. A-3), EPA noted:

> If the medium of exposure in the site exposure assessment differs from the medium of exposure assumed by the toxicity value (e.g., RfD [Reference Dose] values usually are based on or have been adjusted to reflect exposure via drinking water, while the site medium of concern may be soil), an absorption adjustment may, on occasion, be appropriate. For example, a substance might be more completely absorbed following exposure to contaminated drinking water than

following exposure to contaminated food or soil (*e.g.*, if the substance does not desorb from soil in the GI tract).

For arsenic in soil, EPA's default relative oral bioavailability of 0.6 (60%) was used (US EPA, 2012a). For COPCs other than arsenic (and lead; see Section 7.2), relative oral bioavailability information is not readily available; therefore, a relative bioavailability of 100% was used (Appendix C, Table 5.1).

*Soil Ingestion Rate ($IR_{soil}$).* EPA's default daily soil ingestion rate of 100 mg/day for an adult resident was used for the adult Resident, adult Recreator, and adolescent (6-16 years old) Recreator (US EPA, 2014). EPA's default daily soil ingestion rate of 200 mg/day was used for the child Recreator and Resident (US EPA, 2014). These rates represent the upper-bound value for soil and dust ingestion (US EPA, 2014). EPA's default adult soil ingestion rate of 100 mg/day was used for the Outdoor Worker (US EPA, 2014). A soil ingestion rate of 330 mg/day was used for the Construction Worker and Utility Worker, as recommended by EPA (2002). This value is based on the 95$^{th}$ percentile value for adult soil intake rates reported in a soil ingestion mass-balance study (Stanek *et al*., 1997). For assessment of mutagenic compounds, a soil ingestion rate of 200 mg/day is used for the 0-2 years old and 2-6 years old age groups, and a rate of 100 mg/day is used for the 6-16 years old and 16-26 years old age groups.

*Fraction of Soil From the Site (FS)*. While it is likely that only a portion of an individual's daily incidental soil ingestion occurs at the site, to be conservative, an assumption that 100% of the individual's daily soil exposure occurs at the site was used for all receptors.

*Exposure Frequency (EF) and Exposure Duration (ED)*.

- For the Utility Worker, the exposure duration is 25 years based on the 95$^{th}$ percentile duration that an individual stays at any one workplace (US EPA, 2014). This assumption overestimates exposures for most workers because the median occupational tenure of the working population has been estimated to be 7.9 years for men and 5.4 years for women (US EPA, 2011a). The exposure frequency for the Utility Worker is assumed as 10 days/year, based on professional judgment.
- For the Construction Worker, the exposure frequency is 250 days/year, and the exposure duration is 1 year as it is assumed that a potential construction project could take up to 1 year (US EPA, 2014).
- For the Outdoor Worker, the exposure frequency is 225 days/year, and the exposure duration is 25 years based on EPA's recommended values for an outdoor worker (US EPA, 2014).
- For the Recreator, the exposure frequency is 150 days/year, based on 3 days/week for 50 weeks/year. The exposure duration is 6 years for the child Recreator, 10 years for the adolescent Recreator (6-16 years old), and 26 years for the adult Recreator.
- For the future Resident, an exposure duration of 6 years for a child and 20 years for an adult were used, for a total exposure of 26 years (US EPA, 2014). The exposure frequency is 350 days/year, accounting for 15 days/year spent away from home (US EPA, 2014). For assessment of mutagenic compounds, exposure durations of 2, 4, 10, and 10 years were used for the 0-2 years old, 2-6 years old, 6-16 years old, and 16-26 years old age groups, respectively.

*Body Weight (BW).* Based on EPA guidance (US EPA, 2014), a mean adult body weight of 80 kg (US EPA, 2011a, Table 8.3) was used for adult receptors in the HHRA. For the adolescent Recreator, the age-weighted mean body weight of 44 kg for an adolescent aged 6-16 years is used (US EPA, 2011a). For child receptors, the age-weighted mean body weight of 15 kg for a child aged 1-6 years was used (US EPA, 1991a). For assessment of mutagenic compounds, the body weight is the age-weighted average body weight for each age group (US EPA, 2011a): 9 kg (0-2 years old), 17 kg (2-6 years old), 44 kg (6-16 years old) and 76 kg (16-26 years old) (Appendix C, Table 4.5).

*Averaging Time (AT)*. For non-cancer hazards, the averaging time is equal to the exposure duration multiplied by 365 days/year. For cancer risks, exposures are averaged over a 70-year (25,550 days) average lifetime consistent with EPA guidance (US EPA, 2014).

## Mutagenic Compounds

For Residents and Recreators, cancer risks were calculated separately for carcinogens with mutagenic modes of action to account for potentially increased susceptibility to mutagenic carcinogens for early life exposures (US EPA, 2005). Based on EPA guidance, a 10-fold adjustment was made for exposures during the first 2 years of life (0-2 years old age group), a 3-fold adjustment was made for the 2-6 years old and 6-16 years old age groups, and no adjustment was made for exposure in the 16-26 years old age group (US EPA, 2005). Intakes were calculated using exposure parameters specific to each age group (0-2 years old, 2-6 years old, 6-16 years old, and 16-26 years old). The age-adjusted exposure factors for chemicals with mutagenic modes of action are presented in Appendix C, Table 4.5.

For the incidental soil ingestion pathway, intake for mutagens was calculated as:

$$Intake\left(\frac{mg}{kg \cdot day}\right) = \frac{C_{soil}\left(\frac{mg}{kg}\right) \times IFSM_{adj}\left(\frac{mg \cdot yr}{kg \cdot day}\right) \times B \times FS \times EF\left(\frac{days}{yr}\right) \times 10^{-6}\,\frac{kg}{mg}}{AT\left(days\right)}$$

where $C_{soil}$, B, FS, EF, and AT are as defined above, and where the age-adjusted mutagenic soil ingestion rate ($IFSM_{adj}$) is given by:

$$IFSM_{adj}\left(\frac{mg \cdot yr}{kg \cdot day}\right) = \left(\frac{ED_{0-2} \times IRS_c \times 10}{BW_{0-2}}\right) + \left(\frac{ED_{2-6} \times IRS_c \times 3}{BW_{2-6}}\right) + \left(\frac{ED_{6-16} \times IRS_a \times 3}{BW_{6-16}}\right) + \left(\frac{ED_{16-26} \times IRS_a \times 1}{BW_{16-26}}\right)$$

where:

| | | |
|---|---|---|
| $IFSM_{adj}$ | = | Age-adjusted Mutagenic Soil Ingestion Rate (mg-year/kg-day) |
| $IRS_c$ | = | Child Soil Ingestion Rate (mg/day) |
| $IRS_a$ | = | Adult Soil Ingestion Rate (mg/day) |
| $ED_{(age)}$ | = | Exposure Duration (years) |
| $BW_{(age)}$ | = | Average Body Weight for the age group (kg) |

To calculate cancer risks for trichloroethylene, which was detected in NFA soil, the standard cancer and mutagen equations were combined. Intakes for the Resident cancer risk were calculated using the following equation (US EPA, 2016e):

$$Intake_{TCE}\left(\frac{mg}{kg \cdot day}\right)=\frac{C_{soil}\left(\frac{mg}{kg}\right)\times\left[\left(CAF_o\times\left(IF_{child}+IF_{adult}\right)\right)+\left(MAF_o\times IFSM_{adj}\right)\right]\times B\times FS\times EF\left(\frac{days}{yr}\right)\times 10^{-6}\,\frac{kg}{mg}}{AT\left(days\right)}$$

The parameters $C_{soil}$, B, FS, EF, AT, and $IFSM_{adj}$ are as defined above. The additional parameters are defined as:

| | | |
|---|---|---|
| $IF_{child}$ | = | Intake factor for a child 0-6 (mg-year/kg-day) |
| $IF_{adult}$ | = | Intake factor for an adult (mg-year/kg-day) |
| $CAF_o$ | = | Toxicity adjustment factor for carcinogens – oral slope factor (unitless) |
| $MAF_o$ | = | Toxicity adjustment factor for mutagens – oral slope factor (unitless) |

The cancer toxicity adjustment factor ($CAF_o$) and mutagen toxicity adjustment factor ($MAF_o$) are calculated based on the different toxicity values (oral cancer slope factors [CSFs]) for TCE, as follows (US EPA, 2016e 216-3867):

$$CAF_o(0.804)=\frac{NHL{+}Liver\ CSF_o\left(3.7\times 10^{-2}\left(\frac{mg}{kg\text{-}day}\right)^{-1}\right)}{Adult\text{-}based\ CSF_o\left(4.6\times 10^{-2}\left(\frac{mg}{kg\text{-}day}\right)^{-1}\right)}$$

$$MAF_o(0.202)=\frac{Kidney\ CSF_o\left(9.3\times 10^{-3}\left(\frac{mg}{kg\text{-}day}\right)^{-1}\right)}{Adult\text{-}based\ CSF_o\left(4.6\times 10^{-2}\left(\frac{mg}{kg\text{-}day}\right)^{-1}\right)}$$

The intake factors for the child ($IF_{child}$) and adult ($IF_{adult}$) are calculated with the following equation, where IRS, ED, and BW are defined as above:

$$IF=\frac{IRS\times ED}{BW}$$

### 7.1.2 Dermal Contact with Soil

For dermal exposure to contaminants in soil, a dermal intake (the amount absorbed into the body) is calculated as (US EPA, 2004a):

$$DAD\left(\frac{mg}{kg\cdot day}\right)=\frac{C_{soil}\left(\frac{mg}{kg}\right)\times ABS\times AF\left(\frac{mg}{cm^2}\right)\times SA\left(\frac{cm^2}{event}\right)\times EF\left(\frac{events}{yr}\right)\times ED\left(yrs\right)\times 10^{-6}\,\frac{kg}{mg}}{BW\left(kg\right)\times AT\left(days\right)}$$

where:

| | | |
|---|---|---|
| DAD | = | Dermal Absorbed Dose (mg/kg-day) |
| $C_{soil}$ | = | Concentration of the Chemical in Soil (mg/kg) |
| ABS | = | Dermal Absorption fraction (unitless) |
| AF | = | Soil to Skin Adherence Factor (milligrams per square centimeter [mg/cm$^2$]) |
| SA | = | Skin Surface Area Exposed (cm$^2$/exposure event) |
| EF | = | Exposure Frequency (exposure events/year) |
| ED | = | Exposure Duration (years) |
| BW | = | Body Weight (kg) |
| AT | = | Averaging Time (days) |

The three parameters unique to the dermal exposure equation – the dermal absorption fraction (ABS), the soil to skin adherence factor (AF), and the skin surface area (SA) – are discussed in this section. The values used for other parameters are the same as discussed in Section 7.1.1.

*Dermal Absorption Fraction (ABS).* The dermal absorption fraction represents the amount of a chemical in contact with skin that is absorbed through the skin and into the bloodstream. The dermal absorption values were obtained from EPA's dermal risk assessment guidance (US EPA, 2004a, Exhibit 3.4). For arsenic, the dermal absorption fraction is 0.03; for cadmium, the dermal absorption fraction is 0.001; for PAH compounds and TICs based on PAHs, the dermal absorption fraction is 0.13; for dibenzofuran, the dermal absorption fraction is 0.03; for other SVOCs and dieldrin the dermal absorption fraction is 0.1; for Aroclors 1248/1254/1260 and the biphenyl TIC, the dermal absorption fraction is 0.14; for pentachlorophenol, the dermal absorption fraction is 0.25 (Appendix C, Table 5.1). Dermal absorption values are not available for the other COPCs; therefore, dermal exposures were not calculated for these constituents in the HHRA.

*Soil to Skin Adherence Factor (AF).* The adherence factor represents the amount of soil that adheres to the skin per unit of surface area (US EPA, 2004a). Adherence factors vary depending on the properties of the soil, the part of the body, and the type of activity. EPA's recommended soil to skin adherence factor for an adult resident (0.07 mg/cm$^2$) was used to calculate dermal absorption for adult Resident, adult Recreator, and adolescent Recreator exposed to soil (US EPA, 2014). EPA's recommended soil-to-skin adherence factor of 0.3 mg/cm$^2$ for the Construction Worker (US EPA, 2002, 2016e) was used for the Construction Worker and Utility Worker (US EPA, 2014). EPA's recommended soil to skin adherence factor for a worker (0.12 mg/cm$^2$) was used for the Outdoor Worker (US EPA, 2014). EPA's recommended soil to skin adherence factor for the child Resident (0.2 mg/cm$^2$) is based on children playing in wet soil and is used to represent contact with soil and used for the child Resident and Recreator. For assessment of mutagenic compounds, the child soil to skin adherence factor of 0.2 mg/cm$^2$ was used for the 0-2 years old and 2-6 years old age groups, while the adult soil to skin adherence factor of 0.07 mg/cm$^2$ was used for the 6-16 years old and 16-26 years old age groups. These factors were used because soil to skin adherence factors are not available for specific ages.

*Skin Surface Area Exposed (SA).* This parameter reflects the amount of skin that is available for exposure to soil. The skin surface area was 6,032 cm$^2$ for the adult Resident and Recreator, based on EPA's recommended value for an adult Resident with exposed skin surface limited to the head, hands, forearms, lower legs, and feet (US EPA, 2014). The age-weighted mean skin surface area of 4,639 cm$^2$ was used for the adolescent Recreator based on EPA's values for an adolescent (6-16 years old) with exposed skin limited to the head, hands, forearms, lower legs,

and feet (US EPA, 2011a).[11] For a Recreator exposure to soil, this likely overestimates exposure, because it is likely that the Recreator would wear shoes when walking on the site. The SA of 2,373 $cm^2$ was used for the child Resident and Recreator, based on EPA's recommended value for a child Resident (<1 to <6 years old) with exposed skin limited to the head, hands, forearms, lower legs, and feet (US EPA, 2014).

For assessment of mutagenic compounds, the following skin surface areas were used (Appendix C, Table 4.5): 1,954 $cm^2$ (0-2 years old), 2,591 $cm^2$ (2-6 years old), 4,639 $cm^2$ (6-16 years old), and 6,709 $cm^2$ (16-26 years old). The skin surface area was 3,527 $cm^2$ for the Outdoor Worker, Construction Worker, and Utility Worker based on EPA's recommended value for an industrial worker with exposure to the face, hands, and forearms (US EPA, 2014).

EPA assumes that VOCs in soil will volatilize before penetrating the skin. Thus, EPA does not provide default dermal absorption fraction values for VOCs (US EPA, 2004a). Therefore, dermal contact with VOCs in soil is not evaluated in the risk assessment.

## Mutagenic Compounds

For the dermal contact pathway, intake for mutagens was calculated as:

$$DAD\left(\frac{mg}{kg \cdot day}\right) = \frac{C_{soil}\left(\frac{mg}{kg}\right) \times ABS \times DFSM_{adj}\left(\frac{mg-year}{kg-day}\right) \times EF\left(\frac{events}{yr}\right) \times 10^{-6}\ \frac{kg}{mg}}{AT(days)}$$

where DAD, $C_{soil}$, ABS, EF, and AT are as defined above, and where the age-adjusted mutagenic soil dermal contact factor ($DFSM_{adj}$) is given by:

$$DFSM_{adj}\left(\frac{mg-year}{kg-day}\right) = \left(\frac{ED_{0-2} \times AF_c \times SA_{0-2} \times 10}{BW_{0-2}}\right) + \left(\frac{ED_{2-6} \times AF_c \times SA_{2-6} \times 3}{BW_{2-6}}\right) + \left(\frac{ED_{6-16} \times AF_a \times SA_{6-16} \times 3}{BW_{6-16}}\right) + \left(\frac{ED_{16-26} \times AF_a \times SA_{16-26} \times 1}{BW_{16-26}}\right)$$

where:

| | | |
|---|---|---|
| $DFSM_{adj}$ | = | Age-adjusted Mutagenic Soil Dermal Contact Factor (mg-year/kg-day) |
| $AF_c$ | = | Child Soil to Skin Adherence Factor (mg/$cm^2$) |
| $AF_a$ | = | Adult Soil to Skin Adherence Factor (mg/$cm^2$) |
| $SA_{(age)}$ | = | Skin Surface Area Exposed to Soil for age range ($cm^2$/day) |
| $ED_{(age)}$ | = | Exposure Duration (years) |
| $BW_{(age)}$ | = | Body Weight for age range (kg) |

For the mutagen trichloroethylene, which was detected in NFA soil, calculation of cancer risks for the Resident are done as follows (US EPA, 2016e):

[11] Pursuant to EPA guidance (US EPA, 2004a), the assumption of forearms representing 45% of the arms and lower legs representing 40% of the legs was used.

$$DAD_{TCE}\left(\frac{mg}{kg\cdot day}\right)=\frac{C_{soil}\left(\frac{mg}{kg}\right)\times ABS\times\left[\left(CAF_o\times\left(DF_{child}+DF_{adult}\right)\right)+\left(MAF_o\times DFSM_{adj}\right)\right]\times EF\left(\frac{days}{yr}\right)\times 10^{-6}\,\frac{kg}{mg}}{AT\left(days\right)}$$

where DAD, $C_{soil}$, ABS, EF, AT, and $DFSM_{adj}$ are as defined above, and where the dermal contact factors for child ($DF_{child}$) and adult ($DF_{adult}$) are calculated by:

$$DF=\frac{SA\times AF\times ED}{BW}$$

where SA, AF, ED, and BW are defined as above, and where:

| | | |
|---|---|---|
| $DF_{child}$ | = | Intake factor for a child 0-6 (mg-year/kg-day) |
| $DF_{adult}$ | = | Intake factor for an adult (mg-year/kg-day) |
| $CAF_o$ | = | Toxicity adjustment factor for carcinogens – oral slope factor (unitless) |
| $MAF_o$ | = | Toxicity adjustment factor for mutagens – oral slope factor (unitless) |

The derivation of the $CAF_o$ and $MAF_o$ are presented in Section 7.1.1.

### 7.1.3 Inhalation of Particulates and VOCs from Soil

For inhalation of particulates and VOCs generated from soil, an average daily exposure was calculated as (US EPA, 2002, 2009a):

$$EC\left(\frac{mg}{m^3}\right)=\frac{C_{air}\left(\frac{mg}{m^3}\right)\times ET\left(\frac{hr}{d}\right)\times EF\left(\frac{d}{yr}\right)\times ED\left(yr\right)\times\frac{1d}{24hr}}{AT\left(d\right)}$$

where:

| | | |
|---|---|---|
| EC | = | Exposure Concentration (milligrams per cubic meter [$mg/m^3$]) |
| $C_{air}$ | = | Concentration of Chemical in Air ($mg/m^3$) |
| ET | = | Exposure Time (hours/day) |
| EF | = | Exposure Frequency (days/year) |
| ED | = | Exposure Duration (years) |
| AT | = | Averaging Time (days) |

The parameters unique to the inhalation exposure equation, concentration of chemical in air ($C_{air}$) and exposure time (ET), are discussed in this section. The values for other parameters are the same as discussed in Section 7.1.1.

*Concentration of Chemical in Air ($C_{air}$).* The concentration of a substance in air was determined with the volatilization factor (VF) and the particulate emissions factor (PEF) using the following equation:

$$C_{air} = C_{soil} \times \left( \frac{1}{VF} + \frac{1}{PEF} \right)$$

where:

| | | |
|---|---|---|
| $C_{air}$ | = | Concentration of Chemical in Air (mg/m$^3$) |
| $C_{soil}$ | = | Concentration of the Chemical in Soil (mg/kg) |
| VF | = | Volatilization Factor (m$^3$ air/kg soil) |
| PEF | = | Particulate Emissions Factor (m$^3$ air/kg soil) |

The chemical-specific VFs for Philadelphia, Pennsylvania were calculated using the equations described in the RSL User Guide (US EPA, 2016e) and the same assumptions as the PEF calculations discussed below. The chemical-specific VFs used in the air concentration calculations are presented in Appendix C, Tables 3.6 and 3.7.

The EPA default PEF of 3.2 x 10$^9$ m$^3$ air/kg soil for Philadelphia, Pennsylvania, was selected as the most representative of conditions in the Gibbsboro area (US EPA, 1996, 2015b). The derivation of the PEF is presented below. The PEF was calculated based on meteorological conditions within Climatic Zone VIII, which includes the state of New Jersey (US EPA, 1996). Of the three cities with specific meteorological information available within Climatic Zone VIII, Philadelphia, Pennsylvania, was selected as the most representative of conditions in the Gibbsboro/Voorhees, New Jersey, area (US EPA, 1996).

The PEF was calculated using the following equations:

$$PEF\left(\frac{m^3}{kg}\right) = Q/C \times \frac{3{,}600\,\text{sec}/hr}{0.036 \times (1-V) \times (U_m/U_t)^3 \times F(x)}$$

$$Q/C = A \times \exp\left[\frac{(\ln A_s - B)^2}{C}\right]$$

where:

| | | |
|---|---|---|
| Q/C | = | Dispersion Factor for fugitive dusts emitted from soils |
| V | = | Fraction of Vegetative Cover (unitless) |
| $U_m$ | = | Mean Annual Windspeed (meters per second [m/s]) |
| $U_t$ | = | Equivalent Threshold Value of Windspeed at 7 m (m/s) |
| F(x) | = | Function Dependent on $U_m/U_t$ (unitless) |
| $A_s$ | = | Area of Site (acre) |
| A | = | PEF Dispersion Constant A (unitless) |
| B | = | PEF Dispersion Constant B (unitless) |
| C | = | PEF Dispersion Constant C (unitless) |

*Dispersion Factor (Q/C).* Calculated using Equation D-1 from EPA (2002) (87.36898 grams per square meters per second [g/m$^2$-s] per kg/m$^3$).

*Fraction of Vegetative Cover (V).* The PEF was calculated using the default vegetation coverage of 50% or 0.5.

*Mean Annual Windspeed ($U_m$)*, *Threshold Value of Windspeed ($U_t$)*, *Function Dependent on* $U_m/U_t$. The mean annual windspeed (4.29 m/s), the equivalent threshold value of windspeed (11.32 m/s), and the function dependent on $U_m/U_t$ (0.0993) were selected based on values listed for Philadelphia, Pennsylvania (US EPA, 1996, Table 2).

*Area of Site (acre).* Area is the default of 0.5 acre.

*PEF Dispersion Constants (A*, *B*, *C).* These constants were derived using dispersion modeling and meteorological data for each of the 29 cities representing the various climatic zones across the United States (US EPA, 2002). The dispersion constants (A = 14.0111, B = 19.6154, and C = 225.3397) for Philadelphia, Pennsylvania, were selected as the most representative geographic location (US EPA, 2002, Exhibit D-2).

*Exposure Time (ET).* Exposure time is the amount of time a receptor is exposed to soil particulates/volatiles in the air. Construction, Utility, and Outdoor Workers are assumed to be exposed to soil particulate/volatiles throughout an 8-hour work day (US EPA, 2014). Residents are conservatively assumed to be exposed to soil particulates/volatiles throughout the entire day (US EPA, 2014). Recreators (adult, adolescent, and child) are conservatively assumed to be exposed to soil particulates/volatiles while on site for 8 hours/day based on professional judgment.

## Mutagenic Compounds

For the inhalation pathway, the exposure concentration for mutagens is calculated as:

$$EC = C_{air} \times IF_{adj}$$

where the age-adjusted intake factor ($IF_{adj}$, unitless) is given by:

$$IF_{adj} = \frac{EF \times ET}{AT} \times \left[(ED_{0-2} \times 10) + (ED_{2-6} \times 3) + (ED_{6-16} \times 3) + (ED_{16-26} \times 1)\right]$$

For the mutagen trichloroethylene, which was detected in NFA soil, calculation of cancer risks for the Resident are done as follows (US EPA, 2016e):

$$EC_{TCE} = C_{air} \times \left[\left(CAF_i \times \left(IF_{child} + IF_{adult}\right)\right) + \left(MAF_i \times IF_{adj}\right)\right]$$

where EC, $C_{air}$, and $IF_{adj}$ are as defined above, and where the intake factors for child ($IF_{child}$) and adult ($IF_{adult}$) are calculated by:

$$IF = \frac{ET \times EF \times ED}{AT}$$

where ET, EF, ED, and AT are defined as above, and where:

$IF_{child}$ = Intake factor for a child 0-6 (unitless)
$IF_{adult}$ = Intake factor for an adult (unitless)
$CAF_i$ = Toxicity adjustment factor for carcinogens – inhalation unit risk (unitless)
$MAF_i$ = Toxicity adjustment factor for mutagens – inhalation unit risk (unitless)

The $CAF_i$ and $MAF_i$ are calculated based on the different toxicity values (inhalation unit risks [IURs]) for TCE, as follows (US EPA, 2016e):

$$CAF_i(0.756) = \frac{NHL{+}Liver\ IUR\left(3.1 \times 10^{-6}\left(\frac{\mu g}{m^3}\right)^{-1}\right)}{Adult\text{-}based\ IUR\left(4.1 \times 10^{-6}\left(\frac{\mu g}{m^3}\right)^{-1}\right)}$$

$$MAF_i(0.244) = \frac{Kidney\ IUR\left(1.0 \times 10^{-6}\left(\frac{\mu g}{m^3}\right)^{-1}\right)}{Adult\text{-}based\ IUR\left(4.1 \times 10^{-6}\left(\frac{\mu g}{m^3}\right)^{-1}\right)}$$

### 7.1.4 Incidental Ingestion and Dermal Contact with Sediment

For the sediment incidental ingestion and dermal exposure pathways, intake was calculated using the same equation and parameters used to calculate soil incidental ingestion (Section 7.1.1) and dermal exposure (Section 7.1.2). Several parameters used in these equations have different assumptions from those used to determine soil exposure: sediment concentration ($C_{sediment}$), bioavailability (B), sediment to skin adherence factors (AF), and the exposure frequency (EF), as discussed below.

*Sediment Concentration ($C_{sediment}$).* The lower of either the 95% UCLM or the maximum detected concentration in sediment was used as the EPC.

*Relative Bioavailability (B).* Sediment-specific relative bioavailability values are not available. The soil bioavailability values were used for sediment.

*Sediment to Skin Adherence Factor (AF).* EPA's recommended soil to skin adherence factor for a child resident (0.2 mg/cm$^2$) is based on children playing in wet soil (US EPA, 2014). This value was used to represent contact with sediment for the adult/adolescent/child Recreator. For assessment of mutagenic compounds, the child soil to skin adherence factor of 0.2 mg/cm$^2$ was used for all the age groups (0-2 years old, 2-6 years old, 6-16 years old, and 16-26 years old age groups). These factors were used because adherence factors are not available for specific ages.

*Exposure Frequency (EF)*. Recreators are assumed to contact sediment at the site 2 days/week during the five warmest months of the year (May through September), for a total of 44 days/year.

All other exposure assumptions (skin surface area exposed, exposure duration, and body weight) were the same as the soil assumptions for dermal contact and discussed above.

### 7.1.5 Dermal Contact with Surface Water

For dermal exposure to contaminants in surface water, a dermal absorbed dose was calculated according to the recommended equations in EPA's Supplemental Guidance for Dermal Risk Assessment (US EPA, 2004a).

$$DAD\left(\frac{mg}{kg \cdot day}\right) = \frac{DA_{event}\left(\frac{mg}{cm^2 - event}\right) \times SA\left(cm^2\right) \times EV\left(\frac{event}{day}\right) \times EF\left(\frac{days}{yr}\right) \times ED\left(yrs\right)}{BW\left(kg\right) \times AT\left(days\right)}$$

where:

| | | |
|---|---|---|
| DAD | = | Dermal Absorbed Dose (mg/kg-d) |
| $DA_{event}$ | = | Absorbed Dose per event (mg/cm$^2$-event) |
| EV | = | Event Frequency (events/day) |
| SA | = | Skin Surface Area Exposed (cm$^2$) |
| EF | = | Exposure Frequency (exposure events/year) |
| ED | = | Exposure Duration (years) |
| BW | = | Body Weight (kg) |
| AT | = | Averaging Time (days) |

The absorbed dose per event ($DA_{event}$) from surface water dermal contact was calculated using the EPA equations (US EPA, 2004a) presented below. For inorganics in water, the $DA_{event}$ is calculated using the dermal permeability coefficient of a compound in water (Kp) accounting for the event duration ($t_{event}$). For organics in water, EPA uses a mathematical model to predict absorption from exposures to water. Compounds for which there are sufficient data to predict dermal absorption with acceptable confidence are said to be within the model's "effective predictive domain" (EPD). There is significant uncertainty associated with evaluation of dermal absorption for highly lipophilic chemicals that fall outside the EPD. Three compounds identified as COPCs in surface water (benzo(a)pyrene, benzo(b)fluoranthene, and indeno(1,2,3-cd)pyrene) fall outside the EPD. EPA provides guidance on quantification of dermal risk from chemicals in water that fall outside the EPD (US EPA, 2004a). Therefore, although there is low confidence in the dermal permeability coefficient values for chemicals outside the EPD, these values were used to calculate dermal risk for the three COPCs that are outside the EPD (US EPA, 2016e). One of the parameters in the absorbed dose per event calculation is the event duration (hour/event), which is the amount of time spent in dermal contact with water. For the event duration, it is assumed that the adult/adolescent/child Recreator is exposed to surface water for 1 hour each day they visit the site.

Vinyl chloride (VC), which is a mutagen, was detected in surface water. Cancer risks for VC are calculated using a different equation to account for increased susceptibility from early life exposures, as per EPA guidance (US EPA, 2016e, 2000). The DAD for VC is calculated for the child Recreator using the following equation:

$$DAD\left(\frac{mg}{kg \cdot day}\right) = DA_{event}\left(\frac{mg}{cm^2 - event}\right) \times \left[IF_{child} + \left(\frac{EV_{child} \times SA_{child}}{BW_{child}}\right)\right]$$

where $DA_{event}$, EV, SA, and BW are defined as above, and the child-specific intake factor (IF) is calculated as follows:

$$IF_{child} = \frac{SA_{child} \times EV_{child} \times EF \times ED_{child}}{BW_{child} \times AT}$$

The same adjustment is performed for the adolescent Recreator using appropriate age-adjusted parameters.

## Calculation of Absorbed Dose Per Event ($DA_{event}$)

### Inorganics

$$DA_{event}\left(\frac{mg}{cm^2 \cdot event}\right) = C_{sw}\left(\frac{mg}{L}\right) \times Kp\left(\frac{cm}{hr}\right) \times t_{event}\left(\frac{hr}{event}\right) \times 0.001\frac{L}{cm^3}$$

where:

| | | |
|---|---|---|
| $C_{sw}$ | = | Concentration of Chemical in Surface Water (mg/L) |
| Kp | = | Dermal Permeability Coefficient of Compound in Water (centimeter [cm]/hour) |
| $t_{event}$ | = | Event Duration (hours/event) |

The exposure parameters that are specific to surface water dermal pathway are discussed below.

*Surface Water Concentrations ($C_W$).* The lower of either the 95% UCLM or the maximum detected concentration in surface water was used as the EPC.

*Skin Surface Area Exposed (SA).* This parameter reflects the amount of skin that is available for exposure to surface water. For the wading scenarios, to be consistent with sediment exposure, the skin surface area is 6,032 $cm^2$ for the adult Recreator, 5,340 $cm^2$ for the adolescent Recreator, and 2,373 $cm^2$ for the child Recreator. For assessment of mutagenic compounds, the following values were used (Appendix C, Table 4.5): 1,954 $cm^2$ (0-2 years old), 2,591 $cm^2$ (2-6 years old), 4,639 $cm^2$ (6-16 years old), and 6,709 $cm^2$ (16-26 years old).

*Event Duration ($t_{event}$).* Recreators were assumed to wade for 1 hour per day based on professional judgment.

*Exposure Frequency (EF)*. Recreators were assumed to contact surface water at the site 2 days/week during the five warmest months of the year (May through September). This yields an exposure frequency of 44 days/year.

### Organics

For organics, the absorbed dose per event calculation depends on whether the chemical reaches steady state within the event duration, as presented in the equations below.

**Non-steady State ($t_{event} \leq t^*$)**

Where the event duration ($t_{event}$) is less than or equal to the time to reach steady state (t*):

$$DA_{event}\left(\frac{mg}{cm^2 \cdot event}\right) = 2 \times FA \times C_{sw}\left(\frac{mg}{L}\right) \times Kp\left(\frac{cm}{hr}\right) \times \sqrt{\left(\frac{6 \times \tau_{event}\left(\frac{hr}{event}\right) \times t_{event}\left(\frac{hr}{event}\right)}{\pi}\right)}$$

**Steady State ($t_{event} > t^*$)**

Where the event duration ($t_{event}$) is greater than the time to reach steady state (t*):

$$DA_{event}\left(\frac{mg}{cm^2 \cdot event}\right) = FA \times C_{sw}\left(\frac{mg}{L}\right) \times Kp\left(\frac{cm}{hr}\right) \times \left[\left(\frac{t_{event}\left(\frac{hr}{event}\right)}{(1+B)}\right) + 2 \times \tau_{event}\left(\frac{hr}{event}\right) \times \left(\frac{1+3B+3B^2}{(1+B)^2}\right)\right]$$

where:

| | | |
|---|---|---|
| FA | = | Fraction Absorbed (unitless) |
| $C_{sw}$ | = | Concentration of Chemical in Surface Water (mg/L) |
| Kp | = | Dermal Permeability Coefficient of Compound in Water (cm/hour) |
| $\tau$ event | = | Lag Time (hour/event) |
| $t_{event}$ | = | Event Duration (hours/event) |
| B | = | Ratio of permeability of chemical in stratum corneum to permeability in viable epidermis (unitless) |

The fraction absorbed and dermal permeability coefficient values were obtained from the chemical-specific parameters used to calculate the EPA RSLs (US EPA, 2016f).

The other various factors were calculated with the following equations.

**Permeability Factor (B)**

$$B = Kp\left(\frac{cm}{hr}\right) \times \left(\frac{MW\left(\frac{g}{mole}\right)^{1/2}}{2.6}\right)$$

**Steady State Time Constant (t*)**

If B ≤ 0.6:

$$t^*(hr) = 2.4 \times \tau_{event}\left(\frac{hr}{event}\right)$$

If B > 0.6:

$$t^*(hr) = \sqrt{b-(b^2-c^2)} \times \left(\frac{l_{sc}^2\,(cm)}{D_{sc}\left(\frac{cm^2}{hr}\right)}\right)$$

**Factors "c" and "b"**

$$c = \left(\frac{1+3B+3B^2}{3(1+B)}\right)$$

$$b = \left(\frac{2(1+B)^2}{\pi}\right) - c$$

**Lag Time ($\tau$ event)**

$$\tau_{event}\left(\frac{hr}{event}\right) = \frac{l_{sc}^2(cm)}{6D_{sc}\left(\frac{cm^2}{hr}\right)}$$

**Effective Diffusivity (Dsc)**

$$D_{sc}\left(\frac{cm^2}{hr}\right) = 10^{-2.8-(0.0056MW\left(\frac{g}{mole}\right))} \times l_{sc}(cm)$$

where:

| | | |
|---|---|---|
| $\tau$ event | = | Lag time (hours/event) |
| t* | = | Time to reach steady state (hour) |
| B | = | Ratio of permeability of chemical in stratum corneum to permeability in viable epidermis (unitless) |
| b,c | = | Correlation coefficients, which have been fitted to the Flynn data (unitless) |
| $l_{sc}$ | = | Skin thickness (cm) |

| | | |
|---|---|---|
| MW | = | Molecular weight (g/mole) |
| $D_{sc}$ | = | Effective diffusion coefficient for chemical transfer through the stratum corneum ($cm^2$/hour) |

The surface water absorbed dose per event are presented in Appendix C, Table 4.5.

## Mutagenic Compounds

For the dermal contact pathway, the dermal absorbed dose for mutagens was calculated as:

$$DAD\left(\frac{mg}{kg \cdot day}\right) = \frac{DA_{event}\left(\frac{mg}{cm^2 - event}\right) \times DFWM_{adj}\left(\frac{events \cdot cm^2}{kg}\right)}{AT(days)}$$

where the age-adjusted mutagenic surface water dermal contact factor ($DFWM_{adj}$) is given by:

$$DFWM_{adj}\left(\frac{events \cdot cm^2}{kg}\right) = \left(\frac{EV_{0-2} \times EF_{0-2} \times ED_{0-2} \times SA_{0-2} \times 10}{BW_{0-2}}\right) + \left(\frac{EV_{2-6} \times EF_{2-6} \times ED_{2-6} \times SA_{2-6} \times 3}{BW_{2-6}}\right) + \left(\frac{EV_{6-16} \times EF_{6-16} \times ED_{6-16} \times SA_{6-16} \times 3}{BW_{6-16}}\right) + \left(\frac{EV_{6-16} \times EF_{6-16} \times ED_{16-30} \times SA_{16-26} \times 1}{BW_{16-26}}\right)$$

where:

| | | |
|---|---|---|
| $DFWM_{adj}$ | = | Age-adjusted Mutagenic Surface Water Dermal Contact Factor (events-$cm^2$/ kg) |
| $EV_{(age)}$ | = | Event Frequency (events/day) |
| $EF_{(age)}$ | = | Exposure Frequency (days/year) |
| $ED_{(age)}$ | = | Exposure Duration (years) |
| $SA_{(age)}$ | = | Skin Surface Area Exposed to Surface for age range ($cm^2$/day) |
| $BW_{(age)}$ | = | Body Weight for age range (kg) |

The $DA_{event}$ is calculated using the equations for COPCs without a mutagenic mode of action, but adjusting the event duration ($t_{event}$) for the Resident accordingly.

$$t_{event-adj}\left(\frac{hr}{event}\right) = \left(\frac{t_{event(0-2)} \times ED_{(0-2)} + t_{event(2-6)} \times ED_{(2-6)} + t_{event(6-16)} \times ED_{(6-16)} + t_{event(16-26)} \times ED_{(16-26)}}{ED_{(0-2)} + ED_{(2-6)} + ED_{(6-16)} + ED_{(16-26)}}\right)$$

where:

| | | |
|---|---|---|
| $t_{event-adj}$ | = | Age-adjusted Mutagenic Surface Water Event Duration (hours/event) |
| $t_{event(age)}$ | = | Event Duration (hours/event) |
| $ED_{(age)}$ | = | Exposure Duration (years) |

## 7.2 Adult Lead Model

Current knowledge of lead pharmacokinetics indicates that risk values derived by the standard risk methodology would not provide an accurate indication of potential risk; therefore, EPA has not yet established toxicity criteria for lead (US EPA, 2004b). Consequently, lead risks were evaluated using blood lead models, which predict BLLs based on the total lead intake from various environmental media. Lead risks for non-residential adults were assessed using EPA's ALM (US EPA, 2003b, 2009b, 2017b). The ALM predicts a median BLL estimate for an adult as a function of the baseline BLL plus an increment that is attributable to exposure to site soil (US EPA, 2003b). This increment is a function of the biokinetic slope factor (BKSF), the concentration of lead in soil, the soil ingestion rate, the fraction of lead in soil that is absorbed, and the exposure frequency. EPA guidance sets a target BLL for an adult female in order to protect a developing fetus, with the goal that the fetus should have no more than a 5% probability of exceeding the target BLL (US EPA, 2003b). The age of the adult receptor is different for lead than for other non-lead COPCs. For evaluation of lead, EPA considers the appropriate adult receptor to be a woman of child-bearing age (US EPA, 2003b).

The basic form of the equation for the ALM is as follows:

$$BLL_{adult} = PbB + \frac{(EF \times AbsF \times PbS \times IR \times BKSF)}{AT}$$

where:

| | | |
|---|---|---|
| BLL | = | Blood Lead Level predicted by model (µg/dL) |
| PbB | = | GM Baseline BLL (µg/dL) for adult females (aged 18-45 years) |
| EF | = | Exposure Frequency (days/year) |
| AbsF | = | Absorption Fraction (dimensionless) |
| PbS | = | Soil Lead concentration (µg/g) |
| IR | = | Soil Ingestion Rate (g/day) |
| BKSF | = | Biokinetic Slope Factor (µg/dL per µg/day) |
| AT | = | Averaging Time (days/year) |

The input values used in the model are summarized in Table 8 and described below. First, an average baseline lead concentration in blood ($PbB_{base}$) for adults is identified to account for continuing exposure to background levels of lead in food, soil, and dust, and pre-existing body burdens due to prior lead exposures. Baseline BLLs were obtained from EPA (US EPA, 2017b) and are based on the most recent data from National Health and Nutrition Examination Surveys (NHANES) from 2009-2014. For adults, the GM and geometric standard deviation (GSD) BLLs for women of childbearing age (ages 18-45), where the GM is 0.6 µg/dL and the GSD is 1.8, were used to reflect the most current data. To this baseline, the model adds the incremental increase in blood lead due to the lead source of interest (in this case, exposure to lead *via* incidental ingestion of soil or sediment).

Since the ALM is used to assess lead risks for non-residential scenarios (US EPA, 2017b), lead risks were calculated for the Construction Worker, Utility Worker, Outdoor Worker, and adult Recreator. The concentration of lead in soil (PbS) was the arithmetic mean lead concentration (*i.e.*, EPC) in each exposure area. Lead uptake on a daily basis is calculated by multiplying the

concentration of lead in soil by the soil ingestion rate (IR) and the absorption fraction (AbsF) for lead in soil. The absorption fraction is the amount of lead that is absorbed into the bloodstream from the GI tract. The exposure frequency (EF) varies by receptor and exposure area. To evaluate lead risk, exposure frequencies were 219 days/year for the Outdoor Worker and Construction Worker, 150 days/year for the Recreator, and 10 days/year for the Utility Worker. The value of 219 days/year is recommended by EPA (US EPA, 2003b) and is based on the average time spent at work by both full-time and part-time workers.[12] For all receptors with exposure frequencies other than 219 days/year, the exposure frequency is identical to that used to evaluate risk for the non-lead COPCs. The averaging time (AT) for chronic exposure to lead in soil is assumed to be 1 year (*i.e.*, 365 days) for all receptors. The BKSF relates the incremental lead uptake into the body to an incremental increase in BLL in adults. EPA's default value of 0.4 was used for the BKSF.

The soil and sediment ingestion rates for the adult Recreator and Outdoor Worker were assumed to be 0.05 g/day to reflect central tendency estimates. The soil ingestion rate for the Construction Worker and Utility Worker was 0.1 g/day. The exposure inputs used in a lead risk assessment should be central tendency estimates, not upper-bound estimates, because the blood lead model predicts a GM BLL and the GSD is used to calculate the upper-bound estimated (95$^{th}$ percentile) BLL. This is the reason that the values for some exposure parameters differ for non-lead COPC and lead risk assessments.

Lead was identified as a COPC in UNDV soil and UHC sediment. Recreators were assumed to be exposed to sediment as well as soil for 44 days out of the 150 days/year they visit the site. Therefore, the EPC used in the lead model was a weighted mean concentration of UNDV soil and UHC sediment.[13] For all other exposure areas, the lead EPC was the mean soil concentration.

For lead, EPA recommends an oral absorption factor for adults of 0.12 for ingestion of lead in soil based on 20% absorption of soluble lead, and a relative bioavailability of 60% for lead in soil (*i.e.*, 0.12 = 0.2 x 0.6) (US EPA, 2003b). The recommended EPA absorption factor of 0.12 was used to evaluate ingestion of lead from soil or sediment.

Total BLLs for adults are predicted by adding the estimated incremental increase in blood lead to the average baseline BLL. A GSD appropriate for adults was used to estimate the probable range of BLLs around the predicted GM adult BLL from the model. For this evaluation, EPA's recommended baseline BLL of 0.6 µg/dL and a GSD of 1.8 were used (US EPA, 2017b).

BLLs estimated using the ALM were evaluated based on a comparison to the EPA's risk management criterion for lead. EPA's health protection goal is for a developing fetus to have no more than a 5% probability of exceeding the target BLL (US EPA, 2003b). The adult and adolescent lead risks were expressed as the probability of having a fetal blood lead above 5 µg/dL with a probability goal of less than or equal to 5%. This goal is based on protecting the fetus of a pregnant receptor.

[12] Note that the exposure frequency recommended for adults in the ALM is a central tendency value and is lower than that used for the non-lead risk assessment.
[13] The weighted mean concentration is calculated as [(soil EPC x soil EF) + (sediment EPC x sediment EF)]/(soil EF).

## 7.3 IEUBK Model

Lead risks for children were assessed using an EPA blood lead model known as the IEUBK model (US EPA, 1994a, 2010b). The IEUBK model is a computer-based model that estimates the blood lead concentration in children resulting from their exposure to lead in soil, dust, drinking water, diet, and air. Specifically, the model estimates the intake and uptake of lead into the body and then uses biokinetic modeling to predict BLLs. Because of variations in behavior and physiology among individual children, different children will have different BLLs, even if they are exposed to the same environment. The IEUBK model addresses this by treating its central estimate of blood lead concentration (averaged over childhood from ages 0-7 years)[14] as a GM of a lognormal distribution among similarly exposed children. EPA's default GSD of 1.6 is used to calculate the proportion of children in the variable population with BLLs falling above 10 µg/dL. Child lead risks are presented as the probability of having a blood lead above 5 µg/dL, consistent with the target BLL used for the ALM and at EPA's direction.

The input values used in the IEUBK model are presented in Table 9. Certain parameters have input values that vary with age; these are listed as a range in Table 9. The IEUBK model assumes that an individual's total daily soil ingestion is based on 45% soil and 55% house dust. EPA's recommended weighting factors of 45% soil and 55% dust were used for the child Resident and child Recreator. In the absence of site-specific air concentrations, dietary lead intake, drinking water concentration, water consumption rate, and soil ingestion rate, default assumptions were used (Table 9). US EPA's recommended maternal blood concentration of 0.6 µg/dL was used (US EPA, 2017b). For the IEUBK model, soluble lead is estimated to be 50% bioavailable in food and water and 30% bioavailable in soil and dust (US EPA, 2007a).

The lead EPCs are presented in Appendix C, Table 3.3. For receptors with exposure to both soil and sediment, the lead EPC was a weighted mean concentration. The child Recreator is assumed to be exposed to UNDV soils 150 days/year, and UHC sediment for 44 of the 150 days they visit the site. Therefore, the EPC used in the lead model was a weighted mean concentration of UNDV soil and UHC sediment.[15]

It should be noted that the dermal exposure route for lead in soil is not evaluated because this exposure route is typically insignificant when compared to ingestion. The IEUBK model makes no provision for assessing dermal exposures.

[14] Note that the age of the child receptor for evaluation of lead risk is different than for the non-lead COPCs; the IEUBK model uses a child aged 0-7 years, while the non-lead risks use 0-6 years for the child.
[15] The weighted mean concentration is calculated as [(soil EPC x soil EF) + (sediment EPC x sediment EF)]/(soil EF).

# 8 Toxicity Assessment

## 8.1 Overview of Toxicity Values

Potential cancer risk and non-cancer hazard are evaluated using dose-response relationships for carcinogenicity (oral cancer slope factors [CSFs]) and systemic toxicity (oral RfDs). The primary source of toxicity values is EPA's IRIS. Toxicity values in IRIS undergo a rigorous peer review process and are generally considered to be of high quality. Additional toxicity values were obtained from the EPA RSL Table (US EPA, 2016b) which obtained some values from the PPRTV or the HEAST.

In most cases, little information is available about the form of a compound present in environmental media at the site. Therefore, in cases where toxicity values are available for multiple forms or species of a compound, the toxicity value for the form that is either the most widely applicable or that results in the most conservative estimates of risk was selected. Toxicity factors are summarized in Appendix C (Tables 5.1, 5.2, 6.1, and 6.2) which also includes the source of the toxicity values and the form of the compound they are based on.

Cancer risks were calculated separately for carcinogens with mutagenic modes of action to account for potentially increased susceptibility to mutagenic carcinogens for early life exposures (US EPA, 2005). For the mutagens, EPA recommends weighting the CSFs by the following toxicity adjustment factors: 10-fold adjustment for the 0-2 years old age group, 3-fold adjustment for the 2-6 years old and 6-16 years old age groups, and no adjustment for the 16-26 years old age group (US EPA, 2005).[16]

### Oral Reference Doses

An RfD is an estimate of daily exposure that a sensitive population can experience over a lifetime with a negligible risk of systemic health effects. EPA derives RfDs by first identifying the highest dose level that does not cause observable adverse effects (*i.e.*, the no observed adverse effect level [NOAEL]; US EPA, 1993a). If a NOAEL was not identified, a lowest observed adverse effect level (LOAEL) may be used. This dose level is then divided by uncertainty factors to calculate an RfD. An uncertainty factor of 100 is often used to account for interspecies differences (if animal studies were used) and sensitive human subpopulations (*e.g.*, children and the elderly; US EPA, 1993a). Additional uncertainty factors may be used depending on the quality of the toxicological data. The oral toxicity factors used to evaluate potential non-cancer hazards are presented in Appendix C, Table 5.1. EPA published new RfDs for trimethylbenzenes in September 2016 and benzo(a)pyrene in January 2017, which were used in this HHRA (US EPA, 2016g, 2017a).

[16] For the risk assessment, the toxicity adjustment factors were included in the exposure assessment equations for convenience. Mathematically the cancer risks results are the same, regardless of where the toxicity adjustment factor is applied.

## Oral Cancer Slope Factors

The CSF is an upper-bound estimate of carcinogenic potency used to calculate risk from exposure to carcinogens by relating estimates of lifetime average chemical intake to the incremental risk of an individual developing cancer over their lifetime (US EPA, 1992a). The CSFs recommended by EPA are conservative, upper-bound estimates, which means that EPA is reasonably confident that the "true" cancer risk does not exceed the estimated risk calculated using the CSF, and may be as low as zero.

For VC, which was detected in surface water, EPA's IRIS database presents two CSF values based on the linearized multistage (LMS) method.[17] The CSF for continuous lifetime exposure during adulthood is 0.72 $(mg/kg\text{-}day)^{-1}$, and the CSF for continuous lifetime exposure from birth is 1.4 $(mg/kg\text{-}day)^{-1}$ (US EPA, 2003c). Based on EPA guidance, the CSF for adulthood exposure is used in this HHRA (US EPA, 2016h).

In January 2017, EPA released an updated Toxicological Review of benzo(a)pyrene, with a revised CSF of 1 $(mg/kg\text{-}day)^{-1}$ (US EPA, 2017a), which was used in this HHRA. For the other carcinogenic PAH compounds, the CSF was estimated using a toxic equivalency factor (TEF), which relates the cancer potency of that compound to that of benzo(a)pyrene, the most well-characterized PAH with respect to carcinogenicity. For benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)-fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene, the CSF is based on the TEF recommended by EPA (US EPA, 1993b).

The oral toxicity factors used to evaluate potential cancer risks are presented in Appendix C, Table 6.1.

## Dermal Reference Doses and Dermal Cancer Slope Factors

There are no EPA-derived toxicity values based specifically on toxicity studies involving dermal exposures. In the absence of dermal-specific RfDs or CSFs, oral toxicity factors are used, assuming that once a chemical is absorbed into the blood stream, the health effects are similar regardless of whether the route of exposure is oral or dermal. However, since oral toxicity criteria are based on the amount of a chemical *administered* per unit time and body weight (chemical intake), they were adjusted to be applicable to *absorbed* doses (dermal exposures are expressed as absorbed intake levels) (US EPA, 1989, 1992b, 2004a).

Since most RfDs are based on studies where a chemical is administered in food or water, this adjustment is made using the oral absorption efficiency for that chemical. If oral absorption is very high (almost 100%), then the absorbed dose is virtually the same as the administered dose, and no adjustment of the toxicity factor is necessary. If oral absorption is very low (*e.g.*, 5%), the absorbed dose is much smaller than the administered dose, and an adjustment of the toxicity criteria is necessary. For any given chemical, EPA recommends adjusting the oral toxicity factor for use in evaluating dermal risks only when the oral absorption for that chemical is less than 50%, to "obviate the need to make comparatively small adjustments in the toxicity value that would otherwise impart on the process a level of accuracy that is not supported by the scientific literature" (US EPA, 2004a).

[17] EPA guidance recommends using values from the LMS method (US EPA, 2003c).

For non-cancer effects, this adjustment is made by multiplying the oral RfD (for applied doses) by the oral absorption efficiency (*i.e.*, $RfD_{oral} \times ABS_{oral} = RfD_{dermal}$). For antimony, barium, cadmium, Cr(VI), manganese, mercury, and vanadium, adjustments of the $RfD_{dermal}$ were performed as recommended by EPA (Appendix C, Table 5.1). For the other COPCs, the dermal RfDs are the same as the oral RfDs.

For cancer, this adjustment is made by dividing the oral CSF (for applied doses) by the oral absorption efficiency (*i.e.*, $CSF_{oral} / ABS_{oral} = CSF_{dermal}$) if the oral absorption efficiency is less than 50%. For Cr(VI), the oral absorption value is 2.5%; therefore, the $CSF_{dermal}$ was adjusted to 20 $(mg/kg\text{-}day)^{-1}$ ($CSF_{oral}$ divided by the oral absorption value) (Appendix C, Table 6.1). No other COPCs with CSFs have oral absorption efficiencies less than 50%; thus, no other adjustments were required.

### Inhalation Reference Concentrations

Inhalation reference concentrations (RfCs) are used to evaluate systemic toxicity *via* inhalation exposure as per EPA (US EPA, 2009a). An inhalation RfC is "an estimate…of a continuous inhalation exposure to the human population (including sensitive subgroups) that is likely to be without appreciable risk of deleterious effects during a lifetime" (US EPA, 2011b). The RfC values are given in units of $mg/m^3$ and are presented in Appendix C, Table 5.2. EPA published new RfCs for trimethylbenzenes in September 2016 and benzo(a)pyrene in January 2017, which were used in this HHRA (US EPA, 2016g, 2017a).

### Inhalation Unit Risk

Inhalation unit risk (IUR) values are used to evaluate inhalation carcinogenicity as recommended by EPA (US EPA, 2009a). An IUR is the "upper-bound excess lifetime cancer risk estimated to result from continuous exposure to an agent at a concentration of 1 $\mu g/m^3$ in air" (US EPA, 2011b).

In January 2017, EPA released an updated Toxicological Review of benzo(a)pyrene, with a revised IUR of $6 \times 10^{-4}$ $(\mu g/m^3)^{-1}$ (US EPA, 2017a), which was used in this HHRA. For the other carcinogenic PAH compounds [benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)-fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene] the IUR was estimated using TEF approach described above (US EPA, 1993b).

The IUR values used in this HHRA are given in units of $(\mu g/m^3)^{-1}$ and are presented in Appendix C, Table 6.2.

## 8.2 Lead

Current knowledge of lead pharmacokinetics indicates that risk values derived by the standard risk methodology would not provide an accurate indication of potential risk; therefore, EPA has not yet established toxicity criteria (RfD, CSF) for lead (US EPA, 2004b). Instead, lead risks were evaluated by modeling BLLs. Lead risks for adolescents and adults were evaluated using EPA's ALM (US EPA, 2003b) as discussed in Section 7.2. Lead risks for children were evaluated using EPA's IEUBK model (US EPA, 1994a, 2010b) as discussed in Section 7.3.

EPA has assigned lead a weight-of-evidence classification for human carcinogenicity of "B2" ("probable human carcinogen") based on sufficient animal evidence but inadequate human

evidence (US EPA, 2004b). Even though the weight of evidence for lead carcinogenicity is B2, EPA does not evaluate lead cancer risk using a CSF, having concluded that neurological effects in young children are the most relevant endpoint. Adult risks were assessed based on BLLs, with a goal of protecting against this effect in the unborn children of pregnant women.

# 9 Risk Characterization

The HHRA evaluated the cancer risk and non-cancer hazard for all receptors exposed to the various media in each exposure area. The total risk for each receptor is the sum of the risks over all COPCs and all exposure pathways.

## 9.1 Calculation of Cancer Risk

Cancer risks are characterized as the incremental probability that an individual will develop cancer during his or her lifetime due to chemical exposure to contaminants at the site under the specific exposure scenarios evaluated. The risks are calculated with the inputs for the exposure parameters that were described earlier in this report. The term "incremental" implies the risk above the background cancer risk experienced by all individuals in the course of daily life. According to the American Cancer Society, the lifetime probability of developing cancer (*i.e.*, background cancer risk) is slightly less than 1 in 2 (42%) for men and slightly more than 1 in 3 (38%) for women (ACS, 2016). The incremental risk above the background cancer risk is termed the "excess lifetime cancer risk" (ELCR). Cancer risks are expressed as a unitless probability (*e.g.*, 1 in 1 million, or 1 x $10^{-6}$) of an individual developing cancer over a lifetime, above background risk, as a result of site-related exposures. EPA has established a target cancer risk range of 1 x $10^{-6}$ to 1 x $10^{-4}$ (US EPA, 1990, 1991b).

Excess (incremental) cancer risks for the ingestion and dermal exposure pathways were calculated using intake estimates (lifetime average daily doses, calculated as part of the exposure assessment) and CSFs (summarized as part of the toxicity assessment) as follows (US EPA, 1989):

$$CancerRisk = Intake\left(\frac{mg}{kg \cdot day}\right) \times SF\left(\frac{mg}{kg \cdot day}\right)^{-1}$$

For the inhalation pathway, the cancer risk was calculated as the inhalation exposure concentration (in µg/$m^3$) multiplied by the IUR:

$$CancerRisk = EC\left(\frac{\mu g}{m^3}\right) \times IUR\left(\frac{\mu g}{m^3}\right)^{-1}$$

Cancer risks were calculated for each exposure pathway and COPC according to EPA guidance (US EPA, 1989). The total ELCR was the sum of the cancer risks across all COPCs and exposure pathways for each exposure area. Pursuant to EPA guidance (US EPA, 1989), the total cancer risks were rounded to one significant digit for presentation.[18]

[18] The use of significant figures in reporting risk results was presented in EPA (1989), p. 8-8 for non-cancer hazard and p. 8-12 for cancer risk.

## 9.2 Calculation of Non-cancer Hazard

Risks from non-carcinogenic effects are expressed as HQs rather than probabilities. An HQ compares the calculated intakes and exposures (average daily doses or exposures, calculated as part of the exposure assessment in Section 7) to RfDs or concentrations derived by EPA (RfDs and RfCs) (summarized as part of the toxicity assessment in Section 8).

For soil ingestion, oral intake estimates (expressed as applied or administered doses) were divided by the oral RfD (applicable to applied or administered doses). For dermal exposures to soil, dermal intake estimates (expressed as an absorbed dose) were divided by an adjusted oral RfD (adjusted to apply to absorbed doses) (US EPA, 2004a). The HQ for oral and dermal intakes was calculated based on the RfD as shown in EPA (1989):

$$HazardQuotient = \frac{Intake\left(\frac{mg}{kg \cdot day}\right)}{RfD\left(\frac{mg}{kg \cdot day}\right)}$$

For the inhalation pathway, the HQ was calculated as the inhalation exposure concentration (in mg/m$^3$) divided by the inhalation RfC:

$$HazardQuotient = \frac{EC\left(\frac{mg}{m^3}\right)}{RfC\left(\frac{mg}{m^3}\right)}$$

HQs were calculated for each receptor, exposure pathway, and COPC according to EPA guidance (US EPA, 1989). For each exposure route, HQs were summed across all COPCs to calculate a hazard index (HI). As per EPA guidance, HIs were rounded to one significant figure, and HIs for the individual exposure pathways were rounded to two significant figures (US EPA, 1989).

EPA considers an HI greater than 1 to exceed the target risk threshold. Because an HQ is simply a ratio of site exposures to reference exposure levels (RfDs, RfCs, *etc.*), HIs do not represent the probability that an adverse health effect will occur. An HI less than 1 suggests that exposures are likely to be without an appreciable risk of non-cancer effects during a lifetime. An HI greater than 1 indicates only that a potential may exist for adverse health effects. Unlike cancer risks, non-cancer HIs are not additive across different age groups for a resident. Typically, because child exposures are higher than adult exposures, the HI for a child Resident represents the greatest HI experienced by that receptor during his or her lifetime.

Summing HQs for different COPCs represents a conservative approach that may overestimate actual Site risks, because the RfD or RfC for a COPC is calculated based on a specific toxicological endpoint (*e.g.*, liver or kidney effects). As recognized by EPA (1989), summations are most valid for chemicals that are associated with similar toxicological endpoints (*i.e.,* they affect the same target organ or operate *via* similar mechanisms of action). Based on EPA guidance, major effects categories for target organs or systems include neurotoxicity,

developmental toxicity, reproductive toxicity, immunotoxicity, and adverse effects by target organ (*i.e.*, hepatic, renal, respiratory, cardiovascular, GI, hematological, musculoskeletal, and dermal/ocular effect) (US EPA, 1989). The following target organs or systems were identified: developmental, endocrine, GI, hematological, hepatic, immunological, nervous system, renal, reproductive, respiratory, and skin. The target system was assigned as "systemic" when the critical effect was identified as decreased body weight, or when the effect was of unclear biological significance (*e.g.*, decreased hair cystine). In order to provide an accurate estimate of potential non-cancer health risks, the risk tables in Appendix C present the HIs summed by toxicological endpoint (Appendix C, Tables 9.1-9.6).

## 9.3 Risk Characterization for Lead

As described in Section 7.2, lead risks were assessed using EPA's IEUBK model for children, and EPA's ALM for adults. At EPA's direction, lead risk for children is reported as the probability of having a BLL greater than 5 µg/dL (rather than 10 µg/dL), based on EPA's OLEM Directive 9200.2-167 (US EPA, 2016a), which summarizes current toxicological evidence. Lead risk for adults is reported as the probability that the fetal blood lead exceeds 5 µg/dL. EPA's target protection level for children is that a child should not have greater than a 5% probability of having a BLL greater than 10 µg/dL (US EPA, 1998, 2016a). However, at EPA's direction, a target BLL of 5 µg/dL rather than 10 µg/dL was used in this HHRA. EPA considers lead risks to exceed the target risk threshold if the probability of having a BLL greater than the blood lead target is greater than EPA's goal of 5%. This risk target is the same for the fetus of an adult receptor.

## 9.4 Risk Results

The estimated cancer risks and non-cancer hazards are discussed below by exposure area and receptor. The total risk for each receptor is the sum of the risks over all COPCs and exposure pathways. The total HI for each receptor is the sum of the HIs for each exposure route. As noted in Section 9.2, non-cancer HIs were not added across different age groups for a Resident (*i.e.*, child and adult risks for the Resident are not added). Pursuant to EPA guidance (US EPA, 1989), the total HIs were rounded to one significant figure; HIs for the individual exposure pathways were rounded to two significant figures.[19] Cancer risks were reported with one significant figure (US EPA, 1989).

The cancer risks and non-cancer hazards for all properties are summarized in Table 10. Appendix C, Tables 7.1-7.12 present the detailed risk calculations, and Appendix C, Tables 9.1 to 9.7 present the summary of cancer risk and non-cancer hazard by receptor as well as the non-cancer hazards by target organ.[20] Appendix C, Table 11 presents a summary of the cancer risks and non-cancer hazards. Appendix C, Table 12 presents a summary of risk by pathway and includes the percent contribution of each exposure pathway to the total risk and the COPC contributing the majority of the risk for each pathway. Appendix C, Table 13 presents a summary of risk by media for each receptor. Appendix C, Tables 14.1 (cancer) and 14.2 (non-cancer) provide risks or HIs by medium and analyte for each receptor and exposure area to allow the

[19] The use of significant figures in reporting risk results is presented in EPA (1989), p. 8-8 for non-cancer hazard and p. 8-12 for cancer risk.
[20] EPA RAGS Table 8 is not applicable to this risk assessment and is not presented. EPA RAGS Table 10 is not presented, because this information is already included in Appendix C, Table 9.1.

determination of the major risk drivers. (The risk calculations assuming 5% Cr(VI) in sediment are presented in Appendix C-1, and those assuming 100% Cr(VI) in sediment are presented in Appendix C-2. The table numbers are the same in both Appendix C-1 and C-2.)

EPA has established a target cancer risk range of $1 \times 10^{-6}$ to $1 \times 10^{-4}$ (US EPA, 1990, 1991b). If the cancer risk is greater than $1 \times 10^{-4}$, there may be a concern for possible health effects. As noted in Section 9.2, EPA considers an HI greater than 1 to exceed the target risk threshold.

The risks from exposure to lead are summarized in report Table 11. The output from the blood lead modeling is presented in Appendix H.

### 9.4.1 North of Foster Avenue

Cancer risks and non-cancer hazards were calculated for the Utility Worker, Construction Worker, Outdoor Worker, and adult and child Resident exposed to soil in the NFA.

Cancer risks for the Utility Worker and Construction Worker were both $5 \times 10^{-6}$, which is within EPA's target risk range. Incidental ingestion of soil contributed 76% of the total cancer risk for both receptors, with Aroclor 1260 contributing 54% of soil ingestion risk, followed by arsenic (23%). Cancer risk for the Outdoor Worker was $2 \times 10^{-5}$, within EPA's target risk range. Incidental ingestion of soil contributed 72% of the total cancer risk for the Outdoor Worker. Arsenic contributed 60% of the ingestion risk, followed by 2,3,4,4,5,5-hexachlorobiphenyl (TIC) at 13% (Appendix C, Table 12).

For the child and adult Resident, the cancer risk was $2 \times 10^{-4}$, which is above EPA's target risk range. Ingestion of soil contributed 82% of the total cancer risk, with arsenic contributing 40% of the soil ingestion risk, followed by hexavalent chromium (25%).

Non-cancer hazards for the Utility Worker, Outdoor Worker, and adult Resident were 0.3, 0.5, and 0.9, respectively, below EPA's target HI of 1. The non-cancer hazard for the Construction Worker was 6, above EPA's target HI of 1. Incidental ingestion of soil contributed 66% of the total HI, followed by dermal contact (26%), with Aroclor 1260 as the major contributor (86-98%) to the hazard for both pathways. The HIs by target organ for the Construction Worker were 5 for the immune system and less than 1 for all other target organs (Appendix C, Table 9.2).

The non-cancer hazard for the child Resident was 7, which is above EPA's target HI of 1. Incidental ingestion of soil contributed 79% of the total HI, with Aroclor 1260 (37%), 2,3,4,4,5,5-hexachlorobiphenyl (TIC) (22%), and arsenic (20%) as the major contributors. The HIs by target organ for the child Resident were 3 for the immune system, 2 for the reproductive system, 2 for the skin, and less than 1 for all other target organs (Appendix C, Table 9.4).

It should be noted that the elevated levels of PCBs in soil were limited to the Silver Lake conveyance and beneath the parking lot northwest of the Silver Lake conveyance.

The predicted GM BLLs for the Utility Worker, Construction Worker, Outdoor Worker and child Resident were 0.6, 1.5, 1.0, and 3.0 µg/dL, respectively. The probabilities of fetal BLL exceeding 5 µg/dL for the Utility Worker (0.01%), Construction Worker (1%), and Outdoor Worker (0.2%) were all below EPA's goal of 5%. The probability of BLL exceeding 5 µg/L for the child Resident (14%) exceeded EPA's goal of 5%.

### 9.4.2 South of Foster Avenue

Cancer risks and non-cancer hazards were calculated for the Utility Worker, Construction Worker, Outdoor Worker, and adult and child Resident exposed to soil in the SFA.

Cancer risks for the Utility Worker and Construction Worker were both 1 x $10^{-6}$, within EPA's target risk range. Incidental ingestion of soil contributed 82% of the total cancer risk for both receptors, with arsenic as the major contributor to ingestion risk (79%). Cancer risk for the Outdoor Worker was 2 x $10^{-5}$, also within EPA's target risk range. Incidental ingestion of soil contributed 73% of the total cancer risk, with arsenic (58%) and benzo(a)pyrene (26%) as the major risk contributors (Appendix C, Table 12).

For the child and adult Resident, the cancer risk was 3 x $10^{-4}$, above EPA's target risk range. Ingestion of soil contributed 79% of the total cancer risk, with benzo(a)pyrene contributing 53% of the soil ingestion risk, followed by arsenic (19%).

Non-cancer hazards for the Utility Worker, Outdoor Worker, and adult Resident were 0.06, 0.5, and 0.9, respectively, below EPA's target HI of 1. The non-cancer hazard for the Construction Worker was 1, at EPA's target HI of 1. Incidental ingestion of soil contributed 72% of the total HI, followed by inhalation of particulates/volatiles (25%). Incidental ingestion risks were driven by a combination of antimony (36%), arsenic (14%), thallium (13%), and 1,2,4-trimethylbenzene (TIC) (13%). 1,2,4-Trimethylbenzene (TIC) was the major (52%) contributor to the inhalation hazard, followed by 1,3,5-trimethylbenzene (TIC) (24%). The HIs by target organ for the Construction Worker were less than 1 for all target organs (Appendix C, Table 9.2).

The non-cancer hazard for the child Resident was 7, which is above EPA's target HI of 1. Incidental ingestion of soil contributed 92% of the total HI, with antimony as the major contributor (61%), followed by arsenic (12%). The HIs by target organ for the child Resident were 4 for the hematological system, 1 for the skin, and less than 1 for all other target organs (Appendix C, Table 9.4).

The predicted GM BLLs for the Utility Worker, Construction Worker, Outdoor Worker, and child Resident were 0.7, 3.2, 3.3, and 19 µg/dL, respectively. The probability of fetal BLL exceeding 5 µg/dL for the Utility Worker (0.03%) was below EPA's goal of 5%. The probability of fetal BLL exceeding 5 µg/L for the Construction Worker (18%) Outdoor Worker (19%), and child Resident (99.8%) were all above EPA's goal of 5%.

### 9.4.3 East of United States Avenue

Cancer risks and non-cancer hazards were calculated for the Utility Worker, Construction Worker, Outdoor Worker, and adult and child Resident exposed to soil in the EUSA.

Cancer risks for the Utility Worker, Construction Worker, Outdoor Worker, and adult and child Resident were 1 x $10^{-7}$, 1 x $10^{-7}$, 9 x $10^{-7}$, and 8 x $10^{-6}$, respectively, all below EPA's target risk range. Incidental ingestion of soil contributed 83-90% of the total cancer risk. For the Workers, arsenic was the major (83-85%) contributor to soil ingestion risk (Appendix C, Table 12). For the adult and child Resident, arsenic contributed 47% of the soil ingestion risk, followed by hexavalent chromium (41%).

Non-cancer hazards for the Utility Worker, Construction Worker, Outdoor Worker, adult Resident, and child Resident were 0.007, 0.2, 0.05, 0.07, and 0.8, respectively, all below EPA's target HI of 1. Incidental ingestion of soil contributed 98-99% of the total HI, with thallium accounting for 57% of soil ingestion risk for all receptors, followed by cobalt and iron (16-18% each).

Lead was not a COPC in EUSA soil; therefore, lead risk was not calculated for the EUSA.

### 9.4.4 Undeveloped Area

Cancer risks and non-cancer hazards were calculated for the Utility Worker, Construction Worker, Outdoor Worker, and adult and child Resident exposed to soils in the UNDV.

Cancer risks for the Utility Worker, Construction Worker, and Outdoor Worker were $8 \times 10^{-6}$, $8 \times 10^{-6}$, and $4 \times 10^{-5}$, respectively, all within EPA's target risk range. Incidental ingestion of soil contributed 81-83% of the total cancer risk for these receptors, with arsenic accounting for over 90% of soil ingestion risk (Appendix C, Table 12).

For the child and adult Resident, the cancer risk was $3 \times 10^{-4}$, above EPA's target risk range. Ingestion of soil contributed 85% of the total cancer risk, with arsenic contributing 75% of the soil ingestion risk, followed by benzo(a)pyrene (16%).

Non-cancer hazards for the Utility Worker and Outdoor Worker were 0.08 and 0.8, respectively, which are below EPA's target HI of 1. The non-cancer hazard for the Construction Worker was 2, which exceeds EPA's target HI of 1. Incidental ingestion of soil contributed 81% of the total HI, with arsenic contributing 60% of the soil ingestion hazard and other COPCs each contributing less than 10%. The HIs by target organ for the Construction Worker were 1.3 for skin and less than 1 for all other target organs (Appendix C, Table 9.2).

Non-cancer hazards for the child and adult Residents were 10 and 2, respectively, which exceeded EPA's target HI of 1. For the child Resident, incidental ingestion of soil contributed 80% of the total HI, with arsenic (42%) and cyanide (25%) as the major contributors. The HIs by target organ for the child Resident were 4 for skin, 2 for endocrine, 2 for the reproductive system, and less than 1 for all other target organs. For the adult Resident, inhalation of particulates/volatiles from soil contributed 64% of the total HI, with cyanide contributing nearly 100% of the inhalation hazard. Incidental ingestion of soil accounted for 32% of the non-cancer hazard for the adult Resident, with arsenic (42%) and cyanide (25%) as the major contributors. The HIs by target organ for the adult Resident were 1.4 for endocrine and less than 1 for all other target organs (Appendix C, Table 9.4).

The predicted GM BLLs for the Utility Worker, Construction Worker, Outdoor Worker, and child Resident were 0.7, 2.6, 1.6, and 3.9 µg/dL, respectively. The probability of fetal BLL exceeding 5 µg/dL for the Utility Worker (0.02%) and Outdoor Worker (2%) are below EPA's goal of 5%. The probability of fetal BLL exceeding 5 µg/L for the Construction Worker (9%) and the probability of BLL exceeding 5 µg/L for the child Resident (31%) are both above EPA's goal of 5%.

### 9.4.5 Undeveloped Area and Upper Hilliards Creek

Cancer risks and non-cancer hazards were calculated for the adult, adolescent, and child Recreators exposed to UNDV soil, and sediment and surface water in UHC. In the risk results

presented below, the results using the assumption of 5% Cr(VI) are presented first, and the results using the assumption of 100% Cr(VI) are presented second.

Cancer risk for the adolescent Recreator was 1 x $10^{-4}$, which is within EPA's target risk range. Cancer risks for the child Recreator and adult Recreator were 1 x $10^{-3}$ and 2 x $10^{-4}$, respectively, which are above EPA's target risk range. For all three Recreator receptors, the primary pathway contributing to cancer risk is incidental ingestion of sediment (47-73%). For the adolescent and adult Recreators, dermal contact with sediment also contributed significantly (21-28%) to the total cancer risk. For all three Recreators, arsenic was the primary contributor (79-98%) to all sediment exposure pathways.

The non-cancer HIs for the child, adolescent, and adult Recreators are 12, 3, and 2, respectively, all of which exceed EPA's target HI of 1. Incidental ingestion of sediment contributed 43% to 63% of the total HIs, followed by incidental ingestion of soil (18-26%). For all three receptors, arsenic is the main contributor (70%) to sediment ingestion hazard, followed by cyanide (22%). In soil, arsenic and cyanide contribute 42% and 25% of the soil ingestion hazard, respectively, for all three Recreator receptors. The HIs by target organ for the child Recreator were 8 for skin, 3 for the reproductive system, and less than 1 for all other target organs (Appendix C, Table 9.5). The HIs by target organ for the adolescent Recreator were 2 for skin and less than 1 for all other target organs (Appendix C, Table 9.6). The HIs by target organ for the adult Recreator were 1 or less for all target organs (Appendix C, Table 9.7).

Using the assumption of 100% Cr(VI) for UHC sediment increased the cancer risks for the child and adolescent Recreators and the non-cancer hazard for the child Recreator. The cancer risk for the adolescent Recreator increased from 1 x $10^{-4}$ to 2 x $10^{-4}$, which is above EPA's target risk range. For the child, the cancer risk increased from 1 x $10^{-3}$ to 4 x $10^{-3}$ and remains above the EPA target risk range. Sediment ingestion remained the primary pathway contributing to total cancer risk for both receptors, and Cr(VI) was the major contributor (64-81%) for this pathway. The non-cancer hazard for the child Recreator increased from 12 to 13, but the relative contributions of the different pathways remained the same, and arsenic remained the primary contributor to hazards.

The predicted GM BLL for the adult Recreator was 1.8 µg/dL and the predicted probability of a BLL exceeding 5 µg/dL was 3%, below EPA's goal of 5%. For the child Recreator exposed to UNDV soil and UHC sediment, the GM BLL was 10 µg/dL and the predicted probability of a BLL exceeding 5 µg/dL was estimated as 93%, above EPA's goal of 5%.

# 10 Uncertainty

The HHRA process involves multiple steps and assumptions, which contribute inherent uncertainties that affect the final risk estimates. Uncertainties may exist in numerous areas, including sample collection, laboratory analysis, derivation of toxicity values, and estimation of potential site exposures. EPA's approach to human health risk assessment involves the concept of "reasonable maximum exposure" (RME), which is defined as "the highest exposure that is reasonably expected to occur at a site but that is still within the range of possible exposures" (US EPA, 2004a). EPA states that "intent of the RME is to estimate a conservative exposure case (*i.e.*, well above the average case) that is still within the range of possible exposures" (US EPA, 1989). EPA also notes that this high-end exposure "is the highest dose estimated to be experienced by some individuals, commonly stated as approximately equal to the 90th percentile exposure category for individuals" (US EPA, 2015c). Thus, most individuals will have lower exposures that those presented in this risk assessment. The most important contributors to uncertainty in this risk assessment are discussed below.

## 10.1 Uncertainties in Exposure Assumptions

### 10.1.1 Exposure Pathways

Several pathways are incomplete and were not quantitatively evaluated in the HHRA. Due to the shallow nature of UHC (approximately 6 in), it was assumed that no significant ingestion of surface water would occur during a wading scenario. Any incidental ingestion of surface water while wading would be expected to be very small and have a negligible contribution to risk; thus, the exclusion of this pathway is not expected to change the overall conclusions of the risk assessment.

### 10.1.2 Exposure Point Concentrations

Historic data (pre-2005) were included in the HHRA for completeness and to add sample coverage. In order to estimate the potential impact on EPCs from inclusion of the pre-2005 data, the mean concentrations from datasets that include or exclude the pre-2005 data were compared, for the COPCs in each media. The mean concentrations from the datasets that include or exclude the pre-2005 data are generally within 20% of each other. When they differ by more than 20%, the higher mean is from the dataset that includes the pre-2005 data (used in this report). Thus, while inclusion of the pre-2005 data may tend to overestimate risk, removal of these data is unlikely to change the conclusions of the risk assessment, as the EPCs are likely to be of similar magnitude.

In some cases, the maximum concentration was used as the EPC, because the calculated 95% UCLM was greater than the maximum detected value. This may occur when there are very few detects or the concentration distribution is highly skewed. In the 0-10 ft soils, the EPC was equal to the maximum concentration in the following areas: 3 COPC in the EUSA, 1 COPC in the NFA, and 2 TICs in the SFA. In the 0-2 ft soils, the EPC was equal to the maximum concentration in

the following areas: 4 COPCs in the EUSA, and 1 TIC in the SFA. One COPC (cyanide) and one TIC (benzo(j)fluoranthene) in sediment, and 7 COPCs (antimony, benzo(a)pyrene, benzo(b)fluoranthene, indeno(1,2,3-cd)pyrene, naphthalene, 1,4-dichlorobenzene and VC) in surface water used maximum concentrations as the EPCs. The use of the maximum concentration as the EPC likely results in an overestimate of risk, because the maximum is not representative of an individual's average exposure over a long period of time.

Cyanide is a risk driver for several receptors in the UNDV (Appendix C, Table 12). Cyanide was conservatively assumed to be in the form of cyanide ion (CN-) or hydrogen cyanide (HCN) (US EPA, 2016e). However, the form of cyanide present at the site is not known. Thus, risks from cyanide may be overestimated if the cyanide is in a form that does not produce HCN (*e.g.*, an iron-cyanide complex like the pigment Prussian blue, which is composed of ferric ferrocyanide). Furthermore, the cyanide concentration in air is estimated from the soil concentration using a VF, however if the cyanide is present in a non-volatile form such as an iron-cyanide complex then risks would be lower.

The EPC for Cr(VI) in the NFA soil may be biased high and thus may overestimate risk. The EPC includes two samples (MPSB0289 and MPSB0288) with elevated Cr(VI) concentrations (293 and 40.7 mg/kg). A statistical test for outliers (Rosner test) in the Cr(VI) dataset was performed using EPA's ProUCL Version 5.1. The test indicated that these two values are outliers at the 1% significance level (Sherwin-Williams, 2016b). Excluding the two outliers would result in lower EPCs (0.82 *vs* 7.5 mg/kg for 0-2 ft; 1.5 *vs* 35 mg/kg for 0-10 ft), and thus result in a lower cancer risk and non-cancer hazard. However, because Cr(VI) contributes 4-20% of the total cancer risk and <1% of the non-cancer hazard for the receptors in the NFA, this would not change the conclusions for the NFA.

The surficial soil dataset used in this HHRA includes 124 soil samples that were composited over a depth interval of more than 0.5 ft, the majority of which were from the 0-2 ft depth interval. Composite samples were collected from the NFA, SFA, and UNDV. In the NFA, most of the composite samples (35/44) are from the RI dataset. In contrast, most of the composite samples in the SFA (10/15) and UNDV (59/65) are from the historic dataset (*i.e.*, data collected prior to initiation of the RI in 2005). Compositing a sample across a wider depth interval could potentially dilute contamination that is present within a narrower depth interval. Therefore, the inclusion of composite samples in the HHRA may have resulted in an underestimation of risk for surface soils.

In the absence of Cr(VI) sediment data, the HHRA evaluated Cr(VI) sediment risk in two ways, assuming Cr(VI) was either 5% or 100% of the total chromium concentration. Based on an evaluation of the 2016 FMP soil data, Cr(VI) was on average 5% of total chromium (Sherwin-Williams, 2016b). Since the percent Cr(VI) in UHC sediment is likely to be no higher than in FMP soil, the assumption that total chromium is 100% Cr(VI) in sediment likely overestimates risk.

The HHRA used the conservative assumption that total chromium detected in surface water was 100% Cr(VI). This assumption likely overestimates risk because chromium speciation is a function of pH and Eh (redox potential) and previous geochemical modeling indicated that Cr(VI) would be less than 1% of the total chromium concentration (Sherwin-Williams, 2015). However, surface water accounts for less than 10% of the total cancer risks and non-cancer hazards for the Recreator receptors, and chromium contributes only 2-3% to the surface water cancer risks and <1% to the surface water non-cancer hazards. Therefore, this uncertainty is unlikely to impact the overall risk and hazard estimates for the Recreator receptors.

### 10.1.3 Exposure Frequency and Duration

Outdoor Workers and Residents were assumed to have exposure to soil for 225 and 350 days/year, respectively. This exposure frequency does not account for grass, leaf, and snow covering (during the colder months), which could potentially limit soil exposures. Therefore, the risks may be lower than those estimated in this report. The assumption that a Recreator would wade in UHC for 44 days/year is likely an overestimate, as this area is not attractive for wading. Thus, risks from contact with surface water and sediment are likely to be lower than estimated here.

For the Utility Worker and Outdoor Worker, the exposure duration was 25 years, based on the 95$^{th}$ percentile duration that an individual stays at any one workplace (US EPA, 1991a, 2014). This assumption overestimates exposures for most workers, because the median occupational tenure of the working population has been estimated to be 7.9 years for men and 5.4 years for women (US EPA, 2011a).

As noted previously, an exposure frequency of 150 days/year for a Recreator is conservative and, thus, may overestimate risk. EPA's Supplemental Guidance for Inhalation Risk Assessment notes "an example trespasser/recreational scenario could consist of an exposure… for 100 days per year or less" (US EPA, 2009a). The Risk Assessment Information System (RAIS) Risk Calculator developed under the United States Department of Energy (DOE) Oak Ridge National Laboratory (ORNL) recommends an exposure frequency of 74 days for a Recreator (US DOE, 2013). The selected value of 150 days/year is higher than both of these values and, thus, may overstate risk.

The residential exposure scenario assumes that the Resident will live in a given exposure area for 26 years, including 6 years as a child and 20 years as an adult. It assumes that the Resident will ingest or touch soil, and inhale dust from soil, for 350 days/year for 26 years regardless of weather conditions.

### 10.1.4 Soil and Sediment Ingestion Rates

The exposure factors used in the risk assessment generally represent high-end "upper percentile" (*e.g.*, 90$^{th}$ or 95$^{th}$ percentile) exposure factors. High-end ingestion rates (100 and 200 mg/day, the 90$^{th}$ percentile) were applied for year-round exposure (350 days/year), however soil ingestion rates will likely be lower in winter months when people spend less time outdoors. Data analyzed by EPA indicate that soil intake decreases by 6-55% on poor weather days when children are more likely to stay inside, compared with good weather days (US EPA, 1994a). Data regarding hand-to-mouth events, which are a primary mechanism by which soil is ingested, indicate that hand-to-mouth frequency is significantly greater indoors than outdoors (US EPA, 2012c). Therefore, risks evaluated with the high-end soil ingestion rates for year-round exposure may over-estimate risks. For example, a recent reanalysis of previous soil ingestion studies estimated a mean of 26 mg/day for children, with a 95$^{th}$ percentile estimated as 79 mg/day (Stanek *et al*., 2012a,b).

Construction and Utility Workers were assumed to incidentally ingest 330 mg/day. EPA recommended the ingestion rate of 330 mg/day for a Construction Worker for their soil screening level guidance (US EPA, 2002) based on a study by Stanek *et al*. (1997), who noted that the 95$^{th}$ percentile soil ingestion rate of 330 mg/day is substantially uncertain. The most current Exposure Factors Handbook (US EPA, 2011a) did not acknowledge this study as a key or secondary study

for soil and dust ingestion rates. Therefore, use of this high-end ingestion rate may over-estimate risks for Construction and Utility Workers.

### 10.1.5 Skin Surface Area Exposed to Sediment

Although absorption could occur through dermal contact with sediment while wading, the exposed skin surface area may be limited to the feet, rather than the head, hands, forearms, lower legs, and feet, as assumed in the risk assessment. In addition, the time that the skin would contact sediment would likely be very short, as the sediment would wash off in the surface water. Therefore, the risk from dermal contact with sediment is likely to be overestimated in this report.

## 10.2 Uncertainty in COPCs

### 10.2.1 COPC Selection

Chemicals were eliminated as COPCs during the screening evaluation (Appendix C, Table 2s). Maximum detected concentrations were compared against generic health based screening criteria (*e.g.,* RSLs). Chemicals with concentrations below their respective screening criterion do not warrant further evaluation. EPA (1989) uses a screening evaluation to reduce the number of COPCs carried through the risk assessment, because in many cases risks are driven by a handful of chemicals. Chemicals that were not identified as COPCs are not expected to be major risk contributors, and the exclusion of these chemicals is not anticipated to change the conclusions of the risk assessment.

Historic data (pre-2005) were included in the HHRA for completeness and to add sample coverage. However, there is uncertainty as to how well the historic data represent current conditions, particularly for VOCs and SVOCs which have the potential to break down over time. Using the same screening process performed in Appendix C, a total of 13 compounds would be eliminated as COPCs in various exposure areas if the pre-2005 data were not used in the HHRA, including 5 metals, 4 SVOCs, and 4 VOCs (report Table 12). Thus, inclusion of the pre-2005 data may tend to overestimate risk. However, these compounds were not risk drivers; thus, removal of the pre-2005 data is unlikely to change the conclusions of the risk assessment. The TICs included as COPCs would not change if the pre-2005 data were removed.

Several compounds were reported with elevated detection limits, some of which exceeded the maximum detected concentration, and/or the screening criteria. Depending on the exposure area and soil depth interval, the number of compounds for which the maximum detection limit is above the screening criterion but the compound is not a COPC (*i.e*., the maximum detected concentration is below the screening criterion) ranges from 4-22 compounds (mostly VOCs and SVOCs). This situation also occurs for one compound in sediment and nine compounds in surface water. Thus, the elevated detection limits could have resulted in an underestimate of the number of COPCs, which could have resulted in an underestimation of risk.

### 10.2.2 Tentatively Identified Compounds

A total of 2,391 TICs were reported in samples from the FMP (Appendix E, Table 1). A total of 25 TICs with published toxicity factors were included in the screening to identify COPCs (Appendix E). The remaining TICs were not evaluated in the HHRA due to a lack of published

toxicity factors. If the unevaluated TICs contribute to risk, then the risks presented in the HHRA could be underestimated.

The EPCs for the TICs were calculated using only the detected concentrations, because if TICs are not detected, they are not reported. For this reason, the EPCs for TICs are likely to be biased high and overestimate risk.

The TIC 1,2,4-trimethylbenzene was identified as a significant contributor to non-cancer hazard for the Utility and Construction Workers (23% for both receptors) in the SFA *via* the inhalation pathway. Due to the uncertainty in compound identification and quantitation associated with TICs, there is also uncertainty associated with the risk contributed by this compound.

## 10.3 Uncertainties in Dermal Absorption

A dermal absorption value of 3% for arsenic in soil was used in this report (US EPA, 2004a). Lowney *et al*. (2007) measured dermal bioavailability of arsenic in soil, in monkeys, and found that dermal absorption of arsenic was less than 1%. Therefore, the dermal absorption value of 3% used for arsenic likely overestimates dermal risks.

Dermal absorption factors were not available for a number of metal COPCs in soil (aluminum, antimony, barium, Cr(VI), cobalt, copper, iron, manganese, thallium, vanadium, zinc, and cyanide). Although dermal risks from these metals were not calculated, dermal absorption of these metals is not a primary route of metal exposure (US EPA, 2007b); thus, this pathway would provide an insignificant contribution to risk.

In addition, default soil absorption values were used for sediment, in the absence of sediment specific values. The dermal absorption of metals in soil and sediment is dependent on chemical, physical, and biological factors (US EPA, 2004a). Therefore, the use of dermal soil absorption values to evaluate sediment exposures may over- or underestimate dermal risks from sediment exposure.

The dermal exposure route for lead in soil was not evaluated because this exposure route is typically insignificant when compared to ingestion (ATSDR, 2007). EPA's ALM and IEUBK Model do not include dermal exposures.

Dermal risks were calculated for three COPCs in UHC surface water that are outside the EPD based on EPA's mathematical model for calculating absorbed dose; these include benzo(a)pyrene, benzo(b)fluoranthene, and indeno(1,2,3-cd)pyrene. EPA (2004a) noted that chemicals outside the EPD may not be absorbed before desquamation (or shedding) of the skin, which would reduce the amount of chemical available for absorption and would, therefore, reduce risks from dermal contact. Dermal risks from UHC surface water contributed roughly 20-40% of the total cancer risk for the adult, adolescent, and child Recreators with 78% of the dermal risk from benzo(a)pyrene, which is outside the EPD. Due to the uncertainty associated with chemicals outside the EPD, the dermal risks may be overestimated.

## 10.4 Uncertainties in Toxicity Reference Values

In the absence of toxicity reference values for thallium, dibenzofuran, and 1,2,3-trichlorobenzene, PPRTV screening toxicity values were used for the RfDs. A PPRTV screening value was also

used for the 1,1'-biphenyl RfC. Although the RfD and RfC are derived using current EPA methodology, the available information does not provide enough support to derive a PPRTV toxicity value. Consequently, this PPRTV screening toxicity value has considerably more uncertainty associated with it than other toxicity values from EPA IRIS and PPRTV.

## 10.5 Uncertainties Associated with Indoor Air Exposures

Risks to commercial workers exposed to VOCs in indoor air may be biased low due to elevated detection limits. The high detected concentrations of aliphatic and aromatic compounds, benzene, ethylbenzene, xylene, toluene, and 1,2,4-trimethylbenzene, resulted in elevated detection limits for other VOCs in several sub-slab soil gas samples. The detection limits for 27 non-detected VOCs in sub-slab soil gas exceeded their respective screening criterion. Four of these VOCs were detected in indoor air above their screening criterion (1,1,2,2-tetrachloroethane, acrolein, benzyl chloride and bromodichloromethane). Therefore, it is not known whether these compounds could have been present in sub-slab soil gas at levels below the detection limit, and thus whether the presence of these compounds in indoor air could be related to vapor intrusion. Regardless, the VI risks estimated from sub-slab data may be biased low.

Several compounds detected in sub-slab soil gas and/or indoor air did not have screening criteria; thus, risks from these compounds were not evaluated. Several of these compounds were detected at high concentrations; for example, petroleum hydrocarbons (C5-C8 aliphatics, C9-C10 Aromatics, C9-C12 Aliphatics) were detected at concentrations ranging from 870-69,000,000 $\mu g/m^3$ in sub-slab soil gas samples collected from 2 Foster Avenue, 3 US Avenue, and 4 Foster Avenue, as well as indoor air samples collected in August 2015 at these properties.[21] Also, the TICs reported in indoor air did not have screening criteria (Appendix F Table 5). Risks from these compounds were not assessed due to the absence of screening criteria; therefore, VI risks based on sub-slab soil gas and/or indoor air data may be underestimated.

## 10.6 Uncertainties in Setting a Target Lead Risk

EPA's guidance for assessing lead at Superfund sites currently uses a target BLL of 10 µg/dL for children, a value recommended by the Centers for Disease Control and Prevention (CDC) in 1991 (US EPA, 1994b). The basis of the CDC's 1991 recommended BLL was protection against decreased IQ and impaired neurobehavioral development (CDC, 1991). EPA's risk reduction goal for impacted sites is to limit the probability of a child's BLL exceeding 10 µg/dL to 5% or less (US EPA, 2012b). In 2012, CDC revised its recommendations regarding childhood blood lead screening based on their conclusion that there is no safe BLL, and, therefore, it is not appropriate to identify a BLL of concern (CDC, 2012). Instead, CDC has replaced the "level of concern" concept for lead (*i.e.*, conclusions regarding exposure levels associated with specific adverse health effects) with a "reference level" based on the statistical distribution of blood lead concentrations in the US population. CDC selected a reference level of 5 µg/dL, which represents the 97.5$^{th}$ percentile of the distribution of BLLs for 1- to 5-year-old children in the US, based on the NHANES surveys conducted in 2005-2006 and 2007-2008 (CDC, 2012). EPA guidance states that "the current scientific literature on lead toxicology and epidemiology provides evidence that adverse health effects are associated with blood lead levels less than 10 µg/dL" (US EPA,

[21] The indoor air data report unadjusted and adjusted petroleum fractions, as denoted by "unadj." and "APH," respectively (Appendix F, Table 3). The adjusted concentrations account for the subtraction of individual analyte concentrations (*e.g.*, benzene) from the petroleum fraction reported.

2016a). At the direction of EPA this HHRA used a target BLL of 5 µg/dL for evaluation of both adult and child lead risks (US EPA Region II, 2017). It has not yet been established whether EPA will continue to use a 5% probability of exceeding any revised target as the definition of unacceptable risk. Thus, there is uncertainty associated with whether lead risks should be characterized as unacceptable if they exceed a probability of 5%.

# 11 Conclusions

This risk assessment characterized the risk to human health from exposure to soil, sediment, and surface water at the FMP. The FMP was divided into four exposure areas: North of Foster Avenue, South of Foster Avenue, East of United States Avenue, and Undeveloped Area. The receptors evaluated in this HHRA included a Construction Worker; Utility Worker; Outdoor Worker; adult, adolescent, and child Recreator; and adult and child Resident. Soil exposure pathways included incidental ingestion of soil, dermal contact with soil, and inhalation of particulates/volatiles potentially emitted from soil. Soil was evaluated in the 0-10 ft, 0-2 ft, or 0-0.5 ft depth interval depending on the receptor and COPC. Recreators were evaluated for exposure to surface water and sediment in Upper Hilliards Creek. Sediment exposure pathways included incidental ingestion and dermal contact. Surface water exposure pathways included dermal contact while wading.

COPCs for soil and sediment were determined by comparing the detected concentrations to conservative risk-based screening criteria (the lower of the EPA RSL or the NJ RDCSRS). COPCs for surface water were determined by comparing the detected concentrations EPA RSLs for tap water. Soil COPCs included metals, cyanide, PAH compounds, PCB compounds, pesticides, SVOCs, VOCs, and TICs. Sediment COPCs included metals, cyanide, PCB compounds, PAH compounds, and a TIC. Surface water COPCs included metals, cyanide, PAH compounds and VOCs. It should be noted that the COPCs in each medium were not necessarily COPCs in every exposure area.

Risks were evaluated for both cancer and non-cancer effects following EPA guidance, using conservative estimates of exposure that tend to overestimate, rather than underestimate, risk. Risk from exposure to lead in soil was evaluated using blood lead models, as per EPA guidance. Cancer risks are characterized as the incremental probability that an individual will develop cancer over a lifetime due to site-related exposures under the specific exposure scenarios evaluated. EPA's target risk range is given as one in a million ($1 \times 10^{-6}$) to one in ten thousand ($1 \times 10^{-4}$). Non-cancer hazard is expressed as a total HI, and EPA uses a target HI of 1. An HI less than or equal to 1 indicates that adverse non-cancer health effects are not expected, even in susceptible populations. An HI greater than 1 does not mean that adverse health effects will occur, only that further evaluation is warranted. Risk from exposure to lead was evaluated using blood lead models. At the direction of EPA, lead risks are reported as the probability of having a BLL greater than 5 µg/dL. EPA considers lead risks to exceed the target risk threshold if the probability of having a BLL greater than the blood lead target is greater than EPA's goal of 5%.

Chromium was detected in soil from all exposure areas evaluated and in sediment from UHC. In soil, chromium risks were calculated using Cr(VI) data. At the direction of EPA, chromium risks were calculated two ways for UHC sediment, assuming that Cr(VI) is either 5% or 100% of the total chromium concentration.

Cancer risks for the Utility, Construction, and Outdoor Workers were within or below EPA's target risk range in all four exposure areas. Non-cancer hazards for the Utility and Outdoor Workers were below EPA's target HI in all four exposure areas. For the Construction Worker, non-cancer hazards exceeded EPA's target HI in the NFA (6) and UNDV (2).

Cancer risks for the adult and child Resident exceeded EPA's target risk range in the NFA, SFA, and UNDV. Non-cancer hazards for the child Resident exceeded EPA's target HI in the NFA, SFA, and UNDV. Non-cancer hazards for the adult Resident exceeded EPA's target HI in the UNDV, but not the other three exposure areas.

*Assuming 5% Cr(VI) in sediment:* Cancer risks for the adolescent Recreator were within EPA's target risk range in the UNDV, which includes exposure to UHC. Risks for the child and adult Recreators, and hazards for all three Recreators, exceeded EPA's target risk range or HI. For the Recreators, exposure to sediment was the major contributor to cancer risk and non-cancer hazard.

*Assuming 100% Cr(VI) in sediment:* Cancer risks and non-cancer hazards exceeded EPA's target risk range or HI for all three Recreators in the UNDV.

The analytes with the greatest contribution to risk or hazard varied by exposure area and receptor, but generally included the following COPCs:

- **Soil:** Arsenic, antimony, hexavalent chromium, cyanide, benzo(a)pyrene, Aroclor 1260, and 1,2,4-trimethylbenzene (TIC)
- **Sediment:** Arsenic and chromium (evaluated as Cr(VI))[22]

Lead risks were evaluated for exposure to soil for a child Resident; a child, adolescent, and adult Recreator; a Utility Worker; a Construction Worker; and an Outdoor Worker. Lead risks exceeded EPA's target of 5% for the child resident in the NFA, SFA, and UNDV; for the Construction and Outdoor Worker in the SFA; and the Construction Worker in the UNDV. Lead risks exceeded EPA's target of 5% in the UNDV+UHC for the child Recreator, largely due to exposure to sediment in UHC.

Risks to commercial workers from vapor intrusion were evaluated separately for eight buildings (1 Foster Avenue, 2 Foster Avenue, 4 Foster Avenue, 5 Foster Avenue, 7 Foster Avenue, 10 Foster Avenue, former 6 East Clementon Road, 3 US Avenue). The sub-slab and indoor air data were screened against health-based values that are protective of commercial worker exposures. Overall, the exceedances of criteria for the indoor air data indicate a potential risk to commercial workers. The vapor intrusion risks may be underestimated, due to elevated detection limits for non-detected VOCs in sub-slab soil gas data, and VOCs without screening criteria that were detected at elevated concentrations in sub-slab soil gas and/or indoor air. Based on site observations and background sources (*i.e.*, non-site related indoor sources) of VOCs, many of the indoor air exceedances may be a result of contaminant sources unrelated to sub-slab vapor. However, it is not known whether VOCs detected in indoor air could have been present in sub-slab soil gas at levels below the detection limit, and thus whether the presence of these compounds in indoor air could be related to vapor intrusion.

[22] Cr(VI) is a risk driver in sediment only for the assumption that Cr(VI) is 100% of the total chromium concentration.

# References


Agency for Toxic Substances and Disease Registry (ATSDR). 2007. "Toxicological Profile for Lead." 582p., August. Accessed at http://www.atsdr.cdc.gov/toxprofiles/tp13.pdf.

American Cancer Society (ACS). 2016. "Cancer Facts & Figures, 2016." 72p. Accessed at http://www.cancer.org/acs/groups/content/@research/documents/document/acspc-047079.pdf.

California Office of Environmental Health Hazard Assessment (CalOEHHA). 2009. "Technical Support Document for Describing Available Cancer Potency Factors: Methodologies for Derivation, Listing of Available Values, and Adjustments to Allow for Early Life Stage Exposures." Air Toxicology and Epidemiology Branch, 930p., May. Accessed at http://www.oehha.ca.gov/air/hot_spots/tsd052909.html.

Centers for Disease Control and Prevention (CDC). 1991. "Preventing Lead Poisoning in Young Children: A Statement by the Centers for Disease Control." 109p., October. Accessed at http://wonder.cdc.gov/wonder/prevguid/p0000029/p0000029.asp.

Centers for Disease Control and Prevention (CDC). 2012. "CDC Response to Advisory Committee on Childhood Lead Poisoning Prevention [ACCLPP] Recommendations in 'Low Level Lead Exposure Harms Children: A Renewed Call of Primary Prevention.'" 16p. Accessed at http://www.cdc.gov/nceh/lead/ACCLPP/CDC_Response_Lead_Exposure_Recs.pdf.

Clarke Caton Hintz. 2009. "Zoning Map: Borough of Gibbsboro, Camden County, New Jersey." 1p., February.

ESRI. 2011. "USA State Boundaries. [mapping software]." Accessed at http://www.arcgis.com/home/item.html?id=540003aa59b047d7a1f465f7b1df1950.

ESRI. 2016. Street map web mapping service [electronic resource]. Accessed at http://goto.arcgisonline.com/maps/World_Street_Map.

Florida Department of Health (FLDOH). 2010. "Human Health-Based Screening Levels for Petroleum Products Impacting Gulf coastal Waters and Beach Sediments." 20p. Accessed at http://www.dep.state.fl.us/deepwaterhorizon/files2/FLScreeningLevels.pdf.

Gradient. 2016. "Pathways Analysis Report for the Human Health Risk Assessment, Former Manufacturing Plant, Gibbsboro, New Jersey, Administrative Order Index No. II CERCLA-02-99-2035." Prepared for The Sherwin-Williams Company. Submitted to US EPA Region II, September.

Koizumi, M; Yamamoto, Y; Ito, Y; Takano, M; Enami, T; Kamata, E; Hasegawa, R. 2001. "Comparative study of toxicity of 4-nitrophenol and 2,4-dinitrophenol in newborn and young rats." *J. Toxicol. Sci.* 26(5):299-311.

Lockheed Martin. 2009. Memorandum by J. Fry to J. Catanzarita (US EPA) re: Trip report for Sherwin-Williams/Hilliards Creek Superfund Site, Gibbsboro, New Jersey. 19p., October 23.

Lowney, YW; Wester, RC; Schoof, RA; Cushing, CA; Edwards, M; Ruby, MV. 2007. "Dermal absorption of arsenic from soils, as measured in the rhesus monkey." *Toxicol. Sci.* 100:381-392. 21p.

New Jersey Dept. of Environmental Protection (NJDEP). 2009. "NJDEP - Toxicity Factors Used to Develop Human Health Basis for DEP Standards." 86p., August 28. Accessed at http://www.nj.gov/dep/standards/all%20tox%20factors.pdf.

New Jersey Dept. of Environmental Protection (NJDEP). 2010a. "Protocol For Addressing Extractable Petroleum Hydrocarbons (Version 5.0)." 19p., August 9.

New Jersey Dept. of Environmental Protection (NJDEP). 2010b. "Composition-Specific Extractable Petroleum Hydrocarbon (EPH) Soil Remediation Criterion (SRC) Calculator for Non-#2 Fuel Oil/Diesel Oil Petroleum Hydrocarbon Mixtures (Version 2.0)." August 9. Accessed at http://www.nj.gov/dep/srp/guidance/srra/EPHCalculator.xls.

New Jersey Dept. of Environmental Protection (NJDEP). 2011a. "Residential Direct Contact Soil Remediation Standards." N.J.A.C. 7:26D. October 3, 47p. Accessed at http://www.state.nj.us/dep/srp/regs/rs/rs_rule.pdf.

New Jersey Dept. of Environmental Protection (NJDEP). 2011b. "Surface water quality standards." N.J.A.C. 7:9B. 113p., April 4.

New Jersey Dept. of Environmental Protection (NJDEP). 2013. "Vapor Intrusion Screening Level Tables." 6p., March. Accessed at http://www.sviva.gov.il/subjectsenv/contaminatedsoil/vaporintrusion/documents/vig_tables.pdf.

Stanek, EJ III; Calabrese, EJ; Xu, B. 2012a. "Meta-analysis of mass-balance studies of soil ingestion in children." *Risk Anal.* 32(3):433-447.

Stanek, EJ III; Xu, B; Calabrese, EJ. 2012b. "Equation reliability of soil ingestion estimates in mass-balance soil ingestion studies." *Risk Anal.* 32(3):448-463.

Stanek, EJ; Calabrese, EJ; Barnes, R; Pekow, P. 1997. "Soil ingestion in adults - Results of a second pilot study." *Ecotoxicol. Environ. Saf.* 36:249-257.

The Sherwin-Williams Company (Sherwin-Williams). 2015. "Technical Memorandum on Chromium, Human Health Risk Assessment, United States Avenue Burn Site, Gibbsboro, New Jersey." Submitted to US EPA Region II, October.

The Sherwin-Williams Company (Sherwin-Williams). 2016a. Letter Report to R. Klimcsak and L. DiGuardia (US EPA Region II) re: Trip Report – Indoor Air and Ambient Air Sampling Event, October 2016. 86p., December 21.

The Sherwin-Williams Company (Sherwin-Williams). 2016b. "Chromium/Hexavalent Chromium and Extractable Petroleum Hydrocarbons Soil Sampling Technical Memorandum, Former Manufacturing Plant – Soil Operable Unit, Sherwin-Williams/Hilliards Creek Site, Gibbsboro, New Jersey." Submitted to US EPA Region II, December.

US Dept. of Energy (US DOE). 2013. "Risk Assessment Information System (RAIS) Contaminated Media (Risk) Calculator record for arsenic; recreator exposure to soil or sediment." Oak Ridge Operations Office (ORO), July 9. Accessed at http://rais.ornl.gov/cgi-bin/prg/RISK_search.

US EPA Region II. 1999. "Administrative order on consent for remedial investigation/feasibility study [In the matter of the United States Avenue Burn Site, Route 561 Dump Site, and Hilliards Creek, The Sherwin-Williams Co.]." September 30.

US EPA Region II. 2016. Letter from R. Klimcsak to R. Vocaire (The Sherwin-Williams Company) re: Review of the (draft) September 2016 Pathways Analysis Report, Sherwin-Williams/Hilliards Creek Superfund Site Former Manufacturing Plant (FMP) Area. 6p., December 22.

US EPA Region II. 2017. Letter from R. Klimcsak. to R. Vocaire (The Sherwin-Williams Company) re: Review of the February 10, 2017 - (draft) Human Health Risk Assessment for the Former Manufacturing Plant Area, Sherwin-Williams/Hilliards Creek Superfund Site - Operable Unit 2 (Soils), Administrative Order Index No. II CERCLA-02-99-2035. 6p., May 25.

US EPA. 1989. "Risk Assessment Guidance for Superfund (RAGS), Vol. I, Human Health Evaluation Manual (Part A)." Office of Emergency and Remedial Response, OSWER Directive 9285,7-01A.

US EPA. 1990. "National Oil and Hazardous Substances Pollution Contingency Plan; Final rule." *Fed. Reg.* 55(46):8666-8865, March 8.

US EPA. 1991a. "Risk Assessment Guidance for Superfund (RAGS). Volume I: Human Health Evaluation Manual - Supplemental Guidance: Standard Default Exposure Factors (Interim Final)." Office of Emergency and Remedial Response, OSWER Directive 9285.6-03, March 25.

US EPA. 1991b. "Role of the baseline risk assessment in Superfund remedy selection decisions." Office of Solid Waste and Emergency Response (OSWER), National Technical Information Service (NTIS) OSWER Directive 9355.0-30; NTIS PB91-92139, 10p., April 22.

US EPA. 1992a. "Integrated Risk Information System (IRIS): EPA's Approach for Assessing the Risks Associated with Chronic Exposures to Carcinogens. Background Document 2." January 17.

US EPA. 1992b. "Dermal Exposure Assessment: Principals and Applications (Interim Report)." Exposure Assessment Group, Office of Health and Environmental Assessment, EPA/600/8-91/011B, January.

US EPA. 1993a. "Integrated Risk Information System (IRIS): Reference Dose (RfD): Description and Use in Health Risk Assessments. Background Document 1A." March 15.

US EPA. 1993b. "Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons (Final)." EPA/600/R-93/089, 24p., July.

US EPA. 1994a. "Guidance Manual for the Integrated Exposure Uptake Biokinetic Model for Lead in Children." Technical Review Workgroup for Lead. Report to US EPA, Office of Emergency and Remedial Response, OERR Publication 9285.7-15-1, EPA 540-R-93-081, February.

US EPA. 1994b. "Revised interim soil lead guidance for CERCLA sites and RCRA corrective action facilities." Office of Solid Waste and Emergency Response (OSWER), OSWER DIRECTIVE 9355.4-12; NTIS PB94-963282; EPA/540-F-94-043, 24p., August.

US EPA. 1996. "Soil Screening Guidance: Technical Background Document." Office of Solid Waste and Emergency Response, EPA-540/R-95/128, May.

US EPA. 1998. "Clarification to the 1994 Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities." Office of Solid Waste and Emergency Response, EPA/540/F-98-030, August.

US EPA. 2000. "Toxicological Review of Vinyl Chloride (CAS No. 75-01-4)." EPA/635/R-00/004, 197p., May.

US EPA. 2002. "Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites." Office of Solid Waste and Emergency Response, OSWER 9355.4-24, 187p., December.

US EPA. 2003a. "Superfund Lead-Contaminated Residential Sites Handbook." US EPA, Office of Emergency and Remedial Response. OSWER 9285.7-50. August.

US EPA. 2003b. "Recommendations of the Technical Review Workgroup for Lead for an Approach to Assessing Risks Associated with Adult Exposures to Lead in Soil." EPA-540-R-03-001.

US EPA. 2003c. "IRIS Chemical Assessment Summary for Vinyl Chloride (CAS No. 75-01-4)." 63p., October 28. Accessed at https://www.epa.gov/iris.

US EPA. 2004a. "Risk Assessment Guidance for Superfund (RAGS). Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) (Final)." Office of Superfund Remediation and Technology Innovation, EPA/540/R/99/005, 181p., July.

US EPA. 2004b. "Integrated Risk Information System (IRIS). Lead and Compounds (Inorganic). [electronic resource]."

US EPA. 2005. "Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens (Final)." Risk Assessment Forum, EPA-630/R-03/003F, 125p., March.

US EPA. 2007a. "User's Guide for the Integrated Exposure Uptake Biokinetic Model for Lead in Children (IEUBK) [Windows version]." Prepared by Syracuse Research Corp, North Syracuse, NY. Submitted to US EPA, Office of Superfund Remediation and Technology Innovation, Technical Review Workgroup for Metals and Asbestos (TRW), EPA 9285.7-42, EPA 540-K-01-005. 59p., May.

US EPA. 2007b. "Framework for Metals Risk Assessment." Office of the Science Advisor, EPA 120/R-07/001. 172p., March.

US EPA. 2009a. "Risk Assessment Guidance for Superfund (RAGS). Volume I: Human Health Evaluation Manual (Part F, Supplemental Guidance for Inhalation Risk Assessment) (Final)." Office of Superfund Remediation and Technology Innovation, EPA-540-R-070-002, 68p., January.

US EPA. 2009b. "EPA Adult Lead Model Worksheet."

US EPA. 2010a. "Development of a Relative Potency Factor (RPF) Approach for Polycyclic Aromatic Hydrocarbon (PAH) Mixtures: In Support of Summary Information on the Integrated Risk Information System (IRIS) (Draft)." EPA/635/R-08/012A, 622p., February.

US EPA. 2010b. "Integrated Exposure Uptake Biokinetic Model For Lead in Children, Windows Version (IEUBKwin v.1.1 Build 11) - 32-Bit Version." February.

US EPA. 2011a. "Exposure Factors Handbook: 2011 Edition." National Center for Environmental Assessment (NCEA), EPA/600/R-090/052F, September.

US EPA. 2011b. "Integrated Risk Information System (IRIS) Glossary." Accessed at http://ofmpub.epa.gov/sor_internet/registry/termreg/searchandretrieve/glossariesandkeywordlists/search.do?details=&glossaryName=IRIS Glossary.

US EPA. 2011c. "IRIS Chemical Assessment Summary for Trichloroethylene (CAS No. 79-01-6)." 65p., September 29. Accessed at http://www.epa.gov/iris.

US EPA. 2012a. "Recommendations for Default Value for Relative Bioavailability of Arsenic in Soil." OSWER Directive 9200.1-113, December.

US EPA. 2012b. "Information for Risk Assessors re: Lead at Superfund Sites." 2p., March 27.

US EPA. 2012c. "Standard Operating Procedures for Residential Pesticide Exposure Assessment." Office of Chemical Safety and Pollution Prevention, Office of Pesticide Programs, Health Effects Division. 582p., October.

US EPA. 2014. Memo from D. Stalcup (Office of Solid Waste and Emergency Response) to Superfund National Policy Managers, Regions 1-10 re: Human Health Evaluation Manual, Supplemental Guidance: Update of standard default exposure factors. OSWER Directive 9200.1-120, 7p., February 6.

US EPA. 2015a. "National Recommended Water Quality Criteria." Office of Water, June 29.

US EPA. 2015b. "Regional Screening Levels for Chemical Contaminants at Superfund Sites: RSL Calculator." Accessed at http://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search.

US EPA. 2015c. "Conducting a Human Health Risk Assessment." October 14. Accessed at http://www2.epa.gov/risk/conducting-human-health-risk-assessment#tab-4.

US EPA. 2016a. Memorandum to EPA Regional Administrators, Regions I-X re: Updated scientific considerations for lead in soil cleanups. Office of Land and Emergency Management (OLEM), OLEM Directive 9200.2-167, 3p., December 22.

US EPA. 2016b. "Regional Screening Level (RSL) Summary Table (TR=1E-6, HQ=0.1)." May. Accessed at https://semspub.epa.gov/work/03/2229069.pdf.

US EPA. 2016c. "Vapor Intrusion Screening Level (VISL) Calculator (Version 3.5.1)." Office of Solid Waste and Emergency Response (OSWER), May. Accessed at https://www.epa.gov/vaporintrusion/vapor-intrusion-screening-levels-visls.

US EPA. 2016d. "Statistical Software ProUCL 5.1 for Environmental Applications for Data Sets with and without Nondetect Observations." Accessed at https://www.epa.gov/sites/production/files/2016-05/proucl_5.1.zip.

US EPA. 2016e. "Regional Screening Table - User's Guide." 114p. May. Accessed at https://www.epa.gov/risk/regional-screening-levels-rsls-users-guide-may-2016.

US EPA. 2016f. "Regional Screening Level (RSL) Resident Tapwater Table (TR=1E-6, HQ=0.1)." May. Accessed at https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-may-2016.

US EPA. 2016g. "Toxicological Review of Trimethylbenzenes [CAS Nos. 25551-13-7, 95-63-6, 526-73-8, and 108-67-8]." National Center for Environmental Assessment (NCEA). 150p., September. Accessed at https://cfpub.epa.gov/ncea/iris/iris_documents/documents/toxreviews/1037tr.pdf.

US EPA. 2016h. "Regional Screening Levels Frequent Questions (May 2016)." May. Accessed at https://www.epa.gov/risk/regional-screening-levels-frequent-questions-may-2016.

US EPA. 2017a. "Toxicological Review of Benzo(a)pyrene: Executive Summary (CAS No. 50-32-8) (Final)." National Center for Environmental Assessment (NCEA), EPA/635/R-17/003Fc, 9p., January.

US EPA. 2017b. Memorandum to Superfund National Policy Managers, Regions 1-10 re: Transmittal of Update to the Adult Lead Methodology's Default Baseline Blood Lead Concentration and Geometric Standard Deviation Parameters." Office of Land and Emergency Management (OLEM). OLEM Directive 9285.6-56. 12p., May 17.

US EPA. 2017c. "Regional Screening Levels for Chemical Contaminants at Superfund Sites: RSL Calculator." Accessed at https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search.

US Food and Drug Administration (US FDA). 2010. "Protocol for Interpretation and Use of Sensory Testing and Analytical Chemistry Results for Re-Opening Oil-Impacted Areas Closed to Seafood Harvesting Due to the Deepwater Horizon Spill." 12p., July 29.

Weston Solutions, Inc. (Weston). 2011. "CAD File Base Map [electronic resource]." Received August 18, 2011.

Weston Solutions, Inc. (Weston). 2016. "Soil Site Characterization Summary Report, Former Manufacturing Plant, Gibbsboro, New Jersey." Report to The Sherwin-Williams Company, Submitted to US EPA Region II. March.

# Appendix A

## Sample Locations Used in Risk Assessment

**Table A.1 Soil Sample Locations Included in HHRA**

| Exposure Area | Location ID | Co-Location |
|---|---|---|
| EUSA | MPSB0061 | |
| EUSA | MPSB0062 | |
| EUSA | MPSB0063 | |
| EUSA | MPSB0064 | |
| EUSA | MPSB0079 | |
| EUSA | MPSB0080 | |
| EUSA | MPSB0081 | |
| EUSA | MPSB0082 | |
| EUSA | MPSB0311 | TB-52 |
| EUSA | MPSB0312 | TB-46 |
| EUSA | MPSB0313 | |
| EUSA | MPSB0314 | TB-41 |
| EUSA | MPSB0315 | TB-43 |
| EUSA | TB-39 | |
| EUSA | TB-40 | |
| EUSA | TB-41 | |
| EUSA | TB-42 | |
| EUSA | TB-43 | |
| EUSA | TB-44 | |
| EUSA | TB-45 | |
| EUSA | TB-46 | |
| EUSA | TB-47 | |
| EUSA | TB-48 | |
| EUSA | TB-52 | |
| EUSA | TB-53 | |
| NFA | B-74 | |
| NFA | B-76 | |
| NFA | ERTSB-001 | |
| NFA | ERTSB-002 | |
| NFA | ERTSB-003 | |
| NFA | ERTSB-004 | |
| NFA | ERTSB-005 | |
| NFA | ERTSB-006 | |
| NFA | ERTSB-007 | |
| NFA | ERTSB-008 | |
| NFA | ERTSB-009 | |
| NFA | ERTSB-010 | |
| NFA | ERTSB-011 | |
| NFA | ERTSB-012 | |
| NFA | ERTSB-013 | |
| NFA | ERTSB-014 | |
| NFA | ERTSB-015 | |
| NFA | ERTSB-016 | |
| NFA | ERTSB-017 | |
| NFA | ERTSB-018 | |
| NFA | ERTSB-019 | |
| NFA | ERTSB02 | |
| NFA | ERTSB-020 | |
| NFA | ERTSB08 | |
| NFA | ERTSB12 | |
| NFA | FP168 | |
| NFA | FP170 | |

**Table A.1 Soil Sample Locations Included in HHRA**

| Exposure Area | Location ID | Co-Location |
|---|---|---|
| NFA | FP171 | |
| NFA | MPSB0001 | |
| NFA | MPSB0002 | |
| NFA | MPSB0004 | |
| NFA | MPSB0005 | |
| NFA | MPSB0009 | |
| NFA | MPSB0010 | |
| NFA | MPSB0011 | |
| NFA | MPSB0012 | |
| NFA | MPSB0013 | |
| NFA | MPSB0014 | |
| NFA | MPSB0015 | |
| NFA | MPSB0016 | |
| NFA | MPSB0017 | |
| NFA | MPSB0019 | |
| NFA | MPSB0020 | |
| NFA | MPSB0021 | |
| NFA | MPSB0022 | |
| NFA | MPSB0023 | |
| NFA | MPSB0024 | |
| NFA | MPSB0025 | |
| NFA | MPSB0028 | |
| NFA | MPSB0029 | |
| NFA | MPSB0030 | |
| NFA | MPSB0031 | |
| NFA | MPSB0032 | |
| NFA | MPSB0033 | |
| NFA | MPSB0034 | |
| NFA | MPSB0035 | |
| NFA | MPSB0076 | |
| NFA | MPSB0083 | |
| NFA | MPSB0084 | |
| NFA | MPSB0085 | |
| NFA | MPSB0086 | |
| NFA | MPSB0105 | |
| NFA | MPSB0107 | |
| NFA | MPSB0108 | |
| NFA | MPSB0115 | |
| NFA | MPSB0116 | |
| NFA | MPSB0125 | |
| NFA | MPSB0130 | |
| NFA | MPSB0131 | |
| NFA | MPSB0132 | |
| NFA | MPSB0133 | |
| NFA | MPSB0134 | |
| NFA | MPSB0135 | |
| NFA | MPSB0136 | |
| NFA | MPSB0137 | |
| NFA | MPSB0138 | |
| NFA | MPSB0139 | |
| NFA | MPSB0140 | |
| NFA | MPSB0141 | |

**Table A.1 Soil Sample Locations Included in HHRA**

| Exposure Area | Location ID | Co-Location |
|---|---|---|
| NFA | MPSB0142 | |
| NFA | MPSB0143 | |
| NFA | MPSB0144 | |
| NFA | MPSB0145 | |
| NFA | MPSB0146 | |
| NFA | MPSB0148 | |
| NFA | MPSB0149 | |
| NFA | MPSB0150 | |
| NFA | MPSB0151 | |
| NFA | MPSB0152 | |
| NFA | MPSB0153 | |
| NFA | MPSB0154 | |
| NFA | MPSB0155 | |
| NFA | MPSB0156 | |
| NFA | MPSB0157 | |
| NFA | MPSB0180 | |
| NFA | MPSB0183 | |
| NFA | MPSB0189 | |
| NFA | MPSB0190 | |
| NFA | MPSB0191 | |
| NFA | MPSB0192 | |
| NFA | MPSB0193 | |
| NFA | MPSB0194 | |
| NFA | MPSB0195 | |
| NFA | MPSB0196 | |
| NFA | MPSB0197 | |
| NFA | MPSB0198 | |
| NFA | MPSB0199 | |
| NFA | MPSB0200 | |
| NFA | MPSB0201 | |
| NFA | MPSB0210 | |
| NFA | MPSB0212 | |
| NFA | MPSB0287 | MPSB0190 |
| NFA | MPSB0288 | MPSB0194 |
| NFA | MPSB0289 | MPSB0197 |
| NFA | MPSB0290 | |
| NFA | MPSB0291 | ERTSB-009 |
| NFA | MPSB0292 | MPSB0139 |
| NFA | MPSB0293 | MPSB0030 |
| NFA | MPSB0294 | MPSB0004 |
| NFA | MPSB0295 | MPSB0134 |
| NFA | MPSB0296 | MPSB0012 |
| NFA | MPSB0297 | TB-04 |
| NFA | MPSB0298 | MPSB0153 |
| NFA | MPSB0299 | MPSB0149 |
| NFA | MPSB0300 | ERTSB-012 |
| NFA | MPSB0302 | MPSB0154 |
| NFA | MPSB0303 | |
| NFA | MW-11 | |
| NFA | MW-12 | |
| NFA | MW-19 | |
| NFA | MW-20 | |

**Table A.1 Soil Sample Locations Included in HHRA**

| Exposure Area | Location ID | Co-Location |
|---|---|---|
| NFA | PWSB0018 | |
| NFA | PWSB0019 | |
| NFA | PWSB0022 | |
| NFA | PWSB0023 | |
| NFA | PWSB0024 | |
| NFA | PWSB0028 | |
| NFA | SGW-234 | |
| NFA | SGW-236 | |
| NFA | SGW-280 | |
| NFA | TB-01 | |
| NFA | TB-02 | |
| NFA | TB-03 | |
| NFA | TB-04 | |
| NFA | TB-06 | |
| NFA | TB-28 | |
| NFA | TB-29 | |
| NFA | TB-32 | |
| NFA | TB-37 | |
| NFA | TB-38 | |
| NFA | TB-54 | |
| NFA | TB-55 | |
| NFA | TB-58 | |
| NFA | TB-59 | |
| NFA | TB-60 | |
| NFA | TB-61 | |
| NFA | TB-62 | |
| NFA | TB-63 | |
| NFA | TB-64 | |
| NFA | TB-65 | |
| NFA | TP-64 | |
| SFA | A0000025N | |
| SFA | A0000025S | |
| SFA | A0100025N | |
| SFA | FP159 | |
| SFA | FP160 | |
| SFA | FP161 | |
| SFA | HA-1 | |
| SFA | HA-2 | |
| SFA | HA-3 | |
| SFA | HCSB0181 | |
| SFA | HCSB0182/194 | |
| SFA | HCSB0183/195 | |
| SFA | HCSB0184/196 | |
| SFA | HCSB0185/197 | |
| SFA | HCSB0198 | |
| SFA | HCSB0292 | |
| SFA | HCSB0293 | |
| SFA | HCSB0294 | |
| SFA | HCSB0295 | |
| SFA | HCSB0297 | |
| SFA | HCSB0300 | |
| SFA | HCSB0301 | |

**Table A.1 Soil Sample Locations Included in HHRA**

| Exposure Area | Location ID | Co-Location |
|---|---|---|
| SFA | HCSB0306 | |
| SFA | HCSB0313 | |
| SFA | HCSB0379 | |
| SFA | MPSB0018 | |
| SFA | MPSB0026 | |
| SFA | MPSB0036 | |
| SFA | MPSB0037 | |
| SFA | MPSB0038 | |
| SFA | MPSB0039 | |
| SFA | MPSB0040 | |
| SFA | MPSB0041 | |
| SFA | MPSB0047 | |
| SFA | MPSB0048 | |
| SFA | MPSB0051 | |
| SFA | MPSB0109 | |
| SFA | MPSB0110 | |
| SFA | MPSB0111 | |
| SFA | MPSB0112 | |
| SFA | MPSB0128 | |
| SFA | MPSB0129 | |
| SFA | MPSB0206 | |
| SFA | MPSB0207 | |
| SFA | MPSB0208 | |
| SFA | MPSB0213 | |
| SFA | MPSB0214 | |
| SFA | MPSB0215 | |
| SFA | MPSB0216 | |
| SFA | MPSB0217 | |
| SFA | MPSB0219 | |
| SFA | MPSB0220 | |
| SFA | MPSB0301 | MPSB0038 |
| SFA | MPSB0304 | HCSB0293 |
| SFA | MPSB0305 | HCSB0198 |
| SFA | MPSB0306 | MW-18 |
| SFA | MPSB0307 | MPSB0217 |
| SFA | MPSB0308 | MPSB0041 |
| SFA | MPSB0309 | MW-14 |
| SFA | MPSB0310 | MPSB0048 |
| SFA | MPSB0316 | MW-13 |
| SFA | MPSB0323 | MPSB0018 |
| SFA | MW-13 | |
| SFA | MW-14 | |
| SFA | MW-16 | |
| SFA | MW-17 | |
| SFA | MW-18 | |
| SFA | PWSB0014 | |
| SFA | SGW-266 | |
| SFA | SGW-278 | |
| SFA | TB-05 | |
| SFA | TB-07 | |
| SFA | TB-08 | |
| SFA | TB-30 | |

**Table A.1 Soil Sample Locations Included in HHRA**

| Exposure Area | Location ID | Co-Location |
|---|---|---|
| SFA | TB-31 | |
| SFA | TB-33 | |
| SFA | TB-49 | |
| SFA | TB-50 | |
| SFA | TB-51 | |
| SFA | TB-66 | |
| SFA | TB-67 | |
| SFA | TB-68 | |
| SFA | TB-69 | |
| SFA | TB-91 | |
| SFA | TB-92 | |
| SFA | TB-93 | |
| UNDV | A0100025S | |
| UNDV | A0200025N | |
| UNDV | A0200025S | |
| UNDV | A0200050N | |
| UNDV | A0300000S | |
| UNDV | A0300015S | |
| UNDV | A0300025N | |
| UNDV | A0300050N | |
| UNDV | A0300075N | |
| UNDV | A0300100N | |
| UNDV | A0300125N | |
| UNDV | A0300150N | |
| UNDV | A0400025N | |
| UNDV | A0400025S | |
| UNDV | A0400050N | |
| UNDV | A0400075N | |
| UNDV | A0500025N | |
| UNDV | A0500025S | |
| UNDV | A0500045S | |
| UNDV | A0500050N | |
| UNDV | A0500075N | |
| UNDV | A0500100N | |
| UNDV | A0600025N | |
| UNDV | A0600025S | |
| UNDV | A0600050N | |
| UNDV | A0600075N | |
| UNDV | A0600100N | |
| UNDV | A0600125N | |
| UNDV | A0700017N | |
| UNDV | A0700025S | |
| UNDV | A0700050S | |
| UNDV | A0700075S | |
| UNDV | A0700100S | |
| UNDV | A0700125S | |
| UNDV | A0700160S | |
| UNDV | A0800025N | |
| UNDV | A0800025S | |
| UNDV | A0800050S | |
| UNDV | A0800075S | |
| UNDV | A0800100S | |

**Table A.1 Soil Sample Locations Included in HHRA**

| Exposure Area | Location ID | Co-Location |
|---|---|---|
| UNDV | A0800125S | |
| UNDV | A0890050S | |
| UNDV | A0900021S | |
| UNDV | A0900025N | |
| UNDV | A0900050N | |
| UNDV | A0900075N | |
| UNDV | A1000005N | |
| UNDV | B-77 | |
| UNDV | B-78 | |
| UNDV | B7E29SN | |
| UNDV | B7E29SS | |
| UNDV | HCSB0106/133 | |
| UNDV | HCSB0107/134 | |
| UNDV | HCSB0108/135 | |
| UNDV | HCSB0109/136 | |
| UNDV | HCSB0110/137 | |
| UNDV | HCSB0111/138 | |
| UNDV | HCSB0112/139 | |
| UNDV | HCSB0113/140 | |
| UNDV | HCSB0114/141 | |
| UNDV | HCSB0115/142 | |
| UNDV | HCSB0116/143 | |
| UNDV | HCSB0117/144 | |
| UNDV | HCSB0118/145 | |
| UNDV | HCSB0119/146 | |
| UNDV | HCSB0120/147 | |
| UNDV | HCSB0121/148 | |
| UNDV | HCSB0122/149 | |
| UNDV | HCSB0150/123 | |
| UNDV | HCSB0151/124 | |
| UNDV | HCSB0152/125 | |
| UNDV | HCSB0153/126 | |
| UNDV | HCSB0154/127 | |
| UNDV | HCSB0155/128 | |
| UNDV | HCSB0156/129 | |
| UNDV | HCSB0157/130 | |
| UNDV | HCSB0158/131 | |
| UNDV | HCSB0159/132 | |
| UNDV | HCSB0160 | |
| UNDV | HCSB0172 | |
| UNDV | HCSB0173/186 | |
| UNDV | HCSB0174/187 | |
| UNDV | HCSB0175/188 | |
| UNDV | HCSB0176/189 | |
| UNDV | HCSB0177/190 | |
| UNDV | HCSB0178/191 | |
| UNDV | HCSB0179/192 | |
| UNDV | HCSB0180/193 | |
| UNDV | HCSB0274 | |
| UNDV | HCSB0275 | |
| UNDV | HCSB0296 | |
| UNDV | HCSB0298 | |

**Table A.1 Soil Sample Locations Included in HHRA**

| Exposure Area | Location ID | Co-Location |
|---|---|---|
| UNDV | HCSB0299 | |
| UNDV | HCSB0302 | |
| UNDV | HCSB0303 | |
| UNDV | HCSB0304 | |
| UNDV | HCSB0305 | |
| UNDV | HCSB0307 | |
| UNDV | HCSB0308 | |
| UNDV | HCSB0309 | |
| UNDV | HCSB0310 | |
| UNDV | HCSB0311 | |
| UNDV | HCSB0312 | |
| UNDV | HCSB0498 | |
| UNDV | HCSB0499 | |
| UNDV | HCSB0500 | |
| UNDV | HCSB0501 | |
| UNDV | MPSB0027 | |
| UNDV | MPSB0042 | |
| UNDV | MPSB0043 | |
| UNDV | MPSB0044 | |
| UNDV | MPSB0045 | |
| UNDV | MPSB0046 | |
| UNDV | MPSB0049 | |
| UNDV | MPSB0050 | |
| UNDV | MPSB0052 | |
| UNDV | MPSB0053 | |
| UNDV | MPSB0054 | |
| UNDV | MPSB0055 | |
| UNDV | MPSB0056 | |
| UNDV | MPSB0057 | |
| UNDV | MPSB0058 | |
| UNDV | MPSB0059 | |
| UNDV | MPSB0060 | |
| UNDV | MPSB0065 | |
| UNDV | MPSB0066 | |
| UNDV | MPSB0067 | |
| UNDV | MPSB0068 | |
| UNDV | MPSB0069 | |
| UNDV | MPSB0070 | |
| UNDV | MPSB0071 | |
| UNDV | MPSB0101 | |
| UNDV | MPSB0102 | |
| UNDV | MPSB0103 | |
| UNDV | MPSB0104 | |
| UNDV | MPSB0117 | |
| UNDV | MPSB0118 | |
| UNDV | MPSB0120 | |
| UNDV | MPSB0121 | |
| UNDV | MPSB0122 | |
| UNDV | MPSB0123 | |
| UNDV | MPSB0202 | |
| UNDV | MPSB0203 | |
| UNDV | MPSB0204 | |

**Table A.1 Soil Sample Locations Included in HHRA**

| Exposure Area | Location ID | Co-Location |
|---|---|---|
| UNDV | MPSB0209 | |
| UNDV | MPSB0218 | |
| UNDV | MPSB0221 | |
| UNDV | MPSB0222 | |
| UNDV | MPSB0223 | |
| UNDV | MPSB0224 | |
| UNDV | MPSB0225 | |
| UNDV | MPSB0226 | |
| UNDV | MPSB0227 | |
| UNDV | MPSB0228 | |
| UNDV | MPSB0229 | |
| UNDV | MPSB0230 | |
| UNDV | MPSB0231 | |
| UNDV | MPSB0232 | |
| UNDV | MPSB0317 | MPSB0044 |
| UNDV | MPSB0318 | MPSB0221 |
| UNDV | MPSB0319 | SS-PH04 |
| UNDV | MPSB0320 | HCSB0172 |
| UNDV | MPSB0321 | HCSB0175/188 |
| UNDV | MPSB0322 | HCSB0179/192 |
| UNDV | MPSB0324 | HCSB0308 |
| UNDV | MPSB0325 | HCSB0108/135 |
| UNDV | MPSB0326 | HCSB0152/125 |
| UNDV | MPSB0327 | HCSB0158/131 |
| UNDV | MPSB0328 | HCSB0121/148 |
| UNDV | MPSB0329 | MPSB0055 |
| UNDV | MPSB0330 | MPSB0050 |
| UNDV | MPSB0331 | MPSB0059 |
| UNDV | MPSB0332 | MPSB0065 |
| UNDV | MPSB0333 | HCSB0116/143 |
| UNDV | MPSB0334 | HCSB0297 |
| UNDV | MPSB0335 | HCSB0296 |
| UNDV | MPSB0336 | HCSB0305 |
| UNDV | MPSB0337 | HCSB0303 |
| UNDV | MPSB0338 | HCSB0178/191 |
| UNDV | RSSB0165 | |
| UNDV | RSSB0166 | |
| UNDV | RSSB0169 | |
| UNDV | RSSB0210 | |
| UNDV | RSSB0211 | |
| UNDV | RSSB0212 | |
| UNDV | RSSB0237 | |
| UNDV | RSSB0248 | |
| UNDV | RSSB0259 | |
| UNDV | SS21 | |
| UNDV | SS22 | |
| UNDV | SS23 | |
| UNDV | SS-PH04 | |
| UNDV | SS-PH05 | |
| UNDV | SS-PH06 | |
| UNDV | SS-PH07 | |
| UNDV | TB-73 | |

**Table A.1 Soil Sample Locations Included in HHRA**

| Exposure Area | Location ID | Co-Location |
|---|---|---|
| UNDV | TB-95 | |
| UNDV | TB-96 | |
| UNDV | TB-97 | |
| UNDV | WPH1 | |
| UNDV | WPH2 | |

Notes:

For borings with co-locations, only the original co-location is labeled on the figures.

For example, MPSB0330 is not shown on the figures, but MPSB0050 is.

**Table A.2 Soil Samples Included in HHRA**

| Exposure Area | Location ID | Sample Date | Depth (ft) | FieldDup |
|---|---|---|---|---|
| EUSA | MPSB0061 | 1/26/2010 | 0 - 0.5 | |
| EUSA | MPSB0061 | 1/26/2010 | 1.5 - 2 | |
| EUSA | MPSB0062 | 1/26/2010 | 0 - 0.5 | |
| EUSA | MPSB0062 | 1/26/2010 | 1.5 - 2 | |
| EUSA | MPSB0063 | 1/27/2010 | 0 - 0.5 | |
| EUSA | MPSB0063 | 1/27/2010 | 1.5 - 2 | |
| EUSA | MPSB0064 | 1/28/2010 | 0 - 0.5 | |
| EUSA | MPSB0064 | 1/28/2010 | 1.5 - 2 | |
| EUSA | MPSB0079 | 3/22/2010 | 0 - 0.5 | |
| EUSA | MPSB0079 | 3/22/2010 | 1.5 - 2 | |
| EUSA | MPSB0080 | 3/23/2010 | 0 - 0.5 | |
| EUSA | MPSB0080 | 3/23/2010 | 1.5 - 2 | |
| EUSA | MPSB0081 | 3/23/2010 | 0 - 0.5 | |
| EUSA | MPSB0081 | 3/23/2010 | 1.5 - 2 | |
| EUSA | MPSB0082 | 3/24/2010 | 0 - 0.5 | |
| EUSA | MPSB0082 | 3/24/2010 | 1.5 - 2 | |
| EUSA | MPSB0082 | 3/24/2010 | 6.5 - 7 | |
| EUSA | MPSB0311 | 10/6/2016 | 0 - 0.5 | |
| EUSA | MPSB0311 | 10/6/2016 | 1.5 - 2 | |
| EUSA | MPSB0311 | 10/6/2016 | 8 - 8.5 | |
| EUSA | MPSB0311 | 10/6/2016 | 8 - 8.5 | FD |
| EUSA | MPSB0312 | 10/6/2016 | 0 - 0.5 | |
| EUSA | MPSB0312 | 10/6/2016 | 1.5 - 2 | |
| EUSA | MPSB0312 | 10/6/2016 | 2.5 - 3 | |
| EUSA | MPSB0313 | 10/6/2016 | 0 - 0.5 | |
| EUSA | MPSB0313 | 10/6/2016 | 1.5 - 2 | |
| EUSA | MPSB0313 | 10/6/2016 | 4 - 4.5 | |
| EUSA | MPSB0314 | 10/6/2016 | 0 - 0.5 | |
| EUSA | MPSB0314 | 10/6/2016 | 1.5 - 2 | |
| EUSA | MPSB0314 | 10/6/2016 | 3 - 3.5 | |
| EUSA | MPSB0315 | 10/6/2016 | 0 - 0.5 | |
| EUSA | MPSB0315 | 10/6/2016 | 1.5 - 2 | |
| EUSA | MPSB0315 | 10/6/2016 | 3 - 3.5 | |
| EUSA | TB-39 | 6/21/1995 | 6.4 - 6.8 | |
| EUSA | TB-40 | 6/22/1995 | 3 - 3.4 | |
| EUSA | TB-40 | 6/22/1995 | 6.5 - 7 | |
| EUSA | TB-41 | 6/22/1995 | 3 - 3.5 | |
| EUSA | TB-41 | 6/22/1995 | 8 - 10 | |
| EUSA | TB-42 | 6/21/1995 | 6.6 - 7.1 | |
| EUSA | TB-43 | 6/22/1995 | 3 - 3.5 | |
| EUSA | TB-43 | 6/22/1995 | 6 - 7 | |
| EUSA | TB-44 | 6/21/1995 | 7.2 - 7.7 | |
| EUSA | TB-44 | 6/21/1995 | 7.2 - 7.7 | FD |
| EUSA | TB-45 | 6/21/1995 | 7.3 - 7.8 | |
| EUSA | TB-45 | 6/21/1995 | 8 - 9 | |
| EUSA | TB-46 | 6/22/1995 | 2.7 - 3.1 | |
| EUSA | TB-46 | 6/22/1995 | 5.2 - 5.5 | |
| EUSA | TB-46 | 6/22/1995 | 6.9 - 7.4 | |
| EUSA | TB-46 | 6/22/1995 | 9 - 9.5 | |
| EUSA | TB-47 | 6/22/1995 | 3 - 3.5 | |
| EUSA | TB-48 | 6/22/1995 | 6.5 - 7 | |
| EUSA | TB-52 | 6/21/1995 | 8 - 9 | |
| EUSA | TB-53 | 6/22/1995 | 7 - 7.4 | |

**Table A.2 Soil Samples Included in HHRA**

| Exposure Area | Location ID | Sample Date | Depth (ft) | FieldDup |
|---|---|---|---|---|
| NFA | B-74 | 4/16/1997 | 1.5 - 2 | |
| NFA | B-74 | 4/16/1997 | 4.5 - 4.5 | |
| NFA | B-76 | 4/16/1997 | 3 - 3.5 | |
| NFA | ERTSB-001 | 2/23/2015 | 0 - 2 | |
| NFA | ERTSB-001 | 2/23/2015 | 2 - 4 | |
| NFA | ERTSB-001 | 2/23/2015 | 2 - 4 | FD |
| NFA | ERTSB-001 | 2/23/2015 | 4 - 6 | |
| NFA | ERTSB-001 | 2/23/2015 | 6 - 8 | |
| NFA | ERTSB-001 | 2/23/2015 | 8 - 10 | |
| NFA | ERTSB-002 | 2/23/2015 | 0 - 2 | |
| NFA | ERTSB-002 | 2/23/2015 | 2 - 4 | |
| NFA | ERTSB-002 | 2/23/2015 | 4 - 6 | |
| NFA | ERTSB-002 | 2/23/2015 | 6 - 8 | |
| NFA | ERTSB-002 | 2/23/2015 | 8 - 10 | |
| NFA | ERTSB-003 | 2/23/2015 | 0 - 2 | |
| NFA | ERTSB-003 | 2/23/2015 | 2 - 4 | |
| NFA | ERTSB-003 | 2/23/2015 | 4 - 6 | |
| NFA | ERTSB-003 | 2/23/2015 | 4 - 6 | FD |
| NFA | ERTSB-003 | 2/23/2015 | 6 - 8 | |
| NFA | ERTSB-003 | 2/23/2015 | 6 - 8 | FD |
| NFA | ERTSB-003 | 2/23/2015 | 8 - 10 | |
| NFA | ERTSB-004 | 2/23/2015 | 0 - 2 | |
| NFA | ERTSB-004 | 2/23/2015 | 2 - 4 | |
| NFA | ERTSB-004 | 2/23/2015 | 4 - 6 | |
| NFA | ERTSB-004 | 2/23/2015 | 6 - 8 | |
| NFA | ERTSB-004 | 2/23/2015 | 8 - 10 | |
| NFA | ERTSB-005 | 2/23/2015 | 0 - 2 | |
| NFA | ERTSB-005 | 2/23/2015 | 2 - 4 | |
| NFA | ERTSB-005 | 2/23/2015 | 4 - 6 | |
| NFA | ERTSB-005 | 2/23/2015 | 6 - 8 | |
| NFA | ERTSB-005 | 2/23/2015 | 8 - 10 | |
| NFA | ERTSB-006 | 2/23/2015 | 0 - 2 | |
| NFA | ERTSB-006 | 2/23/2015 | 2 - 4 | |
| NFA | ERTSB-006 | 2/23/2015 | 4 - 6 | |
| NFA | ERTSB-006 | 2/23/2015 | 6 - 8 | |
| NFA | ERTSB-006 | 2/23/2015 | 8 - 10 | |
| NFA | ERTSB-007 | 2/23/2015 | 0 - 2 | |
| NFA | ERTSB-007 | 2/23/2015 | 2 - 4 | |
| NFA | ERTSB-007 | 2/23/2015 | 4 - 6 | |
| NFA | ERTSB-007 | 2/23/2015 | 6 - 8 | |
| NFA | ERTSB-007 | 2/23/2015 | 6 - 8 | FD |
| NFA | ERTSB-007 | 2/23/2015 | 8 - 10 | |
| NFA | ERTSB-008 | 2/23/2015 | 0 - 2 | |
| NFA | ERTSB-008 | 2/23/2015 | 2 - 4 | |
| NFA | ERTSB-008 | 2/23/2015 | 4 - 6 | |
| NFA | ERTSB-008 | 2/23/2015 | 4 - 6 | FD |
| NFA | ERTSB-008 | 2/23/2015 | 6 - 8 | |
| NFA | ERTSB-008 | 2/23/2015 | 8 - 10 | |
| NFA | ERTSB-009 | 2/23/2015 | 0 - 2 | |
| NFA | ERTSB-009 | 2/23/2015 | 2 - 4 | |
| NFA | ERTSB-009 | 2/23/2015 | 4 - 6 | |
| NFA | ERTSB-009 | 2/23/2015 | 6 - 8 | |
| NFA | ERTSB-009 | 2/23/2015 | 8 - 10 | |

**Table A.2 Soil Samples Included in HHRA**

| Exposure Area | Location ID | Sample Date | Depth (ft) | FieldDup |
|---|---|---|---|---|
| NFA | ERTSB-010 | 2/24/2015 | 0 - 2 | |
| NFA | ERTSB-010 | 2/24/2015 | 2 - 4 | |
| NFA | ERTSB-010 | 2/24/2015 | 4 - 6 | |
| NFA | ERTSB-010 | 2/24/2015 | 6 - 8 | |
| NFA | ERTSB-010 | 2/24/2015 | 8 - 10 | |
| NFA | ERTSB-011 | 2/24/2015 | 0 - 2 | |
| NFA | ERTSB-011 | 2/24/2015 | 2 - 4 | |
| NFA | ERTSB-011 | 2/24/2015 | 4 - 6 | |
| NFA | ERTSB-011 | 2/24/2015 | 6 - 8 | |
| NFA | ERTSB-011 | 2/24/2015 | 8 - 10 | |
| NFA | ERTSB-012 | 2/24/2015 | 0 - 2 | |
| NFA | ERTSB-012 | 2/24/2015 | 0 - 2 | FD |
| NFA | ERTSB-012 | 2/24/2015 | 2 - 4 | |
| NFA | ERTSB-012 | 2/24/2015 | 4 - 6 | |
| NFA | ERTSB-012 | 2/24/2015 | 6 - 8 | |
| NFA | ERTSB-012 | 2/24/2015 | 8 - 10 | |
| NFA | ERTSB-013 | 2/24/2015 | 0 - 2 | |
| NFA | ERTSB-013 | 2/24/2015 | 2 - 4 | |
| NFA | ERTSB-013 | 2/24/2015 | 4 - 6 | |
| NFA | ERTSB-013 | 2/24/2015 | 6 - 8 | |
| NFA | ERTSB-013 | 2/24/2015 | 8 - 10 | |
| NFA | ERTSB-014 | 2/24/2015 | 0 - 2 | |
| NFA | ERTSB-014 | 2/24/2015 | 2 - 4 | |
| NFA | ERTSB-014 | 2/24/2015 | 4 - 6 | |
| NFA | ERTSB-014 | 2/24/2015 | 6 - 8 | |
| NFA | ERTSB-014 | 2/24/2015 | 8 - 10 | |
| NFA | ERTSB-015 | 2/24/2015 | 0 - 2 | |
| NFA | ERTSB-015 | 2/24/2015 | 2 - 4 | |
| NFA | ERTSB-015 | 2/24/2015 | 4 - 6 | |
| NFA | ERTSB-015 | 2/24/2015 | 6 - 8 | |
| NFA | ERTSB-015 | 2/24/2015 | 8 - 10 | |
| NFA | ERTSB-016 | 2/24/2015 | 0 - 2 | |
| NFA | ERTSB-016 | 2/24/2015 | 2 - 4 | |
| NFA | ERTSB-016 | 2/24/2015 | 4 - 6 | |
| NFA | ERTSB-016 | 2/24/2015 | 6 - 8 | |
| NFA | ERTSB-016 | 2/24/2015 | 8 - 10 | |
| NFA | ERTSB-017 | 2/24/2015 | 0 - 2 | |
| NFA | ERTSB-017 | 2/24/2015 | 2 - 4 | |
| NFA | ERTSB-017 | 2/24/2015 | 4 - 6 | |
| NFA | ERTSB-017 | 2/24/2015 | 6 - 8 | |
| NFA | ERTSB-017 | 2/24/2015 | 8 - 10 | |
| NFA | ERTSB-018 | 2/25/2015 | 0 - 2 | |
| NFA | ERTSB-018 | 2/25/2015 | 2 - 4 | |
| NFA | ERTSB-018 | 2/25/2015 | 4 - 6 | |
| NFA | ERTSB-018 | 2/25/2015 | 4 - 6 | FD |
| NFA | ERTSB-018 | 2/25/2015 | 6 - 8 | |
| NFA | ERTSB-018 | 2/25/2015 | 6 - 8 | FD |
| NFA | ERTSB-018 | 2/25/2015 | 8 - 10 | |
| NFA | ERTSB-019 | 2/25/2015 | 0 - 2 | |
| NFA | ERTSB-019 | 2/25/2015 | 4 - 6 | |
| NFA | ERTSB-019 | 2/25/2015 | 6 - 8 | |
| NFA | ERTSB-019 | 2/25/2015 | 8 - 10 | |
| NFA | ERTSB02 | 2/23/2015 | 8 - 10 | |

**Table A.2 Soil Samples Included in HHRA**

| Exposure Area | Location ID | Sample Date | Depth (ft) | FieldDup |
|---|---|---|---|---|
| NFA | ERTSB-020 | 2/25/2015 | 0 - 2 | |
| NFA | ERTSB-020 | 2/25/2015 | 2 - 4 | |
| NFA | ERTSB-020 | 2/25/2015 | 4 - 6 | |
| NFA | ERTSB-020 | 2/25/2015 | 6 - 8 | |
| NFA | ERTSB-020 | 2/25/2015 | 8 - 10 | |
| NFA | ERTSB08 | 2/23/2015 | 2 - 4 | |
| NFA | ERTSB12 | 2/25/2015 | 8 - 10 | |
| NFA | FP168 | 12/13/2003 | 0 - 4 | |
| NFA | FP170 | 12/13/2003 | 0 - 4 | |
| NFA | FP171 | 12/13/2003 | 4 - 8 | |
| NFA | MPSB0001 | 11/17/2009 | 0 - 0.5 | |
| NFA | MPSB0001 | 11/17/2009 | 1.5 - 2 | |
| NFA | MPSB0002 | 11/17/2009 | 0 - 0.5 | |
| NFA | MPSB0002 | 11/17/2009 | 1.5 - 2 | |
| NFA | MPSB0004 | 11/18/2009 | 0 - 0.5 | |
| NFA | MPSB0004 | 11/18/2009 | 1.5 - 2 | |
| NFA | MPSB0004 | 11/18/2009 | 3.5 - 4 | |
| NFA | MPSB0005 | 11/19/2009 | 0 - 0.5 | |
| NFA | MPSB0005 | 11/19/2009 | 1.5 - 2 | |
| NFA | MPSB0009 | 11/30/2009 | 0 - 0.5 | |
| NFA | MPSB0009 | 11/30/2009 | 1.5 - 2 | |
| NFA | MPSB0009 | 11/30/2009 | 8.5 - 9 | |
| NFA | MPSB0010 | 11/30/2009 | 0 - 0.5 | |
| NFA | MPSB0010 | 11/30/2009 | 1.5 - 2 | |
| NFA | MPSB0010 | 11/30/2009 | 3 - 3.5 | |
| NFA | MPSB0011 | 12/1/2009 | 0 - 0.5 | |
| NFA | MPSB0011 | 12/1/2009 | 1.5 - 2 | |
| NFA | MPSB0011 | 12/1/2009 | 9 - 9.5 | |
| NFA | MPSB0012 | 12/1/2009 | 0 - 0.5 | |
| NFA | MPSB0012 | 12/1/2009 | 1.5 - 2 | |
| NFA | MPSB0012 | 12/1/2009 | 7 - 7.5 | |
| NFA | MPSB0012 | 12/1/2009 | 8 - 8.5 | |
| NFA | MPSB0013 | 12/2/2009 | 0 - 0.5 | |
| NFA | MPSB0013 | 12/2/2009 | 1.5 - 2 | |
| NFA | MPSB0013 | 12/2/2009 | 6.5 - 7 | |
| NFA | MPSB0014 | 12/2/2009 | 0 - 0.5 | |
| NFA | MPSB0014 | 12/2/2009 | 1.5 - 2 | |
| NFA | MPSB0015 | 12/3/2009 | 0 - 0.5 | |
| NFA | MPSB0015 | 12/3/2009 | 1.5 - 2 | |
| NFA | MPSB0016 | 12/7/2009 | 0 - 0.5 | |
| NFA | MPSB0016 | 12/7/2009 | 1.5 - 2 | |
| NFA | MPSB0017 | 12/7/2009 | 0 - 0.5 | |
| NFA | MPSB0017 | 12/7/2009 | 1.5 - 2 | |
| NFA | MPSB0017 | 12/7/2009 | 9 - 9.5 | |
| NFA | MPSB0019 | 12/8/2009 | 0 - 0.5 | |
| NFA | MPSB0019 | 12/8/2009 | 1.5 - 2 | |
| NFA | MPSB0019 | 12/8/2009 | 5.5 - 6 | |
| NFA | MPSB0019 | 12/8/2009 | 8.5 - 9 | |
| NFA | MPSB0020 | 12/8/2009 | 0 - 0.5 | |
| NFA | MPSB0020 | 12/8/2009 | 1.5 - 2 | |
| NFA | MPSB0020 | 12/8/2009 | 5.5 - 6 | |
| NFA | MPSB0021 | 12/9/2009 | 0 - 0.5 | |
| NFA | MPSB0021 | 12/9/2009 | 1.5 - 2 | |

**Table A.2 Soil Samples Included in HHRA**

| Exposure Area | Location ID | Sample Date | Depth (ft) | FieldDup |
|---|---|---|---|---|
| NFA | MPSB0021 | 12/9/2009 | 3.5 - 4 | |
| NFA | MPSB0021 | 12/9/2009 | 5.5 - 6 | |
| NFA | MPSB0022 | 12/9/2009 | 0 - 0.5 | |
| NFA | MPSB0022 | 12/9/2009 | 1.5 - 2 | |
| NFA | MPSB0022 | 12/9/2009 | 5.5 - 6 | |
| NFA | MPSB0022 | 12/9/2009 | 5.5 - 6 | FD |
| NFA | MPSB0023 | 12/10/2009 | 0 - 0.5 | |
| NFA | MPSB0023 | 12/10/2009 | 1.5 - 2 | |
| NFA | MPSB0023 | 12/10/2009 | 5.5 - 6 | |
| NFA | MPSB0024 | 12/10/2009 | 0 - 0.5 | |
| NFA | MPSB0024 | 12/10/2009 | 1.5 - 2 | |
| NFA | MPSB0024 | 12/10/2009 | 5.5 - 6 | |
| NFA | MPSB0025 | 12/15/2009 | 0 - 0.5 | |
| NFA | MPSB0025 | 12/15/2009 | 1.5 - 2 | |
| NFA | MPSB0025 | 12/15/2009 | 3.5 - 4 | |
| NFA | MPSB0025 | 12/15/2009 | 5.5 - 6 | |
| NFA | MPSB0028 | 12/17/2009 | 0 - 0.5 | |
| NFA | MPSB0028 | 12/17/2009 | 1.5 - 2 | |
| NFA | MPSB0028 | 12/17/2009 | 5.5 - 6 | |
| NFA | MPSB0029 | 12/17/2009 | 0 - 0.5 | |
| NFA | MPSB0029 | 12/17/2009 | 1.5 - 2 | |
| NFA | MPSB0029 | 12/17/2009 | 7.5 - 8 | |
| NFA | MPSB0030 | 1/4/2010 | 0 - 0.5 | |
| NFA | MPSB0030 | 1/4/2010 | 1.5 - 2 | |
| NFA | MPSB0030 | 1/4/2010 | 4.5 - 5 | |
| NFA | MPSB0031 | 1/4/2010 | 0 - 0.5 | |
| NFA | MPSB0031 | 1/4/2010 | 1.5 - 2 | |
| NFA | MPSB0031 | 1/4/2010 | 3.5 - 4 | |
| NFA | MPSB0031 | 1/4/2010 | 4 - 4.5 | |
| NFA | MPSB0031 | 1/4/2010 | 5.5 - 6 | |
| NFA | MPSB0032 | 1/5/2010 | 0 - 0.5 | |
| NFA | MPSB0032 | 1/5/2010 | 1.5 - 2 | |
| NFA | MPSB0032 | 1/5/2010 | 4 - 4.5 | |
| NFA | MPSB0032 | 1/5/2010 | 5.5 - 6 | |
| NFA | MPSB0033 | 1/5/2010 | 0 - 0.5 | |
| NFA | MPSB0033 | 1/5/2010 | 1.5 - 2 | |
| NFA | MPSB0033 | 1/5/2010 | 2 - 2.5 | |
| NFA | MPSB0033 | 1/5/2010 | 3.5 - 4 | |
| NFA | MPSB0033 | 1/5/2010 | 4.5 - 5 | |
| NFA | MPSB0033 | 9/26/2012 | 5.5 - 6 | |
| NFA | MPSB0033 | 9/26/2012 | 7.5 - 8 | |
| NFA | MPSB0034 | 1/6/2010 | 0 - 0.5 | |
| NFA | MPSB0034 | 1/6/2010 | 1.5 - 2 | |
| NFA | MPSB0034 | 1/6/2010 | 3.5 - 4 | |
| NFA | MPSB0035 | 1/6/2010 | 0 - 0.5 | |
| NFA | MPSB0035 | 1/6/2010 | 1.5 - 2 | |
| NFA | MPSB0035 | 1/6/2010 | 3.5 - 4 | |
| NFA | MPSB0035 | 1/6/2010 | 3.5 - 4 | FD |
| NFA | MPSB0076 | 3/3/2010 | 0 - 0.5 | |
| NFA | MPSB0076 | 3/3/2010 | 1.5 - 2 | |
| NFA | MPSB0076 | 3/3/2010 | 2.5 - 3 | |
| NFA | MPSB0076 | 3/3/2010 | 7 - 7.5 | |
| NFA | MPSB0083 | 3/24/2010 | 0 - 0.5 | |

**Table A.2 Soil Samples Included in HHRA**

| Exposure Area | Location ID | Sample Date | Depth (ft) | FieldDup |
|---|---|---|---|---|
| NFA | MPSB0083 | 3/24/2010 | 1.5 - 2 | |
| NFA | MPSB0083 | 3/24/2010 | 4 - 4.5 | |
| NFA | MPSB0084 | 3/25/2010 | 0 - 0.5 | |
| NFA | MPSB0084 | 3/25/2010 | 1.5 - 2 | |
| NFA | MPSB0084 | 3/25/2010 | 3.5 - 4 | |
| NFA | MPSB0084 | 3/25/2010 | 3.5 - 4 | FD |
| NFA | MPSB0084 | 3/25/2010 | 4.5 - 5 | |
| NFA | MPSB0084 | 3/25/2010 | 7.5 - 8 | |
| NFA | MPSB0084 | 3/25/2010 | 9.5 - 10 | |
| NFA | MPSB0085 | 3/25/2010 | 0 - 0.5 | |
| NFA | MPSB0085 | 3/25/2010 | 1.5 - 2 | |
| NFA | MPSB0085 | 3/25/2010 | 8 - 8.5 | |
| NFA | MPSB0085 | 3/25/2010 | 9.5 - 10 | |
| NFA | MPSB0086 | 3/25/2010 | 0 - 0.5 | |
| NFA | MPSB0086 | 3/25/2010 | 1.5 - 2 | |
| NFA | MPSB0086 | 3/25/2010 | 4.5 - 5 | |
| NFA | MPSB0086 | 3/25/2010 | 5.5 - 6 | |
| NFA | MPSB0105 | 7/18/2012 | 6 - 7 | |
| NFA | MPSB0107 | 7/24/2012 | 6 - 6.5 | |
| NFA | MPSB0107 | 7/24/2012 | 7 - 8 | |
| NFA | MPSB0108 | 7/26/2012 | 3 - 3.5 | |
| NFA | MPSB0108 | 7/26/2012 | 5 - 6 | |
| NFA | MPSB0115 | 9/6/2012 | 6 - 7 | |
| NFA | MPSB0116 | 9/7/2012 | 5.5 - 6.5 | |
| NFA | MPSB0116 | 9/7/2012 | 5.5 - 6.5 | FD |
| NFA | MPSB0125 | 9/12/2012 | 9.5 - 10 | |
| NFA | MPSB0130 | 9/18/2012 | 0 - 0.5 | |
| NFA | MPSB0130 | 9/18/2012 | 1.5 - 2 | |
| NFA | MPSB0130 | 9/18/2012 | 4.5 - 5 | |
| NFA | MPSB0131 | 9/18/2012 | 0 - 0.5 | |
| NFA | MPSB0131 | 9/18/2012 | 1.5 - 2 | |
| NFA | MPSB0131 | 9/18/2012 | 3.5 - 4 | |
| NFA | MPSB0132 | 9/18/2012 | 0 - 0.5 | |
| NFA | MPSB0132 | 9/18/2012 | 0 - 0.5 | FD |
| NFA | MPSB0132 | 9/18/2012 | 3.5 - 4 | |
| NFA | MPSB0133 | 9/18/2012 | 0 - 0.5 | |
| NFA | MPSB0133 | 9/18/2012 | 2 - 2.5 | |
| NFA | MPSB0133 | 9/18/2012 | 2 - 2.5 | FD |
| NFA | MPSB0134 | 9/18/2012 | 0 - 0.5 | |
| NFA | MPSB0134 | 9/18/2012 | 2 - 2.5 | |
| NFA | MPSB0135 | 9/19/2012 | 0 - 0.5 | |
| NFA | MPSB0135 | 9/19/2012 | 1.5 - 2 | |
| NFA | MPSB0135 | 9/19/2012 | 2 - 2.5 | |
| NFA | MPSB0135 | 9/19/2012 | 3.5 - 4 | |
| NFA | MPSB0136 | 9/19/2012 | 0 - 0.5 | |
| NFA | MPSB0136 | 9/19/2012 | 1.5 - 2 | |
| NFA | MPSB0136 | 9/19/2012 | 3.5 - 4 | |
| NFA | MPSB0137 | 9/19/2012 | 0 - 0.5 | |
| NFA | MPSB0138 | 9/19/2012 | 0 - 0.5 | |
| NFA | MPSB0138 | 9/19/2012 | 1.5 - 2 | |
| NFA | MPSB0138 | 9/19/2012 | 3.5 - 4 | |
| NFA | MPSB0139 | 9/24/2012 | 0 - 0.5 | |
| NFA | MPSB0139 | 9/24/2012 | 1.5 - 2 | |

**Table A.2 Soil Samples Included in HHRA**

| Exposure Area | Location ID | Sample Date | Depth (ft) | FieldDup |
|---|---|---|---|---|
| NFA | MPSB0139 | 9/24/2012 | 5.5 - 6 | |
| NFA | MPSB0139 | 9/24/2012 | 9.5 - 10 | |
| NFA | MPSB0140 | 9/24/2012 | 0 - 0.5 | |
| NFA | MPSB0140 | 9/24/2012 | 1.5 - 2 | |
| NFA | MPSB0140 | 9/24/2012 | 4.5 - 5 | |
| NFA | MPSB0140 | 9/24/2012 | 7.5 - 8 | |
| NFA | MPSB0141 | 9/24/2012 | 0 - 0.5 | |
| NFA | MPSB0141 | 9/24/2012 | 1.5 - 2 | |
| NFA | MPSB0141 | 9/24/2012 | 5.5 - 6 | |
| NFA | MPSB0141 | 9/24/2012 | 9.5 - 10 | |
| NFA | MPSB0142 | 9/25/2012 | 0 - 0.5 | |
| NFA | MPSB0142 | 9/25/2012 | 1.5 - 2 | |
| NFA | MPSB0142 | 9/25/2012 | 3.5 - 4 | |
| NFA | MPSB0142 | 9/25/2012 | 3.5 - 4 | FD |
| NFA | MPSB0143 | 9/25/2012 | 0 - 0.5 | |
| NFA | MPSB0143 | 9/25/2012 | 1.5 - 2 | |
| NFA | MPSB0143 | 9/25/2012 | 4.5 - 5 | |
| NFA | MPSB0144 | 9/25/2012 | 0 - 0.5 | |
| NFA | MPSB0144 | 9/25/2012 | 1.5 - 2 | |
| NFA | MPSB0144 | 9/25/2012 | 5.5 - 6 | |
| NFA | MPSB0144 | 9/25/2012 | 9.5 - 10 | |
| NFA | MPSB0145 | 9/26/2012 | 0 - 0.5 | |
| NFA | MPSB0145 | 9/26/2012 | 1.5 - 2 | |
| NFA | MPSB0145 | 9/26/2012 | 1.5 - 2 | FD |
| NFA | MPSB0145 | 9/26/2012 | 5.5 - 6 | |
| NFA | MPSB0145 | 9/26/2012 | 9.5 - 10 | |
| NFA | MPSB0146 | 9/26/2012 | 0 - 0.5 | |
| NFA | MPSB0146 | 9/26/2012 | 1.5 - 2 | |
| NFA | MPSB0146 | 9/26/2012 | 5.5 - 6 | |
| NFA | MPSB0146 | 9/26/2012 | 9.5 - 10 | |
| NFA | MPSB0148 | 10/1/2012 | 0 - 0.5 | |
| NFA | MPSB0148 | 10/1/2012 | 1.5 - 2 | |
| NFA | MPSB0148 | 10/1/2012 | 3.5 - 4 | |
| NFA | MPSB0149 | 10/1/2012 | 0 - 0.5 | |
| NFA | MPSB0149 | 10/1/2012 | 1.5 - 2 | |
| NFA | MPSB0149 | 10/1/2012 | 5.5 - 6 | |
| NFA | MPSB0149 | 10/1/2012 | 9.5 - 10 | |
| NFA | MPSB0150 | 10/1/2012 | 0 - 0.5 | |
| NFA | MPSB0150 | 10/1/2012 | 1.5 - 2 | |
| NFA | MPSB0150 | 10/1/2012 | 3.5 - 4 | |
| NFA | MPSB0150 | 10/1/2012 | 4.5 - 5 | |
| NFA | MPSB0150 | 10/1/2012 | 6 - 6.5 | |
| NFA | MPSB0151 | 10/2/2012 | 0 - 0.5 | |
| NFA | MPSB0151 | 10/2/2012 | 1.5 - 2 | |
| NFA | MPSB0151 | 10/2/2012 | 3.5 - 4 | |
| NFA | MPSB0151 | 10/2/2012 | 3.5 - 4 | FD |
| NFA | MPSB0151 | 10/2/2012 | 4.5 - 5 | |
| NFA | MPSB0152 | 10/2/2012 | 0 - 0.5 | |
| NFA | MPSB0152 | 10/2/2012 | 1.5 - 2 | |
| NFA | MPSB0152 | 10/2/2012 | 3.5 - 4 | |
| NFA | MPSB0153 | 10/2/2012 | 0 - 0.5 | |
| NFA | MPSB0153 | 10/2/2012 | 1.5 - 2 | |
| NFA | MPSB0153 | 10/2/2012 | 5.5 - 6 | |

**Table A.2 Soil Samples Included in HHRA**

| Exposure Area | Location ID | Sample Date | Depth (ft) | FieldDup |
|---|---|---|---|---|
| NFA | MPSB0153 | 10/2/2012 | 9.5 - 10 | |
| NFA | MPSB0154 | 10/3/2012 | 0 - 0.5 | |
| NFA | MPSB0154 | 10/3/2012 | 1.5 - 2 | |
| NFA | MPSB0154 | 10/3/2012 | 5.5 - 6 | |
| NFA | MPSB0154 | 10/3/2012 | 9.5 - 10 | |
| NFA | MPSB0155 | 10/3/2012 | 0 - 0.5 | |
| NFA | MPSB0155 | 10/3/2012 | 1.5 - 2 | |
| NFA | MPSB0155 | 10/3/2012 | 5.5 - 6 | |
| NFA | MPSB0155 | 10/3/2012 | 9.5 - 10 | |
| NFA | MPSB0156 | 10/22/2012 | 0 - 0.5 | |
| NFA | MPSB0156 | 10/22/2012 | 3.5 - 4 | |
| NFA | MPSB0156 | 10/22/2012 | 3.5 - 4 | FD |
| NFA | MPSB0156 | 10/22/2012 | 6.5 - 7 | |
| NFA | MPSB0157 | 10/22/2012 | 0 - 0.5 | |
| NFA | MPSB0157 | 10/22/2012 | 0 - 0.5 | FD |
| NFA | MPSB0157 | 10/22/2012 | 1.5 - 2 | |
| NFA | MPSB0157 | 10/22/2012 | 4.5 - 5 | |
| NFA | MPSB0157 | 10/22/2012 | 6.5 - 7 | |
| NFA | MPSB0180 | 3/20/2013 | 7.5 - 8 | |
| NFA | MPSB0180 | 3/20/2013 | 7.5 - 8 | FD |
| NFA | MPSB0183 | 4/9/2013 | 7.5 - 8 | |
| NFA | MPSB0189 | 6/17/2014 | 0 - 2 | |
| NFA | MPSB0189 | 6/17/2014 | 4.5 - 5 | |
| NFA | MPSB0189 | 6/17/2014 | 5 - 5.5 | |
| NFA | MPSB0190 | 6/17/2014 | 0 - 0.5 | |
| NFA | MPSB0190 | 6/17/2014 | 1.5 - 2 | |
| NFA | MPSB0190 | 6/17/2014 | 3.5 - 4 | |
| NFA | MPSB0191 | 6/17/2014 | 0 - 2 | |
| NFA | MPSB0191 | 6/17/2014 | 4.5 - 5 | |
| NFA | MPSB0191 | 6/17/2014 | 5 - 5.5 | |
| NFA | MPSB0192 | 6/17/2014 | 0 - 2 | |
| NFA | MPSB0192 | 6/17/2014 | 0 - 2 | FD |
| NFA | MPSB0192 | 6/17/2014 | 4.5 - 5 | |
| NFA | MPSB0192 | 6/17/2014 | 9 - 9.5 | |
| NFA | MPSB0193 | 6/17/2014 | 0 - 2 | |
| NFA | MPSB0193 | 6/17/2014 | 4 - 4.5 | |
| NFA | MPSB0193 | 6/17/2014 | 5 - 5.5 | |
| NFA | MPSB0194 | 6/18/2014 | 0 - 2 | |
| NFA | MPSB0194 | 6/18/2014 | 3.5 - 4 | |
| NFA | MPSB0194 | 6/18/2014 | 5 - 5.5 | |
| NFA | MPSB0194 | 6/18/2014 | 9.5 - 10 | |
| NFA | MPSB0195 | 6/18/2014 | 0 - 2 | |
| NFA | MPSB0195 | 6/18/2014 | 3.5 - 4 | |
| NFA | MPSB0195 | 6/18/2014 | 9.5 - 10 | |
| NFA | MPSB0196 | 6/18/2014 | 0 - 0.5 | |
| NFA | MPSB0196 | 6/18/2014 | 1.5 - 2 | |
| NFA | MPSB0197 | 6/19/2014 | 0 - 2 | |
| NFA | MPSB0197 | 6/19/2014 | 3.5 - 4 | |
| NFA | MPSB0197 | 6/19/2014 | 5 - 5.5 | |
| NFA | MPSB0197 | 6/19/2014 | 5.5 - 6 | |
| NFA | MPSB0198 | 6/19/2014 | 0 - 2 | |
| NFA | MPSB0198 | 6/19/2014 | 4.5 - 5 | |
| NFA | MPSB0198 | 6/19/2014 | 7.5 - 8 | |

**Table A.2 Soil Samples Included in HHRA**

| Exposure Area | Location ID | Sample Date | Depth (ft) | FieldDup |
|---|---|---|---|---|
| NFA | MPSB0199 | 6/19/2014 | 0 - 2 | |
| NFA | MPSB0199 | 6/19/2014 | 0 - 2 | FD |
| NFA | MPSB0199 | 6/19/2014 | 5 - 5.5 | |
| NFA | MPSB0199 | 6/19/2014 | 5.5 - 6 | |
| NFA | MPSB0200 | 6/19/2014 | 0 - 2 | |
| NFA | MPSB0200 | 6/19/2014 | 3.5 - 4 | |
| NFA | MPSB0200 | 6/19/2014 | 6 - 6.5 | |
| NFA | MPSB0201 | 6/19/2014 | 0 - 0.5 | |
| NFA | MPSB0201 | 6/19/2014 | 1.5 - 2 | |
| NFA | MPSB0201 | 6/19/2014 | 4.5 - 5.5 | |
| NFA | MPSB0201 | 6/19/2014 | 8 - 8.5 | |
| NFA | MPSB0201 | 6/19/2014 | 9.5 - 10 | |
| NFA | MPSB0210 | 9/24/2015 | 0 - 2 | |
| NFA | MPSB0210 | 9/24/2015 | 2 - 4 | |
| NFA | MPSB0210 | 9/24/2015 | 4 - 6 | |
| NFA | MPSB0210 | 9/24/2015 | 6 - 8 | |
| NFA | MPSB0210 | 9/24/2015 | 8 - 10 | |
| NFA | MPSB0210 | 9/24/2015 | 8 - 10 | FD |
| NFA | MPSB0212 | 9/25/2015 | 0 - 2 | |
| NFA | MPSB0212 | 9/25/2015 | 2 - 4 | |
| NFA | MPSB0212 | 9/25/2015 | 4 - 6 | |
| NFA | MPSB0212 | 9/25/2015 | 6 - 8 | |
| NFA | MPSB0212 | 9/25/2015 | 8 - 10 | |
| NFA | MPSB0212 | 9/25/2015 | 8 - 10 | FD |
| NFA | MPSB0287 | 9/29/2016 | 0 - 0.5 | |
| NFA | MPSB0287 | 9/29/2016 | 1.5 - 2 | |
| NFA | MPSB0287 | 9/29/2016 | 3.5 - 4 | |
| NFA | MPSB0288 | 9/29/2016 | 0 - 0.5 | |
| NFA | MPSB0288 | 9/29/2016 | 1.5 - 2 | |
| NFA | MPSB0288 | 9/29/2016 | 9.5 - 10 | |
| NFA | MPSB0289 | 9/29/2016 | 0 - 0.5 | |
| NFA | MPSB0289 | 9/29/2016 | 1.5 - 2 | |
| NFA | MPSB0289 | 9/29/2016 | 3.5 - 4 | |
| NFA | MPSB0290 | 9/30/2016 | 0 - 0.5 | |
| NFA | MPSB0290 | 9/30/2016 | 1.5 - 2 | |
| NFA | MPSB0290 | 9/30/2016 | 8 - 8.5 | |
| NFA | MPSB0291 | 9/29/2016 | 0 - 0.5 | |
| NFA | MPSB0291 | 9/29/2016 | 1.5 - 2 | |
| NFA | MPSB0291 | 9/29/2016 | 8 - 8.5 | |
| NFA | MPSB0292 | 9/29/2016 | 0 - 0.5 | |
| NFA | MPSB0292 | 9/29/2016 | 1.5 - 2 | |
| NFA | MPSB0292 | 9/29/2016 | 5.5 - 6 | |
| NFA | MPSB0292 | 9/29/2016 | 5.5 - 6 | FD |
| NFA | MPSB0293 | 9/30/2016 | 0 - 0.5 | |
| NFA | MPSB0293 | 9/30/2016 | 1.5 - 2 | |
| NFA | MPSB0293 | 9/30/2016 | 4.5 - 5 | |
| NFA | MPSB0294 | 10/3/2016 | 0 - 0.5 | |
| NFA | MPSB0294 | 10/3/2016 | 1.5 - 2 | |
| NFA | MPSB0294 | 10/3/2016 | 3.5 - 4 | |
| NFA | MPSB0295 | 10/3/2016 | 0 - 0.5 | |
| NFA | MPSB0295 | 10/3/2016 | 1.5 - 2 | |
| NFA | MPSB0295 | 10/3/2016 | 2 - 2.5 | |
| NFA | MPSB0296 | 10/3/2016 | 0 - 0.5 | |

**Table A.2 Soil Samples Included in HHRA**

| Exposure Area | Location ID | Sample Date | Depth (ft) | FieldDup |
|---|---|---|---|---|
| NFA | MPSB0296 | 10/3/2016 | 1.5 - 2 | |
| NFA | MPSB0296 | 10/3/2016 | 1.5 - 2 | FD |
| NFA | MPSB0296 | 10/3/2016 | 8 - 8.5 | |
| NFA | MPSB0297 | 10/3/2016 | 0 - 0.5 | |
| NFA | MPSB0297 | 10/3/2016 | 1.5 - 2 | |
| NFA | MPSB0297 | 10/3/2016 | 1.5 - 2 | FD |
| NFA | MPSB0297 | 10/3/2016 | 8 - 8.5 | |
| NFA | MPSB0298 | 9/30/2016 | 0 - 0.5 | |
| NFA | MPSB0298 | 9/30/2016 | 1.5 - 2 | |
| NFA | MPSB0298 | 9/30/2016 | 5.5 - 6 | |
| NFA | MPSB0299 | 9/30/2016 | 0 - 0.5 | |
| NFA | MPSB0299 | 9/30/2016 | 1.5 - 2 | |
| NFA | MPSB0299 | 9/30/2016 | 5.5 - 6 | |
| NFA | MPSB0300 | 9/30/2016 | 0 - 0.5 | |
| NFA | MPSB0300 | 9/30/2016 | 1.5 - 2 | |
| NFA | MPSB0300 | 9/30/2016 | 2 - 2.5 | |
| NFA | MPSB0302 | 10/4/2016 | 0 - 0.5 | |
| NFA | MPSB0302 | 10/4/2016 | 1.5 - 2 | |
| NFA | MPSB0302 | 10/4/2016 | 5.5 - 6 | |
| NFA | MPSB0303 | 10/4/2016 | 0 - 0.5 | |
| NFA | MPSB0303 | 10/4/2016 | 1.5 - 2 | |
| NFA | MPSB0303 | 10/4/2016 | 5.5 - 6 | |
| NFA | MW-11 | 10/14/1991 | 0 - 2 | |
| NFA | MW-12 | 10/14/1991 | 0 - 2 | |
| NFA | MW-12 | 10/14/1991 | 6 - 8 | |
| NFA | MW-19 | 7/13/1993 | 4 - 4.5 | |
| NFA | MW-20 | 7/14/1993 | 0 - 2 | FD |
| NFA | MW-20 | 7/14/1993 | 1.5 - 2 | |
| NFA | MW-20 | 7/14/1993 | 3 - 3.3 | |
| NFA | PWSB0018 | 2/26/2007 | 4 - 4.5 | |
| NFA | PWSB0019 | 2/28/2007 | 4.5 - 5 | |
| NFA | PWSB0022 | 5/2/2007 | 2.5 - 3 | |
| NFA | PWSB0023 | 4/22/2008 | 3.5 - 4 | |
| NFA | PWSB0024 | 4/24/2008 | 2.5 - 3 | |
| NFA | PWSB0028 | 5/13/2008 | 3 - 4 | |
| NFA | SGW-234 | 7/7/1993 | 8 - 8.7 | |
| NFA | SGW-236 | 7/6/1993 | 1.5 - 2 | |
| NFA | SGW-236 | 7/6/1993 | 3.5 - 4 | |
| NFA | SGW-280 | 7/8/1993 | 5.7 - 6.2 | |
| NFA | TB-01 | 10/14/1991 | 0 - 2 | |
| NFA | TB-02 | 10/14/1991 | 0 - 2 | |
| NFA | TB-02 | 10/14/1991 | 8 - 10 | |
| NFA | TB-03 | 10/14/1991 | 0 - 2 | |
| NFA | TB-03 | 10/14/1991 | 8 - 10 | |
| NFA | TB-04 | 10/14/1991 | 0 - 2 | |
| NFA | TB-04 | 10/14/1991 | 8 - 10 | |
| NFA | TB-06 | 10/22/1991 | 1 - 2 | |
| NFA | TB-06 | 10/22/1991 | 6 - 7 | |
| NFA | TB-28 | 7/6/1993 | 1.5 - 2 | |
| NFA | TB-28 | 7/6/1993 | 7 - 7.5 | |
| NFA | TB-29 | 7/7/1993 | 1.5 - 2 | |
| NFA | TB-29 | 7/7/1993 | 5.2 - 5.7 | |
| NFA | TB-32 | 7/8/1993 | 4.5 - 5 | |

**Table A.2 Soil Samples Included in HHRA**

| Exposure Area | Location ID | Sample Date | Depth (ft) | FieldDup |
|---|---|---|---|---|
| NFA | TB-37 | 7/6/1993 | 4.7 - 5.5 | |
| NFA | TB-38 | 7/6/1993 | 8 - 9.6 | |
| NFA | TB-38 | 1/13/1999 | 8 - 9.5 | |
| NFA | TB-54 | 9/30/1996 | 1.5 - 2 | |
| NFA | TB-55 | 9/30/1996 | 8.5 - 9 | |
| NFA | TB-58 | 9/30/1996 | 1.5 - 2 | |
| NFA | TB-58 | 9/30/1996 | 9 - 9.5 | |
| NFA | TB-59 | 10/1/1996 | 1.5 - 2 | |
| NFA | TB-60 | 10/1/1996 | 4 - 4.5 | |
| NFA | TB-60 | 10/11/1996 | 3 - 3.5 | |
| NFA | TB-61 | 10/1/1996 | 4 - 4.5 | |
| NFA | TB-62 | 10/1/1996 | 1.5 - 2 | |
| NFA | TB-63 | 10/1/1996 | 5.5 - 6 | |
| NFA | TB-63 | 1/13/1999 | 5.5 - 6 | |
| NFA | TB-64 | 9/30/1996 | 7.5 - 8 | |
| NFA | TB-64 | 1/13/1999 | 7.5 - 8 | |
| NFA | TB-65 | 10/1/1996 | 9.5 - 10 | |
| NFA | TB-65 | 1/13/1999 | 9.5 - 10 | |
| NFA | TB-65 | 1/13/1999 | 9.5 - 10 | FD |
| NFA | TP-64 | 9/17/2003 | 0 - 0 | |
| SFA | A0000025N | 7/7/1999 | 0 - 2 | |
| SFA | A0000025S | 7/7/1999 | 0 - 2 | |
| SFA | A0100025N | 7/7/1999 | 0 - 2 | |
| SFA | FP159 | 12/10/2003 | 4 - 8 | |
| SFA | FP160 | 12/10/2003 | 4 - 8 | |
| SFA | FP161 | 12/10/2003 | 0 - 4 | |
| SFA | HA-1 | 7/8/1993 | 0 - 0.5 | |
| SFA | HA-2 | 7/8/1993 | 0 - 0.5 | |
| SFA | HA-3 | 7/8/1993 | 0 - 0.5 | |
| SFA | HCSB0181 | 7/25/2005 | 0 - 2 | |
| SFA | HCSB0181 | 7/25/2005 | 2.5 - 3 | |
| SFA | HCSB0182/194 | 7/25/2005 | 0 - 0.5 | |
| SFA | HCSB0182/194 | 7/25/2005 | 1 - 1.5 | |
| SFA | HCSB0182/194 | 7/26/2005 | 1 - 1.5 | |
| SFA | HCSB0183/195 | 7/25/2005 | 0 - 0.5 | |
| SFA | HCSB0183/195 | 7/25/2005 | 1 - 1.5 | |
| SFA | HCSB0183/195 | 7/26/2005 | 1 - 1.5 | |
| SFA | HCSB0184/196 | 7/25/2005 | 0 - 0.5 | |
| SFA | HCSB0184/196 | 7/25/2005 | 1 - 1.5 | |
| SFA | HCSB0184/196 | 7/26/2005 | 1 - 1.5 | |
| SFA | HCSB0185/197 | 7/25/2005 | 0 - 0.5 | |
| SFA | HCSB0185/197 | 7/25/2005 | 1 - 1.5 | |
| SFA | HCSB0185/197 | 7/26/2005 | 1 - 1.5 | |
| SFA | HCSB0198 | 7/26/2005 | 0 - 2 | |
| SFA | HCSB0198 | 7/26/2005 | 2.5 - 3 | |
| SFA | HCSB0292 | 8/7/2006 | 0 - 0.5 | |
| SFA | HCSB0292 | 8/7/2006 | 0 - 0.5 | FD |
| SFA | HCSB0292 | 8/7/2006 | 2 - 2.5 | |
| SFA | HCSB0293 | 8/7/2006 | 0 - 0.5 | |
| SFA | HCSB0293 | 8/7/2006 | 2 - 2.5 | |
| SFA | HCSB0293 | 8/8/2006 | 6 - 6.5 | |
| SFA | HCSB0294 | 8/7/2006 | 0 - 0.5 | |
| SFA | HCSB0294 | 8/7/2006 | 4 - 4.5 | |

**Table A.2 Soil Samples Included in HHRA**

| Exposure Area | Location ID | Sample Date | Depth (ft) | FieldDup |
|---|---|---|---|---|
| SFA | HCSB0295 | 8/8/2006 | 0 - 0.5 | |
| SFA | HCSB0295 | 8/8/2006 | 8 - 8.5 | |
| SFA | HCSB0297 | 8/8/2006 | 0 - 0.5 | |
| SFA | HCSB0297 | 8/9/2006 | 2 - 2.5 | |
| SFA | HCSB0297 | 8/9/2006 | 2 - 2.5 | FD |
| SFA | HCSB0297 | 7/30/2007 | 8 - 8.5 | |
| SFA | HCSB0300 | 8/10/2006 | 0 - 0.5 | |
| SFA | HCSB0300 | 8/10/2006 | 2 - 2.5 | |
| SFA | HCSB0301 | 8/10/2006 | 0 - 0.5 | |
| SFA | HCSB0301 | 8/10/2006 | 2 - 2.5 | |
| SFA | HCSB0306 | 8/14/2006 | 0 - 0.5 | |
| SFA | HCSB0306 | 8/14/2006 | 2 - 2.5 | |
| SFA | HCSB0306 | 8/17/2006 | 6 - 6.5 | |
| SFA | HCSB0313 | 8/17/2006 | 0 - 0.5 | |
| SFA | HCSB0313 | 8/17/2006 | 0 - 0.5 | FD |
| SFA | HCSB0313 | 8/17/2006 | 3 - 3.5 | |
| SFA | HCSB0313 | 8/17/2006 | 5.5 - 6 | |
| SFA | HCSB0313 | 2/27/2007 | 7 - 7.5 | |
| SFA | HCSB0313 | 2/27/2007 | 7.5 - 8 | |
| SFA | HCSB0379 | 7/30/2007 | 0 - 0.5 | |
| SFA | HCSB0379 | 7/30/2007 | 2 - 2.5 | |
| SFA | HCSB0379 | 7/30/2007 | 4 - 4.5 | |
| SFA | HCSB0379 | 7/30/2007 | 6 - 6.5 | |
| SFA | MPSB0018 | 12/8/2009 | 0 - 0.5 | |
| SFA | MPSB0018 | 12/8/2009 | 1.5 - 2 | |
| SFA | MPSB0018 | 12/8/2009 | 6 - 6.5 | |
| SFA | MPSB0018 | 12/8/2009 | 7.5 - 8 | |
| SFA | MPSB0026 | 12/16/2009 | 0 - 0.5 | |
| SFA | MPSB0026 | 12/16/2009 | 1.5 - 2 | |
| SFA | MPSB0026 | 12/16/2009 | 4.5 - 5 | |
| SFA | MPSB0026 | 12/16/2009 | 5.5 - 6 | |
| SFA | MPSB0026 | 12/16/2009 | 7 - 7.5 | |
| SFA | MPSB0036 | 1/6/2010 | 0 - 0.5 | |
| SFA | MPSB0036 | 1/6/2010 | 1.5 - 2 | |
| SFA | MPSB0036 | 1/6/2010 | 5.5 - 6 | |
| SFA | MPSB0037 | 1/7/2010 | 0 - 0.5 | |
| SFA | MPSB0037 | 1/7/2010 | 1.5 - 2 | |
| SFA | MPSB0037 | 1/7/2010 | 4 - 4.5 | |
| SFA | MPSB0038 | 1/7/2010 | 0 - 0.5 | |
| SFA | MPSB0038 | 1/7/2010 | 1.5 - 2 | |
| SFA | MPSB0038 | 1/7/2010 | 2 - 2.5 | |
| SFA | MPSB0038 | 1/7/2010 | 3.5 - 4 | |
| SFA | MPSB0038 | 1/7/2010 | 3.5 - 4 | FD |
| SFA | MPSB0039 | 1/11/2010 | 0 - 0.5 | |
| SFA | MPSB0039 | 1/11/2010 | 1.5 - 2 | |
| SFA | MPSB0039 | 1/11/2010 | 3.5 - 4 | |
| SFA | MPSB0039 | 1/11/2010 | 5.5 - 6 | |
| SFA | MPSB0040 | 1/11/2010 | 0 - 0.5 | |
| SFA | MPSB0040 | 1/11/2010 | 1.5 - 2 | |
| SFA | MPSB0040 | 1/11/2010 | 5.5 - 6 | |
| SFA | MPSB0040 | 1/11/2010 | 7.5 - 8 | |
| SFA | MPSB0040 | 1/11/2010 | 7.5 - 8 | FD |
| SFA | MPSB0041 | 1/11/2010 | 0 - 0.5 | |

**Table A.2 Soil Samples Included in HHRA**

| Exposure Area | Location ID | Sample Date | Depth (ft) | FieldDup |
|---|---|---|---|---|
| SFA | MPSB0041 | 1/11/2010 | 1.5 - 2 | |
| SFA | MPSB0041 | 1/11/2010 | 3 - 3.5 | |
| SFA | MPSB0041 | 1/11/2010 | 9.5 - 10 | |
| SFA | MPSB0047 | 1/13/2010 | 0 - 0.5 | |
| SFA | MPSB0047 | 1/13/2010 | 1.5 - 2 | |
| SFA | MPSB0047 | 1/13/2010 | 3.5 - 4 | |
| SFA | MPSB0047 | 1/13/2010 | 4.5 - 5 | |
| SFA | MPSB0047 | 1/13/2010 | 7.5 - 8 | |
| SFA | MPSB0048 | 1/14/2010 | 0 - 0.5 | |
| SFA | MPSB0048 | 1/14/2010 | 1.5 - 2 | |
| SFA | MPSB0048 | 1/14/2010 | 3.5 - 4 | |
| SFA | MPSB0048 | 1/14/2010 | 5.5 - 6 | |
| SFA | MPSB0051 | 1/18/2010 | 0 - 0.5 | |
| SFA | MPSB0051 | 1/18/2010 | 1.5 - 2 | |
| SFA | MPSB0051 | 1/18/2010 | 4.5 - 5 | |
| SFA | MPSB0109 | 7/26/2012 | 7.5 - 8.5 | |
| SFA | MPSB0110 | 7/30/2012 | 2 - 2.5 | |
| SFA | MPSB0111 | 7/31/2012 | 4 - 5 | |
| SFA | MPSB0112 | 8/2/2012 | 5 - 6 | |
| SFA | MPSB0112 | 8/2/2012 | 5 - 6 | FD |
| SFA | MPSB0128 | 9/17/2012 | 0 - 0.5 | |
| SFA | MPSB0128 | 9/17/2012 | 2 - 2.5 | |
| SFA | MPSB0128 | 9/17/2012 | 3.5 - 4 | |
| SFA | MPSB0128 | 9/17/2012 | 3.5 - 4 | FD |
| SFA | MPSB0129 | 9/17/2012 | 0 - 0.5 | |
| SFA | MPSB0129 | 9/17/2012 | 2 - 2.5 | |
| SFA | MPSB0129 | 9/17/2012 | 3.5 - 4 | |
| SFA | MPSB0206 | 9/18/2015 | 0 - 2 | |
| SFA | MPSB0206 | 9/18/2015 | 2 - 4 | |
| SFA | MPSB0206 | 9/18/2015 | 4 - 6 | |
| SFA | MPSB0206 | 9/18/2015 | 6 - 7.5 | |
| SFA | MPSB0206 | 9/18/2015 | 7.5 - 10 | |
| SFA | MPSB0206 | 9/18/2015 | 7.5 - 10 | FD |
| SFA | MPSB0207 | 9/21/2015 | 0 - 2 | |
| SFA | MPSB0207 | 9/21/2015 | 2 - 4 | |
| SFA | MPSB0207 | 9/21/2015 | 4 - 6 | |
| SFA | MPSB0207 | 9/21/2015 | 6 - 8 | |
| SFA | MPSB0207 | 9/21/2015 | 8 - 10 | |
| SFA | MPSB0208 | 9/21/2015 | 0 - 2 | |
| SFA | MPSB0208 | 9/21/2015 | 2 - 4 | |
| SFA | MPSB0208 | 9/21/2015 | 4 - 6 | |
| SFA | MPSB0208 | 9/21/2015 | 6 - 8 | |
| SFA | MPSB0208 | 9/21/2015 | 8 - 10 | |
| SFA | MPSB0213 | 12/1/2015 | 0 - 0.5 | |
| SFA | MPSB0213 | 12/1/2015 | 1.5 - 2 | |
| SFA | MPSB0213 | 12/1/2015 | 3.5 - 4 | |
| SFA | MPSB0214 | 12/1/2015 | 0 - 0.5 | |
| SFA | MPSB0214 | 12/1/2015 | 1.5 - 2 | |
| SFA | MPSB0214 | 12/1/2015 | 3.5 - 4 | |
| SFA | MPSB0215 | 12/2/2015 | 0 - 0.5 | |
| SFA | MPSB0215 | 12/2/2015 | 1.5 - 2 | |
| SFA | MPSB0215 | 12/2/2015 | 3.5 - 4 | |
| SFA | MPSB0216 | 12/2/2015 | 0 - 0.5 | |

**Table A.2 Soil Samples Included in HHRA**

| Exposure Area | Location ID | Sample Date | Depth (ft) | FieldDup |
|---|---|---|---|---|
| SFA | MPSB0216 | 12/2/2015 | 1.5 - 2 | |
| SFA | MPSB0216 | 12/2/2015 | 3.5 - 4 | |
| SFA | MPSB0217 | 12/2/2015 | 0 - 0.5 | |
| SFA | MPSB0217 | 12/2/2015 | 1.5 - 2 | |
| SFA | MPSB0217 | 12/2/2015 | 2.5 - 3 | |
| SFA | MPSB0217 | 12/2/2015 | 3.5 - 4 | |
| SFA | MPSB0219 | 12/2/2015 | 0 - 0.5 | |
| SFA | MPSB0219 | 12/2/2015 | 1.5 - 2 | |
| SFA | MPSB0219 | 12/2/2015 | 3.5 - 4 | |
| SFA | MPSB0220 | 12/3/2015 | 0 - 0.5 | |
| SFA | MPSB0220 | 12/3/2015 | 1.5 - 2 | |
| SFA | MPSB0220 | 12/3/2015 | 3.5 - 4 | |
| SFA | MPSB0301 | 10/4/2016 | 0 - 0.5 | |
| SFA | MPSB0301 | 10/4/2016 | 1.5 - 2 | |
| SFA | MPSB0301 | 10/4/2016 | 2 - 2.5 | |
| SFA | MPSB0304 | 10/5/2016 | 0 - 0.5 | |
| SFA | MPSB0304 | 10/5/2016 | 1.5 - 2 | |
| SFA | MPSB0304 | 10/5/2016 | 2 - 2.5 | |
| SFA | MPSB0304 | 10/5/2016 | 4 - 4.5 | |
| SFA | MPSB0305 | 10/5/2016 | 0 - 0.5 | |
| SFA | MPSB0305 | 10/5/2016 | 1.5 - 2 | |
| SFA | MPSB0305 | 10/5/2016 | 2.5 - 3 | |
| SFA | MPSB0305 | 10/5/2016 | 6.5 - 7 | |
| SFA | MPSB0306 | 10/4/2016 | 0 - 0.5 | |
| SFA | MPSB0306 | 10/4/2016 | 1.5 - 2 | |
| SFA | MPSB0306 | 10/4/2016 | 6 - 6.5 | |
| SFA | MPSB0307 | 10/4/2016 | 0 - 0.5 | |
| SFA | MPSB0307 | 10/4/2016 | 1.5 - 2 | |
| SFA | MPSB0307 | 10/4/2016 | 2.5 - 3 | |
| SFA | MPSB0308 | 10/4/2016 | 0 - 0.5 | |
| SFA | MPSB0308 | 10/4/2016 | 1.5 - 2 | |
| SFA | MPSB0308 | 10/4/2016 | 3 - 3.5 | |
| SFA | MPSB0308 | 10/5/2016 | 2 - 2.5 | |
| SFA | MPSB0308 | 10/5/2016 | 2 - 2.5 | FD |
| SFA | MPSB0309 | 10/5/2016 | 0 - 0.5 | |
| SFA | MPSB0309 | 10/5/2016 | 1.5 - 2 | |
| SFA | MPSB0309 | 10/5/2016 | 2 - 2.5 | |
| SFA | MPSB0310 | 10/5/2016 | 0 - 0.5 | |
| SFA | MPSB0310 | 10/5/2016 | 1.5 - 2 | |
| SFA | MPSB0310 | 10/5/2016 | 5.5 - 6 | |
| SFA | MPSB0310 | 10/5/2016 | 5.5 - 6 | FD |
| SFA | MPSB0316 | 10/4/2016 | 0 - 0.5 | |
| SFA | MPSB0316 | 10/4/2016 | 1.5 - 2 | |
| SFA | MPSB0316 | 10/4/2016 | 2 - 2.5 | |
| SFA | MPSB0323 | 10/6/2016 | 0 - 0.5 | |
| SFA | MPSB0323 | 10/6/2016 | 1.5 - 2 | |
| SFA | MPSB0323 | 10/6/2016 | 7.5 - 8 | |
| SFA | MW-13 | 10/28/1991 | 0 - 2 | |
| SFA | MW-13 | 10/28/1991 | 2 - 4 | |
| SFA | MW-14 | 10/28/1991 | 0 - 2 | |
| SFA | MW-14 | 10/28/1991 | 2 - 4 | |
| SFA | MW-14 | 5/20/1994 | 0 - 0.5 | |
| SFA | MW-16 | 10/18/1991 | 0 - 2 | |

**Table A.2 Soil Samples Included in HHRA**

| Exposure Area | Location ID | Sample Date | Depth (ft) | FieldDup |
|---|---|---|---|---|
| SFA | MW-16 | 10/18/1991 | 2 - 4 | |
| SFA | MW-17 | 10/18/1991 | 2 - 4 | |
| SFA | MW-17 | 10/18/1991 | 4 - 6 | |
| SFA | MW-18 | 10/18/1991 | 0 - 2 | |
| SFA | MW-18 | 10/18/1991 | 6 - 8 | |
| SFA | PWSB0014 | 10/9/2006 | 4.5 - 5 | |
| SFA | PWSB0014 | 10/9/2006 | 6 - 6.5 | |
| SFA | PWSB0014 | 10/9/2006 | 7.5 - 8 | |
| SFA | PWSB0014 | 10/9/2006 | 7.5 - 8 | FD |
| SFA | SGW-266 | 7/7/1993 | 1 - 1.5 | |
| SFA | SGW-278 | 7/8/1993 | 4.5 - 5.2 | |
| SFA | TB-05 | 10/18/1991 | 4 - 6 | |
| SFA | TB-05 | 10/18/1991 | 6 - 8 | |
| SFA | TB-05 | 10/18/1991 | 6 - 8 | FD |
| SFA | TB-07 | 10/29/1991 | 0 - 3 | |
| SFA | TB-07 | 10/29/1991 | 3 - 6 | |
| SFA | TB-07 | 10/29/1991 | 3 - 6 | FD |
| SFA | TB-08 | 10/22/1991 | 0 - 2 | |
| SFA | TB-08 | 10/22/1991 | 2 - 4 | |
| SFA | TB-30 | 7/7/1993 | 4.2 - 5 | |
| SFA | TB-30 | 7/7/1993 | 4.2 - 5 | FD |
| SFA | TB-31 | 7/7/1993 | 4.5 - 5 | |
| SFA | TB-33 | 7/8/1993 | 4.4 - 4.9 | |
| SFA | TB-49 | 6/26/1995 | 4 - 5 | |
| SFA | TB-50 | 6/26/1995 | 2 - 2 | |
| SFA | TB-51 | 6/26/1995 | 2 - 2.5 | |
| SFA | TB-51 | 6/26/1995 | 2 - 2.5 | FD |
| SFA | TB-66 | 10/1/1996 | 1.5 - 2 | |
| SFA | TB-66 | 10/1/1996 | 4 - 4.5 | |
| SFA | TB-66 | 10/1/1996 | 4.5 - 5 | |
| SFA | TB-67 | 10/1/1996 | 1.5 - 2 | |
| SFA | TB-67 | 10/1/1996 | 4 - 4.5 | |
| SFA | TB-67 | 10/1/1996 | 5.5 - 6 | |
| SFA | TB-68 | 10/1/1996 | 1.5 - 2 | |
| SFA | TB-68 | 10/1/1996 | 2 - 2.5 | |
| SFA | TB-68 | 10/1/1996 | 3 - 3.5 | |
| SFA | TB-69 | 10/1/1996 | 1.5 - 2 | |
| SFA | TB-69 | 10/1/1996 | 4 - 4.5 | |
| SFA | TB-69 | 10/1/1996 | 5.5 - 6 | |
| SFA | TB-91 | 2/5/1999 | 0 - 0 | FD |
| SFA | TB-91 | 2/5/1999 | 3.5 - 4 | |
| SFA | TB-91 | 2/5/1999 | 4.75 - 5 | |
| SFA | TB-92 | 2/5/1999 | 3.5 - 4 | |
| SFA | TB-92 | 2/5/1999 | 5 - 5.5 | |
| SFA | TB-93 | 2/5/1999 | 1.5 - 2 | |
| SFA | TB-93 | 2/5/1999 | 4.5 - 5 | |
| UNDV | A0100025S | 7/7/1999 | 0 - 2 | |
| UNDV | A0200025N | 7/7/1999 | 0 - 2 | |
| UNDV | A0200025S | 7/7/1999 | 0 - 2 | |
| UNDV | A0200050N | 7/7/1999 | 0 - 2 | |
| UNDV | A0300000S | 7/7/1999 | 0 - 2 | |
| UNDV | A0300015S | 7/7/1999 | 0 - 2 | |
| UNDV | A0300025N | 7/7/1999 | 0 - 2 | |

**Table A.2 Soil Samples Included in HHRA**

| Exposure Area | Location ID | Sample Date | Depth (ft) | FieldDup |
|---|---|---|---|---|
| UNDV | A0300050N | 7/7/1999 | 0 - 2 | |
| UNDV | A0300075N | 7/7/1999 | 0 - 2 | |
| UNDV | A0300100N | 7/7/1999 | 0 - 2 | |
| UNDV | A0300125N | 7/7/1999 | 0 - 2 | |
| UNDV | A0300150N | 7/7/1999 | 0 - 2 | |
| UNDV | A0400025N | 7/7/1999 | 0 - 2 | |
| UNDV | A0400025S | 7/7/1999 | 0 - 2 | |
| UNDV | A0400025S | 7/7/1999 | 0 - 2 | FD |
| UNDV | A0400050N | 7/7/1999 | 0 - 2 | |
| UNDV | A0400075N | 7/7/1999 | 0 - 2 | |
| UNDV | A0500025N | 7/7/1999 | 0 - 2 | |
| UNDV | A0500025S | 7/7/1999 | 0 - 2 | |
| UNDV | A0500045S | 7/7/1999 | 0 - 2 | |
| UNDV | A0500050N | 7/7/1999 | 0 - 2 | |
| UNDV | A0500075N | 7/9/1999 | 0 - 2 | |
| UNDV | A0500100N | 7/9/1999 | 0 - 2 | |
| UNDV | A0600025N | 7/9/1999 | 0 - 2 | |
| UNDV | A0600025S | 7/9/1999 | 0 - 2 | |
| UNDV | A0600050N | 7/9/1999 | 0 - 2 | |
| UNDV | A0600075N | 7/9/1999 | 0 - 2 | |
| UNDV | A0600100N | 7/9/1999 | 0 - 2 | |
| UNDV | A0600125N | 7/9/1999 | 0 - 2 | |
| UNDV | A0600125N | 7/9/1999 | 0 - 2 | FD |
| UNDV | A0700017N | 7/9/1999 | 0 - 2 | |
| UNDV | A0700017N | 7/9/1999 | 0 - 2 | FD |
| UNDV | A0700025S | 7/9/1999 | 0 - 2 | |
| UNDV | A0700050S | 7/9/1999 | 0 - 2 | |
| UNDV | A0700075S | 7/9/1999 | 0 - 2 | |
| UNDV | A0700100S | 7/9/1999 | 0 - 2 | |
| UNDV | A0700125S | 7/9/1999 | 0 - 2 | |
| UNDV | A0700160S | 7/9/1999 | 0 - 2 | |
| UNDV | A0800025N | 7/9/1999 | 0 - 2 | |
| UNDV | A0800025S | 7/9/1999 | 0 - 2 | |
| UNDV | A0800050S | 7/9/1999 | 0 - 2 | |
| UNDV | A0800075S | 7/9/1999 | 0 - 2 | |
| UNDV | A0800075S | 7/9/1999 | 0 - 2 | FD |
| UNDV | A0800100S | 7/9/1999 | 0 - 2 | |
| UNDV | A0800125S | 7/9/1999 | 0 - 2 | |
| UNDV | A0890050S | 7/9/1999 | 0 - 2 | |
| UNDV | A0900021S | 7/9/1999 | 0 - 2 | |
| UNDV | A0900025N | 7/9/1999 | 0 - 2 | |
| UNDV | A0900050N | 7/9/1999 | 0 - 2 | |
| UNDV | A0900075N | 7/9/1999 | 0 - 2 | |
| UNDV | A1000005N | 7/9/1999 | 0 - 2 | |
| UNDV | B-77 | 4/16/1997 | 5.5 - 5.5 | |
| UNDV | B-78 | 4/16/1997 | 3.5 - 4 | |
| UNDV | B7E29SN | 7/7/1999 | 0 - 2 | |
| UNDV | B7E29SS | 7/7/1999 | 0 - 2 | |
| UNDV | B7E29SS | 7/7/1999 | 0 - 2 | FD |
| UNDV | HCSB0106/133 | 6/21/2005 | 0 - 0.5 | |
| UNDV | HCSB0106/133 | 6/23/2005 | 1.5 - 2 | |
| UNDV | HCSB0107/134 | 6/21/2005 | 0 - 0.5 | |
| UNDV | HCSB0107/134 | 6/23/2005 | 1 - 1.5 | |

**Table A.2 Soil Samples Included in HHRA**

| Exposure Area | Location ID | Sample Date | Depth (ft) | FieldDup |
|---|---|---|---|---|
| UNDV | HCSB0108/135 | 6/21/2005 | 0 - 0.5 | |
| UNDV | HCSB0108/135 | 6/23/2005 | 1 - 1.5 | |
| UNDV | HCSB0108/135 | 10/27/2005 | 2 - 2.5 | |
| UNDV | HCSB0108/135 | 10/27/2005 | 3 - 3.5 | |
| UNDV | HCSB0109/136 | 6/21/2005 | 0 - 0.5 | |
| UNDV | HCSB0109/136 | 6/23/2005 | 1 - 1.5 | |
| UNDV | HCSB0110/137 | 6/21/2005 | 0 - 0.5 | |
| UNDV | HCSB0110/137 | 6/23/2005 | 1 - 1.5 | |
| UNDV | HCSB0111/138 | 6/21/2005 | 0 - 0.5 | |
| UNDV | HCSB0111/138 | 6/23/2005 | 1 - 1.5 | |
| UNDV | HCSB0112/139 | 6/21/2005 | 0 - 0.5 | |
| UNDV | HCSB0112/139 | 6/23/2005 | 1 - 1.5 | |
| UNDV | HCSB0113/140 | 6/21/2005 | 0 - 0.5 | |
| UNDV | HCSB0113/140 | 6/23/2005 | 1 - 1.5 | |
| UNDV | HCSB0113/140 | 10/27/2005 | 2 - 2.5 | |
| UNDV | HCSB0113/140 | 10/27/2005 | 3 - 3.5 | |
| UNDV | HCSB0114/141 | 6/21/2005 | 0 - 0.5 | |
| UNDV | HCSB0114/141 | 6/23/2005 | 1 - 1.5 | |
| UNDV | HCSB0115/142 | 6/21/2005 | 0 - 0.5 | |
| UNDV | HCSB0115/142 | 6/23/2005 | 1 - 1.5 | |
| UNDV | HCSB0116/143 | 6/21/2005 | 0 - 0.5 | |
| UNDV | HCSB0116/143 | 6/23/2005 | 1 - 1.5 | |
| UNDV | HCSB0117/144 | 6/21/2005 | 0 - 0.5 | |
| UNDV | HCSB0117/144 | 6/23/2005 | 1 - 1.5 | |
| UNDV | HCSB0118/145 | 6/21/2005 | 0 - 0.5 | |
| UNDV | HCSB0118/145 | 6/23/2005 | 1 - 1.5 | |
| UNDV | HCSB0119/146 | 6/22/2005 | 0 - 0.5 | |
| UNDV | HCSB0119/146 | 6/23/2005 | 1 - 1.5 | |
| UNDV | HCSB0119/146 | 6/23/2005 | 1 - 1.5 | FD |
| UNDV | HCSB0119/146 | 10/27/2005 | 2 - 2.5 | |
| UNDV | HCSB0119/146 | 10/27/2005 | 3 - 3.5 | |
| UNDV | HCSB0120/147 | 6/22/2005 | 0 - 0.5 | |
| UNDV | HCSB0120/147 | 6/23/2005 | 1 - 1.5 | |
| UNDV | HCSB0121/148 | 6/22/2005 | 0 - 0.5 | |
| UNDV | HCSB0121/148 | 6/23/2005 | 1 - 1.5 | |
| UNDV | HCSB0122/149 | 6/22/2005 | 0 - 0.5 | |
| UNDV | HCSB0122/149 | 6/23/2005 | 1 - 1.5 | |
| UNDV | HCSB0150/123 | 6/22/2005 | 0 - 0.5 | |
| UNDV | HCSB0150/123 | 6/22/2005 | 0 - 0.5 | FD |
| UNDV | HCSB0150/123 | 6/23/2005 | 1 - 1.5 | |
| UNDV | HCSB0151/124 | 6/22/2005 | 0 - 0.5 | |
| UNDV | HCSB0151/124 | 6/27/2005 | 1 - 1.5 | |
| UNDV | HCSB0152/125 | 6/22/2005 | 0 - 0.5 | |
| UNDV | HCSB0152/125 | 6/27/2005 | 1 - 1.5 | |
| UNDV | HCSB0152/125 | 10/27/2005 | 2 - 2.5 | |
| UNDV | HCSB0152/125 | 10/27/2005 | 3 - 3.5 | |
| UNDV | HCSB0153/126 | 6/22/2005 | 0 - 0.5 | |
| UNDV | HCSB0153/126 | 6/27/2005 | 1 - 1.5 | |
| UNDV | HCSB0154/127 | 6/22/2005 | 0 - 0.5 | |
| UNDV | HCSB0154/127 | 6/27/2005 | 1 - 1.5 | |
| UNDV | HCSB0155/128 | 6/22/2005 | 0 - 0.5 | |
| UNDV | HCSB0155/128 | 6/27/2005 | 1 - 1.5 | |
| UNDV | HCSB0156/129 | 6/22/2005 | 0 - 0.5 | |

**Table A.2 Soil Samples Included in HHRA**

| Exposure Area | Location ID | Sample Date | Depth (ft) | FieldDup |
|---|---|---|---|---|
| UNDV | HCSB0156/129 | 6/27/2005 | 1 - 1.5 | |
| UNDV | HCSB0156/129 | 6/27/2005 | 1 - 1.5 | FD |
| UNDV | HCSB0156/129 | 10/27/2005 | 2 - 2.5 | |
| UNDV | HCSB0156/129 | 10/27/2005 | 3 - 3.5 | |
| UNDV | HCSB0156/129 | 10/27/2005 | 3 - 3.5 | FD |
| UNDV | HCSB0157/130 | 6/22/2005 | 0 - 0.5 | |
| UNDV | HCSB0157/130 | 6/27/2005 | 1 - 1.5 | |
| UNDV | HCSB0158/131 | 6/22/2005 | 0 - 0.5 | |
| UNDV | HCSB0158/131 | 6/27/2005 | 1 - 1.5 | |
| UNDV | HCSB0159/132 | 6/22/2005 | 0 - 0.5 | |
| UNDV | HCSB0159/132 | 6/27/2005 | 1 - 1.5 | |
| UNDV | HCSB0160 | 7/12/2005 | 0 - 2 | |
| UNDV | HCSB0160 | 7/12/2005 | 3 - 3.5 | |
| UNDV | HCSB0160 | 7/12/2005 | 4.5 - 5 | |
| UNDV | HCSB0172 | 7/25/2005 | 0 - 1.5 | |
| UNDV | HCSB0172 | 7/25/2005 | 2 - 2.5 | |
| UNDV | HCSB0172 | 7/25/2005 | 2 - 2.5 | FD |
| UNDV | HCSB0173/186 | 7/25/2005 | 0 - 0.5 | |
| UNDV | HCSB0173/186 | 7/25/2005 | 1 - 1.5 | |
| UNDV | HCSB0173/186 | 7/26/2005 | 1 - 1.5 | |
| UNDV | HCSB0174/187 | 7/25/2005 | 0 - 0.5 | |
| UNDV | HCSB0174/187 | 7/25/2005 | 1 - 1.5 | |
| UNDV | HCSB0174/187 | 7/26/2005 | 1 - 1.5 | |
| UNDV | HCSB0175/188 | 7/25/2005 | 0 - 0.5 | |
| UNDV | HCSB0175/188 | 7/25/2005 | 1 - 1.5 | |
| UNDV | HCSB0175/188 | 7/26/2005 | 1 - 1.5 | |
| UNDV | HCSB0175/188 | 7/26/2005 | 1 - 1.5 | FD |
| UNDV | HCSB0176/189 | 7/25/2005 | 0 - 0.5 | |
| UNDV | HCSB0176/189 | 7/25/2005 | 1 - 1.5 | |
| UNDV | HCSB0176/189 | 7/26/2005 | 1 - 1.5 | |
| UNDV | HCSB0177/190 | 7/25/2005 | 0 - 0.5 | |
| UNDV | HCSB0177/190 | 7/25/2005 | 1 - 1.5 | |
| UNDV | HCSB0177/190 | 7/26/2005 | 1 - 1.5 | |
| UNDV | HCSB0178/191 | 7/25/2005 | 0 - 0.5 | |
| UNDV | HCSB0178/191 | 7/25/2005 | 1 - 1.5 | |
| UNDV | HCSB0178/191 | 7/26/2005 | 1 - 1.5 | |
| UNDV | HCSB0179/192 | 7/25/2005 | 0 - 0.5 | |
| UNDV | HCSB0179/192 | 7/25/2005 | 1 - 1.5 | |
| UNDV | HCSB0179/192 | 7/26/2005 | 1 - 1.5 | |
| UNDV | HCSB0180/193 | 7/25/2005 | 0 - 0.5 | |
| UNDV | HCSB0180/193 | 7/25/2005 | 1 - 1.5 | |
| UNDV | HCSB0180/193 | 7/26/2005 | 1 - 1.5 | |
| UNDV | HCSB0274 | 7/27/2006 | 0 - 0.5 | |
| UNDV | HCSB0275 | 7/27/2006 | 0 - 0.5 | |
| UNDV | HCSB0296 | 8/8/2006 | 0 - 0.5 | |
| UNDV | HCSB0296 | 8/9/2006 | 2 - 2.5 | |
| UNDV | HCSB0296 | 8/9/2006 | 6 - 6.5 | |
| UNDV | HCSB0298 | 8/9/2006 | 0 - 0.5 | |
| UNDV | HCSB0298 | 8/9/2006 | 2 - 2.5 | |
| UNDV | HCSB0298 | 8/9/2006 | 4 - 4.5 | |
| UNDV | HCSB0299 | 8/9/2006 | 0 - 0.5 | |
| UNDV | HCSB0299 | 8/9/2006 | 4 - 4.5 | |
| UNDV | HCSB0302 | 8/10/2006 | 0 - 0.5 | |

**Table A.2 Soil Samples Included in HHRA**

| Exposure Area | Location ID | Sample Date | Depth (ft) | FieldDup |
|---|---|---|---|---|
| UNDV | HCSB0303 | 8/10/2006 | 0 - 0.5 | |
| UNDV | HCSB0303 | 8/10/2006 | 2 - 2.5 | |
| UNDV | HCSB0304 | 8/14/2006 | 0 - 0.5 | |
| UNDV | HCSB0304 | 8/14/2006 | 0 - 0.5 | FD |
| UNDV | HCSB0304 | 8/14/2006 | 2 - 2.5 | |
| UNDV | HCSB0305 | 8/14/2006 | 0 - 0.5 | |
| UNDV | HCSB0305 | 8/14/2006 | 2 - 2.5 | |
| UNDV | HCSB0305 | 2/27/2007 | 4 - 4.5 | |
| UNDV | HCSB0307 | 8/15/2006 | 0 - 0.5 | |
| UNDV | HCSB0307 | 8/15/2006 | 2 - 2.5 | |
| UNDV | HCSB0307 | 2/27/2007 | 4 - 4.5 | |
| UNDV | HCSB0308 | 8/15/2006 | 0 - 0.5 | |
| UNDV | HCSB0308 | 8/15/2006 | 2 - 2.5 | |
| UNDV | HCSB0309 | 8/15/2006 | 0 - 0.5 | |
| UNDV | HCSB0309 | 8/15/2006 | 2 - 2.5 | |
| UNDV | HCSB0310 | 8/15/2006 | 0 - 0.5 | |
| UNDV | HCSB0310 | 8/15/2006 | 2 - 2.5 | |
| UNDV | HCSB0311 | 8/15/2006 | 0 - 0.5 | |
| UNDV | HCSB0311 | 8/15/2006 | 2 - 2.5 | |
| UNDV | HCSB0311 | 8/15/2006 | 4 - 4.5 | |
| UNDV | HCSB0312 | 8/17/2006 | 0 - 0.5 | |
| UNDV | HCSB0312 | 8/17/2006 | 2.5 - 3 | |
| UNDV | HCSB0498 | 6/16/2014 | 1 - 1.5 | |
| UNDV | HCSB0499 | 6/16/2014 | 2.5 - 3 | |
| UNDV | HCSB0500 | 6/16/2014 | 0 - 0.5 | |
| UNDV | HCSB0501 | 6/16/2014 | 0.5 - 1 | |
| UNDV | HCSB0501 | 6/16/2014 | 0.5 - 1 | FD |
| UNDV | MPSB0027 | 12/16/2009 | 0 - 0.5 | |
| UNDV | MPSB0027 | 12/16/2009 | 1.5 - 2 | |
| UNDV | MPSB0042 | 1/12/2010 | 0 - 0.5 | |
| UNDV | MPSB0042 | 1/12/2010 | 1.5 - 2 | |
| UNDV | MPSB0042 | 1/12/2010 | 5.5 - 6 | |
| UNDV | MPSB0043 | 1/12/2010 | 0 - 0.5 | |
| UNDV | MPSB0043 | 1/12/2010 | 0.5 - 1 | |
| UNDV | MPSB0043 | 1/12/2010 | 3.5 - 4 | |
| UNDV | MPSB0044 | 1/12/2010 | 0 - 0.5 | |
| UNDV | MPSB0044 | 1/12/2010 | 1.5 - 2 | |
| UNDV | MPSB0044 | 1/12/2010 | 3 - 3.5 | |
| UNDV | MPSB0045 | 1/13/2010 | 0 - 0.5 | |
| UNDV | MPSB0045 | 1/13/2010 | 1.5 - 2 | |
| UNDV | MPSB0045 | 1/13/2010 | 3.5 - 4 | |
| UNDV | MPSB0046 | 1/13/2010 | 0 - 0.5 | |
| UNDV | MPSB0046 | 1/13/2010 | 1.5 - 2 | |
| UNDV | MPSB0046 | 1/13/2010 | 2 - 2.5 | |
| UNDV | MPSB0049 | 1/14/2010 | 0 - 0.5 | |
| UNDV | MPSB0049 | 1/14/2010 | 1.5 - 2 | |
| UNDV | MPSB0049 | 1/14/2010 | 2 - 2.5 | |
| UNDV | MPSB0049 | 1/14/2010 | 2 - 2.5 | FD |
| UNDV | MPSB0049 | 1/14/2010 | 5.5 - 6 | |
| UNDV | MPSB0050 | 1/14/2010 | 0 - 0.5 | |
| UNDV | MPSB0050 | 1/14/2010 | 1.5 - 2 | |
| UNDV | MPSB0050 | 1/14/2010 | 2.5 - 3 | |
| UNDV | MPSB0050 | 1/14/2010 | 6 - 6.5 | |

**Table A.2 Soil Samples Included in HHRA**

| Exposure Area | Location ID | Sample Date | Depth (ft) | FieldDup |
|---|---|---|---|---|
| UNDV | MPSB0050 | 1/14/2010 | 9.5 - 10 | |
| UNDV | MPSB0052 | 1/18/2010 | 0 - 0.5 | |
| UNDV | MPSB0052 | 1/18/2010 | 1.5 - 2 | |
| UNDV | MPSB0052 | 1/18/2010 | 3.5 - 4 | |
| UNDV | MPSB0052 | 1/18/2010 | 4.5 - 5 | |
| UNDV | MPSB0053 | 1/18/2010 | 0 - 0.5 | |
| UNDV | MPSB0053 | 1/18/2010 | 1.5 - 2 | |
| UNDV | MPSB0053 | 1/18/2010 | 3.5 - 4 | |
| UNDV | MPSB0054 | 1/19/2010 | 0 - 0.5 | |
| UNDV | MPSB0054 | 1/19/2010 | 1.5 - 2 | |
| UNDV | MPSB0054 | 1/19/2010 | 9.5 - 10 | |
| UNDV | MPSB0055 | 1/19/2010 | 0 - 0.5 | |
| UNDV | MPSB0055 | 1/19/2010 | 1.5 - 2 | |
| UNDV | MPSB0055 | 1/19/2010 | 5.5 - 6 | |
| UNDV | MPSB0055 | 1/19/2010 | 5.5 - 6 | FD |
| UNDV | MPSB0055 | 1/19/2010 | 9.5 - 10 | |
| UNDV | MPSB0056 | 1/19/2010 | 0 - 0.5 | |
| UNDV | MPSB0056 | 1/19/2010 | 1.5 - 2 | |
| UNDV | MPSB0056 | 1/19/2010 | 4.5 - 5 | |
| UNDV | MPSB0056 | 1/19/2010 | 9.5 - 10 | |
| UNDV | MPSB0057 | 1/20/2010 | 0 - 0.5 | |
| UNDV | MPSB0057 | 1/20/2010 | 1.5 - 2 | |
| UNDV | MPSB0057 | 1/20/2010 | 3.5 - 4 | |
| UNDV | MPSB0057 | 1/20/2010 | 4.5 - 5 | |
| UNDV | MPSB0057 | 1/20/2010 | 6.5 - 7 | |
| UNDV | MPSB0057 | 1/20/2010 | 6.5 - 7 | FD |
| UNDV | MPSB0057 | 1/20/2010 | 8.5 - 9 | |
| UNDV | MPSB0058 | 1/20/2010 | 0 - 0.5 | |
| UNDV | MPSB0058 | 1/20/2010 | 1.5 - 2 | |
| UNDV | MPSB0058 | 1/20/2010 | 9.5 - 10 | |
| UNDV | MPSB0059 | 1/21/2010 | 0 - 0.5 | |
| UNDV | MPSB0059 | 1/21/2010 | 1.5 - 2 | |
| UNDV | MPSB0059 | 1/21/2010 | 5.5 - 6 | |
| UNDV | MPSB0059 | 1/21/2010 | 7.5 - 8 | |
| UNDV | MPSB0060 | 1/21/2010 | 0 - 0.5 | |
| UNDV | MPSB0060 | 1/21/2010 | 1.5 - 2 | |
| UNDV | MPSB0060 | 1/21/2010 | 6.5 - 7 | |
| UNDV | MPSB0060 | 1/21/2010 | 7 - 7.5 | |
| UNDV | MPSB0060 | 1/21/2010 | 7 - 7.5 | FD |
| UNDV | MPSB0065 | 1/28/2010 | 0 - 0.5 | |
| UNDV | MPSB0065 | 1/28/2010 | 1.5 - 2 | |
| UNDV | MPSB0065 | 1/28/2010 | 8.5 - 9 | |
| UNDV | MPSB0066 | 1/28/2010 | 0 - 0.5 | |
| UNDV | MPSB0066 | 1/28/2010 | 1.5 - 2 | |
| UNDV | MPSB0066 | 1/28/2010 | 4.5 - 5 | |
| UNDV | MPSB0067 | 2/1/2010 | 0 - 0.5 | |
| UNDV | MPSB0067 | 2/1/2010 | 0 - 0.5 | FD |
| UNDV | MPSB0067 | 2/1/2010 | 1.5 - 2 | |
| UNDV | MPSB0067 | 2/1/2010 | 6.5 - 7 | |
| UNDV | MPSB0068 | 2/1/2010 | 0 - 0.5 | |
| UNDV | MPSB0068 | 2/1/2010 | 1.5 - 2 | |
| UNDV | MPSB0068 | 2/1/2010 | 4.5 - 5 | |
| UNDV | MPSB0069 | 2/3/2010 | 0 - 0.5 | |

**Table A.2 Soil Samples Included in HHRA**

| Exposure Area | Location ID | Sample Date | Depth (ft) | FieldDup |
|---|---|---|---|---|
| UNDV | MPSB0069 | 2/3/2010 | 1.5 - 2 | |
| UNDV | MPSB0069 | 2/3/2010 | 3.5 - 4 | |
| UNDV | MPSB0069 | 2/3/2010 | 3.5 - 4 | FD |
| UNDV | MPSB0069 | 2/3/2010 | 6.5 - 7 | |
| UNDV | MPSB0070 | 2/3/2010 | 0 - 0.5 | |
| UNDV | MPSB0070 | 2/3/2010 | 1.5 - 2 | |
| UNDV | MPSB0070 | 2/3/2010 | 4.5 - 5 | |
| UNDV | MPSB0071 | 2/3/2010 | 0 - 0.5 | |
| UNDV | MPSB0071 | 2/3/2010 | 1.5 - 2 | |
| UNDV | MPSB0071 | 2/3/2010 | 3.5 - 4 | |
| UNDV | MPSB0101 | 7/9/2012 | 6 - 7 | |
| UNDV | MPSB0102 | 7/11/2012 | 4 - 5 | |
| UNDV | MPSB0103 | 7/12/2012 | 6.5 - 7.5 | |
| UNDV | MPSB0103 | 7/12/2012 | 6.5 - 7.5 | FD |
| UNDV | MPSB0104 | 7/17/2012 | 8.5 - 9.5 | |
| UNDV | MPSB0117 | 9/13/2012 | 0 - 0.5 | |
| UNDV | MPSB0118 | 9/13/2012 | 0 - 0.5 | |
| UNDV | MPSB0118 | 9/13/2012 | 2 - 2.5 | |
| UNDV | MPSB0118 | 9/13/2012 | 5.5 - 6 | |
| UNDV | MPSB0120 | 9/13/2012 | 4.5 - 5 | |
| UNDV | MPSB0121 | 9/13/2012 | 4.5 - 5 | |
| UNDV | MPSB0121 | 9/13/2012 | 4.5 - 5 | FD |
| UNDV | MPSB0122 | 9/13/2012 | 0 - 0.5 | |
| UNDV | MPSB0122 | 9/13/2012 | 2 - 2.5 | |
| UNDV | MPSB0122 | 9/13/2012 | 2 - 2.5 | FD |
| UNDV | MPSB0122 | 9/13/2012 | 5.5 - 6 | |
| UNDV | MPSB0123 | 9/13/2012 | 0 - 0.5 | |
| UNDV | MPSB0123 | 9/13/2012 | 0 - 0.5 | FD |
| UNDV | MPSB0123 | 9/13/2012 | 2 - 2.5 | |
| UNDV | MPSB0123 | 9/13/2012 | 5.5 - 6 | |
| UNDV | MPSB0123 | 9/13/2012 | 7.5 - 8 | |
| UNDV | MPSB0123 | 9/13/2012 | 9.5 - 10 | |
| UNDV | MPSB0202 | 9/16/2015 | 0 - 2 | |
| UNDV | MPSB0202 | 9/16/2015 | 2 - 4 | |
| UNDV | MPSB0202 | 9/16/2015 | 4 - 6 | |
| UNDV | MPSB0202 | 9/16/2015 | 6 - 8 | |
| UNDV | MPSB0202 | 9/16/2015 | 8 - 10 | |
| UNDV | MPSB0203 | 9/14/2015 | 0 - 2.5 | |
| UNDV | MPSB0203 | 9/14/2015 | 2.5 - 4 | |
| UNDV | MPSB0203 | 9/14/2015 | 4 - 6 | |
| UNDV | MPSB0203 | 9/14/2015 | 6 - 8 | |
| UNDV | MPSB0203 | 9/14/2015 | 8 - 10 | |
| UNDV | MPSB0204 | 9/17/2015 | 0 - 2 | |
| UNDV | MPSB0204 | 9/17/2015 | 2 - 4 | |
| UNDV | MPSB0204 | 9/17/2015 | 4 - 7 | |
| UNDV | MPSB0204 | 9/17/2015 | 7 - 8 | |
| UNDV | MPSB0204 | 9/17/2015 | 8 - 10 | |
| UNDV | MPSB0209 | 9/22/2015 | 0 - 2 | |
| UNDV | MPSB0209 | 9/22/2015 | 2 - 4 | |
| UNDV | MPSB0209 | 9/22/2015 | 4 - 6 | |
| UNDV | MPSB0209 | 9/22/2015 | 6 - 8 | |
| UNDV | MPSB0209 | 9/22/2015 | 8 - 10 | |
| UNDV | MPSB0218 | 12/3/2015 | 0 - 0.5 | |

**Table A.2 Soil Samples Included in HHRA**

| Exposure Area | Location ID | Sample Date | Depth (ft) | FieldDup |
|---|---|---|---|---|
| UNDV | MPSB0218 | 12/3/2015 | 1.5 - 2 | |
| UNDV | MPSB0218 | 12/3/2015 | 3.5 - 4 | |
| UNDV | MPSB0221 | 12/3/2015 | 0 - 0.5 | |
| UNDV | MPSB0221 | 12/3/2015 | 1.5 - 2 | |
| UNDV | MPSB0221 | 12/3/2015 | 5.5 - 6 | |
| UNDV | MPSB0222 | 12/4/2015 | 0 - 0.5 | |
| UNDV | MPSB0222 | 12/4/2015 | 1.5 - 2 | |
| UNDV | MPSB0222 | 12/4/2015 | 1.5 - 2 | FD |
| UNDV | MPSB0222 | 12/4/2015 | 5.5 - 6 | |
| UNDV | MPSB0223 | 12/7/2015 | 0 - 0.5 | |
| UNDV | MPSB0223 | 12/7/2015 | 1.5 - 2 | |
| UNDV | MPSB0223 | 12/7/2015 | 3.5 - 4 | |
| UNDV | MPSB0224 | 12/4/2015 | 0 - 0.5 | |
| UNDV | MPSB0224 | 12/4/2015 | 1.5 - 2 | |
| UNDV | MPSB0224 | 12/4/2015 | 3.5 - 4 | |
| UNDV | MPSB0225 | 12/4/2015 | 0 - 0.5 | |
| UNDV | MPSB0225 | 12/4/2015 | 1.5 - 2 | |
| UNDV | MPSB0225 | 12/4/2015 | 3.5 - 4 | |
| UNDV | MPSB0226 | 12/7/2015 | 0 - 0.5 | |
| UNDV | MPSB0226 | 12/7/2015 | 1.5 - 2 | |
| UNDV | MPSB0226 | 12/7/2015 | 3.5 - 4 | |
| UNDV | MPSB0227 | 12/7/2015 | 0 - 0.5 | |
| UNDV | MPSB0227 | 12/7/2015 | 1.5 - 2 | |
| UNDV | MPSB0227 | 12/7/2015 | 3.5 - 4 | |
| UNDV | MPSB0228 | 12/8/2015 | 0 - 0.5 | |
| UNDV | MPSB0228 | 12/8/2015 | 1.5 - 2 | |
| UNDV | MPSB0228 | 12/8/2015 | 3.5 - 4 | |
| UNDV | MPSB0229 | 12/8/2015 | 0 - 0.5 | |
| UNDV | MPSB0229 | 12/8/2015 | 1.5 - 2 | |
| UNDV | MPSB0229 | 12/8/2015 | 3.5 - 4 | |
| UNDV | MPSB0230 | 12/8/2015 | 0 - 0.5 | |
| UNDV | MPSB0230 | 12/8/2015 | 1.5 - 2 | |
| UNDV | MPSB0230 | 12/8/2015 | 3.5 - 4 | |
| UNDV | MPSB0231 | 12/8/2015 | 0 - 0.5 | |
| UNDV | MPSB0231 | 12/8/2015 | 1.5 - 2 | |
| UNDV | MPSB0231 | 12/8/2015 | 1.5 - 2 | FD |
| UNDV | MPSB0231 | 12/8/2015 | 3.5 - 4 | |
| UNDV | MPSB0232 | 12/8/2015 | 0 - 0.5 | |
| UNDV | MPSB0232 | 12/8/2015 | 1.5 - 2 | |
| UNDV | MPSB0232 | 12/8/2015 | 5.5 - 6 | |
| UNDV | MPSB0317 | 10/6/2016 | 0 - 0.5 | |
| UNDV | MPSB0317 | 10/6/2016 | 1.5 - 2 | |
| UNDV | MPSB0317 | 10/6/2016 | 3 - 3.5 | |
| UNDV | MPSB0318 | 10/10/2016 | 1.5 - 2 | |
| UNDV | MPSB0318 | 10/10/2016 | 5.5 - 6 | |
| UNDV | MPSB0319 | 10/6/2016 | 0 - 0.5 | |
| UNDV | MPSB0319 | 10/6/2016 | 1.5 - 2 | |
| UNDV | MPSB0319 | 10/6/2016 | 2 - 2.5 | |
| UNDV | MPSB0319 | 10/10/2016 | 0 - 0.5 | |
| UNDV | MPSB0320 | 10/10/2016 | 0 - 0.5 | |
| UNDV | MPSB0320 | 10/10/2016 | 1.5 - 2 | |
| UNDV | MPSB0320 | 10/10/2016 | 2 - 2.5 | |
| UNDV | MPSB0321 | 10/7/2016 | 0 - 0.5 | |

**Table A.2 Soil Samples Included in HHRA**

| Exposure Area | Location ID | Sample Date | Depth (ft) | FieldDup |
|---|---|---|---|---|
| UNDV | MPSB0321 | 10/7/2016 | 1.5 - 2 | |
| UNDV | MPSB0321 | 10/7/2016 | 4 - 4.5 | |
| UNDV | MPSB0322 | 10/7/2016 | 0 - 0.5 | |
| UNDV | MPSB0322 | 10/7/2016 | 1.5 - 2 | |
| UNDV | MPSB0322 | 10/7/2016 | 1.5 - 2 | FD |
| UNDV | MPSB0322 | 10/7/2016 | 4 - 4.5 | |
| UNDV | MPSB0324 | 10/10/2016 | 0 - 0.5 | |
| UNDV | MPSB0324 | 10/10/2016 | 1.5 - 2 | |
| UNDV | MPSB0324 | 10/10/2016 | 2 - 2.5 | |
| UNDV | MPSB0324 | 10/10/2016 | 4.5 - 5 | |
| UNDV | MPSB0324 | 10/10/2016 | 4.5 - 5 | FD |
| UNDV | MPSB0325 | 10/7/2016 | 0 - 0.5 | |
| UNDV | MPSB0325 | 10/7/2016 | 0.5 - 1 | |
| UNDV | MPSB0325 | 10/7/2016 | 1.5 - 2 | |
| UNDV | MPSB0325 | 10/7/2016 | 2 - 2.5 | |
| UNDV | MPSB0326 | 10/11/2016 | 0 - 0.5 | |
| UNDV | MPSB0326 | 10/11/2016 | 1.5 - 2 | |
| UNDV | MPSB0326 | 10/11/2016 | 2 - 2.5 | |
| UNDV | MPSB0327 | 10/11/2016 | 0 - 0.5 | |
| UNDV | MPSB0327 | 10/11/2016 | 0.5 - 1 | |
| UNDV | MPSB0327 | 10/11/2016 | 0.5 - 1 | FD |
| UNDV | MPSB0327 | 10/11/2016 | 1.5 - 2 | |
| UNDV | MPSB0327 | 10/11/2016 | 1.5 - 2 | FD |
| UNDV | MPSB0327 | 10/11/2016 | 4 - 4.5 | |
| UNDV | MPSB0328 | 10/7/2016 | 0 - 0.5 | |
| UNDV | MPSB0328 | 10/7/2016 | 1.5 - 2 | |
| UNDV | MPSB0328 | 10/7/2016 | 4 - 4.5 | |
| UNDV | MPSB0329 | 10/10/2016 | 0 - 0.5 | |
| UNDV | MPSB0329 | 10/10/2016 | 1.5 - 2 | |
| UNDV | MPSB0329 | 10/10/2016 | 1.5 - 2 | FD |
| UNDV | MPSB0329 | 10/10/2016 | 9.5 - 10 | |
| UNDV | MPSB0330 | 10/10/2016 | 0 - 0.5 | |
| UNDV | MPSB0330 | 10/10/2016 | 1.5 - 2 | |
| UNDV | MPSB0330 | 10/10/2016 | 2.5 - 3 | |
| UNDV | MPSB0331 | 10/10/2016 | 0 - 0.5 | |
| UNDV | MPSB0331 | 10/10/2016 | 1.5 - 2 | |
| UNDV | MPSB0331 | 10/10/2016 | 7.5 - 8 | |
| UNDV | MPSB0332 | 10/10/2016 | 0 - 0.5 | |
| UNDV | MPSB0332 | 10/10/2016 | 1.5 - 2 | |
| UNDV | MPSB0332 | 10/10/2016 | 8.5 - 9 | |
| UNDV | MPSB0333 | 10/7/2016 | 1 - 1.5 | |
| UNDV | MPSB0334 | 10/5/2016 | 0.5 - 1 | |
| UNDV | MPSB0335 | 10/5/2016 | 1.5 - 2 | |
| UNDV | MPSB0336 | 10/7/2016 | 0 - 0.5 | |
| UNDV | MPSB0337 | 10/7/2016 | 1 - 1.5 | |
| UNDV | MPSB0338 | 10/7/2016 | 0.5 - 1 | |
| UNDV | RSSB0165 | 11/17/2010 | 0 - 0.5 | |
| UNDV | RSSB0165 | 11/17/2010 | 1.5 - 2 | |
| UNDV | RSSB0166 | 11/17/2010 | 0 - 0.5 | |
| UNDV | RSSB0166 | 11/17/2010 | 1.5 - 2 | |
| UNDV | RSSB0169 | 11/17/2010 | 0 - 0.5 | |
| UNDV | RSSB0169 | 11/17/2010 | 1.5 - 2 | |
| UNDV | RSSB0169 | 11/17/2010 | 2.5 - 3 | |

**Table A.2 Soil Samples Included in HHRA**

| Exposure Area | Location ID | Sample Date | Depth (ft) | FieldDup |
|---|---|---|---|---|
| UNDV | RSSB0210 | 11/22/2010 | 0 - 0.5 | |
| UNDV | RSSB0210 | 11/22/2010 | 1.5 - 2 | |
| UNDV | RSSB0210 | 11/22/2010 | 2.5 - 3 | |
| UNDV | RSSB0211 | 11/22/2010 | 0 - 0.5 | |
| UNDV | RSSB0211 | 11/22/2010 | 1.5 - 2 | |
| UNDV | RSSB0212 | 11/22/2010 | 0 - 0.5 | |
| UNDV | RSSB0212 | 11/22/2010 | 1.5 - 2 | |
| UNDV | RSSB0237 | 11/29/2010 | 0 - 0.5 | |
| UNDV | RSSB0237 | 11/29/2010 | 1.5 - 2 | |
| UNDV | RSSB0248 | 11/30/2010 | 0 - 0.5 | |
| UNDV | RSSB0248 | 11/30/2010 | 1.5 - 2 | |
| UNDV | RSSB0259 | 11/30/2010 | 0 - 0.5 | |
| UNDV | RSSB0259 | 11/30/2010 | 1.5 - 2 | |
| UNDV | SS21 | 11/20/1998 | 0 - 2 | |
| UNDV | SS21 | 11/20/1998 | 1 - 1.5 | |
| UNDV | SS22 | 11/20/1998 | 0 - 2 | |
| UNDV | SS22 | 11/20/1998 | 1 - 1.5 | |
| UNDV | SS23 | 11/20/1998 | 0 - 2 | |
| UNDV | SS23 | 11/20/1998 | 1 - 1.5 | |
| UNDV | SS-PH04 | 7/9/2003 | 2 - 3 | |
| UNDV | SS-PH05 | 7/9/2003 | 3.5 - 4.5 | |
| UNDV | SS-PH06 | 7/9/2003 | 4 - 5 | |
| UNDV | SS-PH07 | 7/9/2003 | 4 - 5 | |
| UNDV | TB-73 | 1/15/1999 | 0.5 - 1.5 | |
| UNDV | TB-95 | 1/15/1999 | 0.75 - 1.25 | |
| UNDV | TB-95 | 1/15/1999 | 0.75 - 1.25 | FD |
| UNDV | TB-96 | 1/15/1999 | 0.75 - 1.25 | |
| UNDV | TB-97 | 1/15/1999 | 1.25 - 1.5 | |
| UNDV | WPH1 | 11/19/1998 | 1 - 1.5 | |
| UNDV | WPH1 | 11/20/1998 | 0 - 2 | |
| UNDV | WPH2 | 11/19/1998 | 1 - 1.5 | |
| UNDV | WPH2 | 11/20/1998 | 0 - 2 | |

**Table A.3 Sediment Sample Locations Included in HHRA**

| Exposure Area | Location ID |
|---|---|
| UHC | HCDD0035 |
| UHC | HCDD0036 |
| UHC | HCDD0037 |
| UHC | HCDD0038 |
| UHC | HCDD0039 |
| UHC | HCDD0044 |
| UHC | HCDD0045 |
| UHC | HCDD0073 |
| UHC | HCDD0099 |
| UHC | HCDD0100 |
| UHC | HCDD0111 |
| UHC | MPDD0001 |
| UHC | SED-09 |
| UHC | SSW-1 |
| UHC | SSW-2 |

**Table A.4 Sediment Samples Included in HHRA**

| Exposure Area | Location ID | Sample Date | Depth (ft) | FieldDup |
|---|---|---|---|---|
| UHC | HCDD0035 | 6/20/05 | 0 - 0.5 | |
| UHC | HCDD0036 | 6/20/05 | 0 - 0.5 | |
| UHC | HCDD0037 | 6/20/05 | 0 - 0.5 | |
| UHC | HCDD0038 | 6/20/05 | 0 - 0.5 | |
| UHC | HCDD0039 | 7/25/05 | 0 - 0.5 | |
| UHC | HCDD0044 | 7/25/05 | 0 - 0.5 | |
| UHC | HCDD0045 | 7/25/05 | 0 - 0.5 | |
| UHC | HCDD0073 | 9/21/05 | 0 - 0.5 | |
| UHC | HCDD0099 | 8/10/06 | 0 - 0.5 | |
| UHC | HCDD0099 | 8/10/06 | 0 - 0.5 | FD |
| UHC | HCDD0100 | 8/15/06 | 0 - 0.5 | |
| UHC | HCDD0111 | 8/17/06 | 0 - 0.5 | |
| UHC | MPDD0001 | 2/4/10 | 0 - 0.5 | |
| UHC | SED-09 | 10/11/96 | 0 - 0 | |
| UHC | SSW-1 | 12/4/91 | 0 - 0.3 | |
| UHC | SSW-1 | 12/4/91 | 0 - 0.3 | Two samples one location, not marked as FD |
| UHC | SSW-2 | 12/4/91 | 0 - 0.3 | |

**Table A.5 Surface Water Sample Locations Included in HHRA**

| Exposure Area | Location ID |
|---|---|
| UHC | HCDW0001 |
| UHC | HCDW0002 |
| UHC | HCDW0003 |
| UHC | HCDW0004 |
| UHC | HCDW0005 |
| UHC | SSW-1 |
| UHC | SSW-2 |
| UHC | SSW-4 |
| UHC | SSW-5 |
| UHC | SSW-6 |
| UHC | SSW-9 |

**Table A.6 Surface Water Samples Included in HHRA**

| Exposure Area | Location ID | Sample Date | Depth (ft) | FieldDup |
|---|---|---|---|---|
| UHC | HCDW0001 | 9/12/05 | 0 - 0.5 | |
| UHC | HCDW0001 | 10/20/05 | 0 - 0.5 | |
| UHC | HCDW0002 | 9/12/05 | 0 - 0.5 | |
| UHC | HCDW0002 | 10/20/05 | 0 - 0.5 | |
| UHC | HCDW0003 | 9/12/05 | 0 - 0.5 | |
| UHC | HCDW0003 | 10/20/05 | 0 - 0.5 | |
| UHC | HCDW0004 | 9/12/05 | 0 - 0.5 | |
| UHC | HCDW0004 | 10/20/05 | 0 - 0.5 | |
| UHC | HCDW0005 | 9/14/05 | 0 - 0.5 | |
| UHC | HCDW0005 | 10/20/05 | 0 - 0.5 | |
| UHC | SSW-1 | 12/4/91 | | |
| UHC | SSW-2 | 12/4/91 | | |
| UHC | SSW-4 | 12/4/91 | | |
| UHC | SSW-4 | 6/30/93 | | |
| UHC | SSW-5 | 6/30/93 | | |
| UHC | SSW-6 | 6/30/93 | | |
| UHC | SSW-9 | 10/11/96 | | |

# Appendix B

## Data Used in Risk Assessment

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0061 | MPSB0061 | MPSB0062 | MPSB0062 | MPSB0063 | MPSB0063 | MPSB0064 | MPSB0064 | MPSB0079 | MPSB0079 | MPSB0080 | MPSB0080 | MPSB0081 | MPSB0081 | MPSB0082 | MPSB0082 | MPSB0082 | MPSB0311 | MPSB0311 | MPSB0311 | MPSB0311 | MPSB0312 | MPSB0312 |
| | | Field Sample ID | MPSB0061-SS-AA-AB-0 | MPSB0061-SS-AD-AE-0 | MPSB0062-SS-AA-AB-0 | MPSB0062-SS-AD-AE-0 | MPSB0063-SS-AA-AB-0 | MPSB0063-SS-AD-AE-0 | MPSB0064-SS-AA-AB-0 | MPSB0064-SS-AD-AE-0 | MPSB0079-SS-AA-AB-0 | MPSB0079-SS-AD-AE-0 | MPSB0080-SS-AA-AB-0 | MPSB0080-SS-AD-AE-0 | MPSB0081-SS-AA-AB-0 | MPSB0081-SS-AD-AE-0 | MPSB0082-SS-AA-AB-0 | MPSB0082-SS-AD-AE-0 | MPSB0082-SS-AN-AO-0 | MPSB0311-SS-AA-AB-0 | MPSB0311-SS-AD-AE-0 | MPSB0311-SS-AQ-AR-0 | MPSB0311-SS-AQ-AR-1 | MPSB0312-SS-AA-AB-0 | MPSB0312-SS-AD-AE-0 |
| | | Sample Date | 1/26/2010 | 1/26/2010 | 1/26/2010 | 1/26/2010 | 1/27/2010 | 1/27/2010 | 1/28/2010 | 1/28/2010 | 3/22/2010 | 3/22/2010 | 3/23/2010 | 3/23/2010 | 3/23/2010 | 3/23/2010 | 3/24/2010 | 3/24/2010 | 3/24/2010 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 |
| | | Depth (ft) | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 6.5-7 | 0-0.5 | 1.5-2 | 8-8.5 | 8-8.5 | 0-0.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | 2500 | | 3150 | | 3310 | | 2240 | | 1600 | | 2320 | | 366 | | 2280 | | 1250 | | | | | | |
| METALS | ANTIMONY | MG/KG | 5.3 UJ | | 5.6 UJ | | 6.2 UJ | | 4.7 UJ | | 6 UJ | | 5.1 UJ | | 5.4 UJ | | 5 U | | 6.1 U | | | | | | |
| METALS | ARSENIC | MG/KG | 3.2 J | | 1.5 J | | 2.8 J | | 2 | | 1.5 | | 2 | | 0.9 U | | 1.7 | | 2.2 | | | | | | |
| METALS | BARIUM | MG/KG | 57.3 | | 35.4 | | 50.8 | | 16 U | | 30.3 | | 19.6 | | 8.8 J | | 7.4 J | | 2.7 J | | | | | | |
| METALS | BERYLLIUM | MG/KG | 0.21 J | | 0.46 U | | 0.52 U | | 0.39 U | | 0.16 J | | 0.16 J | | 0.071 J | | 0.07 J | | 0.079 J | | | | | | |
| METALS | CADMIUM | MG/KG | 0.11 J | | 0.35 J | | 0.18 J | | 0.052 J | | 0.5 U | | 0.42 U | | 0.45 U | | 0.42 U | | 0.51 U | | | | | | |
| METALS | CALCIUM | MG/KG | 1870 | | 8140 | | 521 | | 161 J | | 505 | | 443 | | 399 J | | 94.2 J | | 98.4 J | | | | | | |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | 0.6 | 0.65 J | 0.45 U | 0.45 U | 0.47 | 0.53 |
| METALS | CHROMIUM | MG/KG | 11.8 | | 8.4 | | 13.2 | | 6.5 | | 5.5 | | 7.4 | | 1.5 | | 5.7 | | 6.4 | 12.7 | 10.3 | 8.8 | 10.3 | 8 | 9.3 |
| METALS | COBALT | MG/KG | 0.41 J | | 3.1 J | | 0.8 J | | 0.26 J | | 0.53 J | | 0.89 J | | 4.5 U | | 0.25 J | | 5.1 U | | | | | | |
| METALS | COPPER | MG/KG | 7 | | 23.3 | | 6.5 | | 1.4 J | | 2.3 J | | 5 | | 0.57 J | | 1.7 J | | 1 J | | | | | | |
| METALS | CYANIDE | MG/KG | 0.17 J | | 2.6 U | | 0.16 J | | 2.6 U | | 2.8 U | | 2.6 U | | 2.6 U | | 2.6 U | | 2.9 U | | | | | | |
| METALS | IRON | MG/KG | 5830 | | 6590 | | 5800 | | 4520 J | | 6980 | | 7570 | | 1070 | | 5250 | | 5290 | | | | | | |
| METALS | LEAD | MG/KG | 84.5 | | 95.7 | | 217 | | | | 28 | | 27.5 | | 4.7 | | 8.5 | | 2.7 | | | | | | |
| METALS | MAGNESIUM | MG/KG | 864 | | 4370 | | 399 J | | 51.8 J | | 149 J | | 127 J | | 98.5 J | | 51.9 J | | 78.8 J | | | | | | |
| METALS | MANGANESE | MG/KG | 35.1 | | 71.7 | | 37.2 | | 5.1 J | | 69.5 | | 70.9 | | 21.3 | | 5 | | 4.4 | | | | | | |
| METALS | MERCURY | MG/KG | 0.048 J | | 0.069 J | | 0.11 U | | 0.089 U | | 0.098 U | | 0.029 J | | 0.094 U | | 0.0099 J | | 0.01 J | | | | | | |
| METALS | NICKEL | MG/KG | 1.1 J | | 11.7 | | 3 J | | 0.41 J | | 0.77 J | | 1.1 J | | 0.22 J | | 0.77 J | | 4.1 U | | | | | | |
| METALS | POTASSIUM | MG/KG | 638 | | 603 | | 573 | | 76.7 J | | 88.3 J | | 121 J | | 18.3 J | | 73.3 J | | 125 J | | | | | | |
| METALS | SELENIUM | MG/KG | 0.38 J | | 3.2 U | | 3.6 U | | 0.48 J | | 3.5 U | | 3 U | | 3.1 U | | 2.9 U | | 3.6 U | | | | | | |
| METALS | SILVER | MG/KG | 0.88 U | | 0.93 U | | 1 U | | 0.79 U | | 0.99 U | | 0.84 U | | 0.9 U | | 0.84 U | | 1 U | | | | | | |
| METALS | SODIUM | MG/KG | 96.7 J | | 251 J | | 11.2 J | | 14.9 J | | 190 J | | 141 J | | 148 J | | 295 J | | 486 J | | | | | | |
| METALS | THALLIUM | MG/KG | 2.2 U | | 2.3 U | | 2.6 U | | 0.33 J | | 2.5 U | | 2.1 U | | 2.2 U | | 2.1 U | | 2.5 U | | | | | | |
| METALS | VANADIUM | MG/KG | 8.3 | | 10.7 | | 11.6 | | 5.9 | | 7.6 | | 9.4 | | 2.2 J | | 7.6 | | 8.7 | | | | | | |
| METALS | ZINC | MG/KG | 42.5 | | 65.7 | | 54.6 | | 6 | | 30.6 | | 12.6 | | 3.3 J | | 6 | | 1.4 J | | | | | | |
| PEST/PCB | 4,4'-DDD | MG/KG | 0.0037 U | | 0.0035 U | | 0.0037 U | | 0.0035 U | | 0.0037 U | | 0.0034 U | | 0.0034 U | | 0.0036 U | | 0.0039 U | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | 0.0037 U | | 0.0035 U | | 0.002 J | | 0.0035 U | | 0.0037 U | | 0.0034 U | | 0.0034 U | | 0.0036 U | | 0.0039 U | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | 0.0037 U | | 0.0035 U | | 0.0028 J | | 0.0035 U | | 0.0037 U | | 0.0034 U | | 0.0034 U | | 0.0036 U | | 0.0039 U | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | 0.0019 U | | 0.0018 U | | 0.0019 U | | 0.0018 U | | 0.0019 U | | 0.0018 U | | 0.0018 U | | 0.0018 U | | 0.002 U | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | 0.0019 U | | 0.0018 U | | 0.0019 U | | 0.0018 U | | 0.0019 U | | 0.0018 U | | 0.0018 U | | 0.0018 U | | 0.002 U | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | 0.0019 U | | 0.0021 | | 0.0019 U | | 0.0018 U | | 0.0019 U | | 0.0018 U | | 0.0018 U | | 0.0018 U | | 0.002 U | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | 0.037 U | | 0.035 U | | 0.037 U | | 0.035 U | | 0.037 U | | 0.034 U | | 0.034 U | | 0.036 U | | 0.039 U | | | | | | |
| PEST/PCB | AROCLOR-1221 | MG/KG | 0.037 U | | 0.035 U | | 0.037 U | | 0.035 U | | 0.037 U | | 0.034 U | | 0.034 U | | 0.036 U | | 0.039 U | | | | | | |
| PEST/PCB | AROCLOR-1232 | MG/KG | 0.037 U | | 0.035 U | | 0.037 U | | 0.035 U | | 0.037 U | | 0.034 U | | 0.034 U | | 0.036 U | | 0.039 U | | | | | | |
| PEST/PCB | AROCLOR-1242 | MG/KG | 0.037 U | | 0.035 U | | 0.037 U | | 0.035 U | | 0.037 U | | 0.034 U | | 0.034 U | | 0.036 U | | 0.039 U | | | | | | |
| PEST/PCB | AROCLOR-1248 | MG/KG | 0.037 U | | 0.035 U | | 0.037 U | | 0.035 U | | 0.037 U | | 0.034 U | | 0.034 U | | 0.036 U | | 0.039 U | | | | | | |
| PEST/PCB | AROCLOR-1254 | MG/KG | 0.037 U | | 0.058 J | | 0.037 U | | 0.035 U | | 0.037 U | | 0.034 U | | 0.034 U | | 0.036 U | | 0.039 U | | | | | | |
| PEST/PCB | AROCLOR-1260 | MG/KG | 0.037 U | | 0.063 | | 0.037 U | | 0.035 U | | 0.037 U | | 0.034 U | | 0.034 U | | 0.036 U | | 0.039 U | | | | | | |
| PEST/PCB | AROCLOR-1262 | MG/KG | 0.037 U | | 0.035 U | | 0.037 U | | 0.035 U | | 0.037 U | | 0.034 U | | 0.034 U | | 0.036 U | | 0.039 U | | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | 0.037 U | | 0.035 U | | 0.037 U | | 0.035 U | | 0.037 U | | 0.034 U | | 0.034 U | | 0.036 U | | 0.039 U | | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | 0.0019 U | | 0.0018 U | | 0.0019 U | | 0.0018 U | | 0.0019 U | | 0.0018 U | | 0.0018 U | | 0.0018 U | | 0.002 U | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | 0.0019 U | | 0.0018 U | | 0.0019 U | | 0.0018 U | | 0.0019 U | | 0.0018 U | | 0.0018 U | | 0.0018 U | | 0.002 U | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | 0.0037 U | | 0.0035 U | | 0.0037 U | | 0.0035 U | | 0.0037 U | | 0.0034 U | | 0.0034 U | | 0.0036 U | | 0.0039 U | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | 0.0019 U | | 0.0018 U | | 0.0019 U | | 0.0018 U | | 0.0019 U | | 0.0018 U | | 0.0018 U | | 0.0018 U | | 0.002 U | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | 0.0037 U | | 0.0035 U | | 0.0037 U | | 0.0035 U | | 0.0037 U | | 0.0034 U | | 0.0034 U | | 0.0036 U | | 0.0039 U | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | 0.0037 U | | 0.0035 U | | 0.0037 U | | 0.0035 U | | 0.0037 U | | 0.0034 U | | 0.0034 U | | 0.0036 U | | 0.0039 U | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | 0.0037 U | | 0.0035 U | | 0.0037 U | | 0.0035 U | | 0.0037 U | | 0.0034 U | | 0.0034 U | | 0.0036 U | | 0.0039 U | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | 0.0037 U | | 0.0035 U | | 0.0037 U | | 0.0035 U | | 0.0037 U | | 0.0034 U | | 0.0034 U | | 0.0036 U | | 0.0039 U | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | 0.0037 U | | 0.0035 U | | 0.0037 U | | 0.0035 U | | 0.0037 U | | 0.0034 U | | 0.0034 U | | 0.0036 U | | 0.0039 U | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | 0.0019 U | | 0.0018 U | | 0.0019 U | | 0.0018 U | | 0.0019 U | | 0.0018 U | | 0.0018 U | | 0.0018 U | | 0.002 U | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | 0.0019 U | | 0.0019 | | 0.0019 U | | 0.0018 U | | 0.0019 U | | 0.0018 U | | 0.0018 U | | 0.0018 U | | 0.002 U | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | 0.0019 U | | 0.0018 U | | 0.0019 U | | 0.0018 U | | 0.0019 U | | 0.0018 U | | 0.0018 U | | 0.0018 U | | 0.002 U | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | 0.0019 U | | 0.0018 U | | 0.0019 U | | 0.0018 U | | 0.0019 U | | 0.0018 U | | 0.0018 U | | 0.0018 U | | 0.002 U | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | 0.019 U | | 0.018 U | | 0.019 U | | 0.018 U | | 0.019 U | | 0.018 U | | 0.018 U | | 0.018 U | | 0.02 U | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | 0.19 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.2 U | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0061 | MPSB0061 | MPSB0062 | MPSB0062 | MPSB0063 | MPSB0063 | MPSB0064 | MPSB0064 | MPSB0079 | MPSB0079 | MPSB0080 | MPSB0080 | MPSB0081 | MPSB0081 | MPSB0082 | MPSB0082 | MPSB0082 | MPSB0311 | MPSB0311 | MPSB0311 | MPSB0311 | MPSB0312 | MPSB0312 |
| | | Field Sample ID | MPSB0061-SS-AA-AB-0 | MPSB0061-SS-AD-AE-0 | MPSB0062-SS-AA-AB-0 | MPSB0062-SS-AD-AE-0 | MPSB0063-SS-AA-AB-0 | MPSB0063-SS-AD-AE-0 | MPSB0064-SS-AA-AB-0 | MPSB0064-SS-AD-AE-0 | MPSB0079-SS-AA-AB-0 | MPSB0079-SS-AD-AE-0 | MPSB0080-SS-AA-AB-0 | MPSB0080-SS-AD-AE-0 | MPSB0081-SS-AA-AB-0 | MPSB0081-SS-AD-AE-0 | MPSB0082-SS-AA-AB-0 | MPSB0082-SS-AD-AE-0 | MPSB0082-SS-AN-AO-0 | MPSB0311-SS-AA-AB-0 | MPSB0311-SS-AD-AE-0 | MPSB0311-SS-AQ-AR-0 | MPSB0311-SS-AQ-AR-1 | MPSB0312-SS-AA-AB-0 | MPSB0312-SS-AD-AE-0 |
| | | Sample Date | 1/26/2010 | 1/26/2010 | 1/26/2010 | 1/26/2010 | 1/27/2010 | 1/27/2010 | 1/28/2010 | 1/28/2010 | 3/22/2010 | 3/22/2010 | 3/23/2010 | 3/23/2010 | 3/23/2010 | 3/23/2010 | 3/24/2010 | 3/24/2010 | 3/24/2010 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 |
| | | Depth (ft) | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 6.5-7 | 0-0.5 | 1.5-2 | 8-8.5 | 8-8.5 | 0-0.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 UJ | | 0.18 UJ | | 0.18 UJ | | 0.18 UJ | | 0.19 UJ | | | | | | |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 0.37 U | | 0.36 UJ | | 0.39 U | | 0.35 U | | 0.37 U | | 0.35 U | | 0.35 U | | 0.35 U | | 0.38 U | | | | | | |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | 2-CHLOROPHENOL | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.031 J | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | 2-METHYLPHENOL | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | 2-NITROANILINE | MG/KG | 0.37 U | | 0.36 U | | 0.39 U | | 0.35 U | | 0.37 U | | 0.35 U | | 0.35 U | | 0.35 U | | 0.38 U | | | | | | |
| SVOC | 2-NITROPHENOL | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | 3-NITROANILINE | MG/KG | 0.37 U | | 0.36 U | | 0.39 U | | 0.35 U | | 0.37 U | | 0.35 U | | 0.35 U | | 0.35 U | | 0.38 U | | | | | | |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 0.37 U | | 0.36 UJ | | 0.39 U | | 0.35 U | | 0.37 U | | 0.35 U | | 0.35 U | | 0.35 U | | 0.38 U | | | | | | |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | 4-CHLOROANILINE | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | 4-METHYLPHENOL | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | 4-NITROANILINE | MG/KG | 0.37 U | | 0.36 U | | 0.39 U | | 0.35 U | | 0.37 U | | 0.35 U | | 0.35 U | | 0.35 U | | 0.38 U | | | | | | |
| SVOC | 4-NITROPHENOL | MG/KG | 0.37 U | | 0.36 U | | 0.39 U | | 0.35 U | | 0.37 U | | 0.35 U | | 0.35 U | | 0.35 U | | 0.38 U | | | | | | |
| SVOC | ACENAPHTHENE | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | ACETOPHENONE | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | ANTHRACENE | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.026 J | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | ATRAZINE | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | BENZALDEHYDE | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.051 J | | 0.036 J | | 0.063 J | | 0.018 J | | 0.19 U | | 0.088 J | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.063 J | | 0.048 J | | 0.073 J | | 0.18 U | | 0.19 U | | 0.069 J | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 0.073 J | | 0.039 J | | 0.063 J | | 0.18 U | | 0.19 U | | 0.048 J | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.057 J | | 0.059 J | | 0.074 J | | 0.18 U | | 0.19 U | | 0.071 J | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.051 J | | 0.047 J | | 0.069 J | | 0.18 U | | 0.19 U | | 0.04 J | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 0.19 U | | 0.027 J | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 0.19 U | | 0.16 J | | 0.064 J | | 0.18 U | | 0.032 J | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | CAPROLACTAM | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.023 J | | 0.19 U | | | | | | |
| SVOC | CARBAZOLE | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | CHRYSENE | MG/KG | 0.077 J | | 0.048 J | | 0.1 J | | 0.02 J | | 0.19 U | | 0.12 J | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.19 U | | 0.19 U | | 0.021 | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | DIBENZOFURAN | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | DIETHYLPHTHALATE | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 0.19 U | | 0.025 J | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | FLUORANTHENE | MG/KG | 0.072 J | | 0.077 J | | 0.13 J | | 0.036 J | | 0.19 U | | 0.13 J | | 0.025 J | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | FLUORENE | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.038 J | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | HEXACHLOROBENZENE | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 0.19 U | | 0.19 UJ | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | HEXACHLOROETHANE | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.046 J | | 0.046 J | | 0.06 J | | 0.18 U | | 0.19 U | | 0.045 J | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | ISOPHORONE | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | NAPHTHALENE | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.024 J | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | NITROBENZENE | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | PENTACHLOROPHENOL | MG/KG | 0.37 U | | 0.36 U | | 0.39 U | | 0.35 U | | 0.37 U | | 0.35 U | | 0.35 U | | 0.35 UJ | | 0.38 UJ | | | | | | |
| SVOC | PHENANTHRENE | MG/KG | 0.026 J | | 0.03 J | | 0.06 J | | 0.023 J | | 0.19 U | | 0.26 | | 0.14 J | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | PHENOL | MG/KG | 0.19 U | | 0.19 U | | 0.2 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.18 U | | 0.18 U | | 0.19 U | | | | | | |
| SVOC | PYRENE | MG/KG | 0.076 J | | 0.054 J | | 0.12 J | | 0.028 J | | 0.19 U | | 0.23 | | 0.039 J | | 0.18 U | | 0.19 U | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0061 | MPSB0061 | MPSB0062 | MPSB0062 | MPSB0063 | MPSB0063 | MPSB0064 | MPSB0064 | MPSB0079 | MPSB0079 | MPSB0080 | MPSB0080 | MPSB0081 | MPSB0081 | MPSB0082 | MPSB0082 | MPSB0082 | MPSB0311 | MPSB0311 | MPSB0311 | MPSB0311 | MPSB0312 | MPSB0312 |
| | | Field Sample ID | MPSB0061-SS-AA-AB-0 | MPSB0061-SS-AD-AE-0 | MPSB0062-SS-AA-AB-0 | MPSB0062-SS-AD-AE-0 | MPSB0063-SS-AA-AB-0 | MPSB0063-SS-AD-AE-0 | MPSB0064-SS-AA-AB-0 | MPSB0064-SS-AD-AE-0 | MPSB0079-SS-AA-AB-0 | MPSB0079-SS-AD-AE-0 | MPSB0080-SS-AA-AB-0 | MPSB0080-SS-AD-AE-0 | MPSB0081-SS-AA-AB-0 | MPSB0081-SS-AD-AE-0 | MPSB0082-SS-AA-AB-0 | MPSB0082-SS-AD-AE-0 | MPSB0082-SS-AN-AO-0 | MPSB0311-SS-AA-AB-0 | MPSB0311-SS-AD-AE-0 | MPSB0311-SS-AQ-AR-0 | MPSB0311-SS-AQ-AR-1 | MPSB0312-SS-AA-AB-0 | MPSB0312-SS-AD-AE-0 |
| | | Sample Date | 1/26/2010 | 1/26/2010 | 1/26/2010 | 1/26/2010 | 1/27/2010 | 1/27/2010 | 1/28/2010 | 1/28/2010 | 3/22/2010 | 3/22/2010 | 3/23/2010 | 3/23/2010 | 3/23/2010 | 3/23/2010 | 3/24/2010 | 3/24/2010 | 3/24/2010 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 |
| | | Depth (ft) | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 6.5-7 | 0-0.5 | 1.5-2 | 8-8.5 | 8-8.5 | 0-0.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0034 J | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | 0.0096 U | | 0.01 U | | 0.011 U | | 0.0097 U | | 0.0094 U | | 0.01 U | | 0.0095 U | | 0.011 U | 0.012 U | | | | | | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | 0.0096 U | | 0.01 U | | 0.011 U | | 0.0097 U | | 0.0094 U | | 0.01 U | | 0.0095 U | | 0.011 U | 0.012 U | | | | | | |
| VOC | ACETONE | MG/KG | | 0.051 | | 0.01 U | | 0.011 U | | 0.0097 U | | 0.0094 U | | 0.01 U | | 0.0095 U | | 0.6 U | 0.012 U | | | | | | |
| VOC | BENZENE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | BROMOCHLOROMETHANE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | BROMOFORM | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | BROMOMETHANE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0017 J | | 0.005 UJ | | 0.0047 U | | 0.0055 U | 0.0061 UJ | | | | | | |
| VOC | CARBON DISULFIDE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | CARBON TETRACHLORIDE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | CHLOROBENZENE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | CHLOROETHANE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | CHLOROFORM | MG/KG | | 0.0048 U | | 0.0088 | | 0.0054 U | | 0.0087 | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | CHLOROMETHANE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | CYCLOHEXANE | MG/KG | | 0.011 | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | ETHYLBENZENE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | ISOPROPYLBENZENE | MG/KG | | 0.0043 J | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.3 U | 0.0061 U | | | | | | |
| VOC | METHYL ACETATE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | | 0.02 | | 0.01 U | | 0.011 U | | 0.0097 U | | 0.0094 U | | 0.01 U | | 0.0095 U | | 0.6 U | 0.012 U | | | | | | |
| VOC | METHYLCYCLOHEXANE | MG/KG | | 0.04 | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.12 J | 0.0061 U | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | TETRACHLOROETHENE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | TOLUENE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | XYLENE, O- | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.3 U | 0.0061 U | | | | | | |
| VOC | XYLENES, M & P | MG/KG | | 0.0048 U | | 0.0051 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | | 0.005 U | | 0.0047 U | | 0.0055 U | 0.0061 U | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0312 | MPSB0313 | MPSB0313 | MPSB0313 | MPSB0314 | MPSB0314 | MPSB0314 | MPSB0315 | MPSB0315 | MPSB0315 | TB-39 | TB-40 | TB-40 | TB-41 | TB-41 | TB-42 | TB-43 | TB-43 | TB-44 | TB-44 | TB-45 | TB-45 | TB-46 |
| | | Field Sample ID | MPSB0312-SS-AF-AG-0 | MPSB0313-SS-AA-AB-0 | MPSB0313-SS-AD-AE-0 | MPSB0313-SS-AI-AJ-0 | MPSB0314-SS-AA-AB-0 | MPSB0314-SS-AD-AE-0 | MPSB0314-SS-AG-AH-0 | MPSB0315-SS-AA-AB-0 | MPSB0315-SS-AD-AE-0 | MPSB0315-SS-AG-AH-0 | 039-B001 | 040-B001 | 040-B002 | 041-B001 | 041-B002 | 042-B001 | 043-B001 | 043-B002 | 044-B001 | 044-B101 | 045-B002 | 045-B003 | 046-B001 |
| | | Sample Date | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 6/21/1995 | 6/22/1995 | 6/22/1995 | 6/22/1995 | 6/22/1995 | 6/21/1995 | 6/22/1995 | 6/22/1995 | 6/21/1995 | 6/21/1995 | 6/21/1995 | 6/21/1995 | 6/22/1995 |
| | | Depth (ft) | 2.5-3 | 0-0.5 | 1.5-2 | 4-4.5 | 0-0.5 | 1.5-2 | 3-3.5 | 0-0.5 | 1.5-2 | 3-3.5 | 6.4-6.8 | 3-3.4 | 6.5-7 | 3-3.5 | 8-10 | 6.6-7.1 | 3-3.5 | 6-7 | 7.2-7.7 | 7.2-7.7 | 7.3-7.8 | 8-9 | 2.7-3.1 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ANTIMONY | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ARSENIC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | BARIUM | MG/KG | | | | | | | | | | | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| METALS | BERYLLIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CADMIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CALCIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | 0.42 U | 0.77 | 0.41 U | 1.4 | 0.42 U | 0.43 U | 0.41 U | 0.41 U | 0.63 | 0.56 | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 8.2 | 18.9 | 4 | 6.7 | 11.8 | 10.8 | 8.3 | 11.5 | 7.9 | 8 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| METALS | COBALT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | COPPER | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CYANIDE | MG/KG | | | | | | | | | | | 2.7 U | 2.7 U | 2.7 U | 2.7 U | 2.7 U | 2.7 U | 2.7 U | 2.7 U | 2.7 U | 2.7 U | 2.7 U | 2.7 U | 2.7 U |
| METALS | IRON | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | LEAD | MG/KG | | | | | | | | | | | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| METALS | MAGNESIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | MANGANESE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | MERCURY | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | NICKEL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | POTASSIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | SELENIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | SILVER | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | SODIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | THALLIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | VANADIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ZINC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1221 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1232 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1242 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1248 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1254 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1260 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0312 | MPSB0313 | MPSB0313 | MPSB0313 | MPSB0314 | MPSB0314 | MPSB0314 | MPSB0315 | MPSB0315 | MPSB0315 | TB-39 | TB-40 | TB-40 | TB-41 | TB-41 | TB-42 | TB-43 | TB-43 | TB-44 | TB-44 | TB-45 | TB-45 | TB-46 |
| | | Field Sample ID | MPSB0312-SS-AF-AG-0 | MPSB0313-SS-AA-AB-0 | MPSB0313-SS-AD-AE-0 | MPSB0313-SS-AI-AJ-0 | MPSB0314-SS-AA-AB-0 | MPSB0314-SS-AD-AE-0 | MPSB0314-SS-AG-AH-0 | MPSB0315-SS-AA-AB-0 | MPSB0315-SS-AD-AE-0 | MPSB0315-SS-AG-AH-0 | 039-B001 | 040-B001 | 040-B002 | 041-B001 | 041-B002 | 042-B001 | 043-B001 | 043-B002 | 044-B001 | 044-B101 | 045-B002 | 045-B003 | 046-B001 |
| | | Sample Date | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 6/21/1995 | 6/22/1995 | 6/22/1995 | 6/22/1995 | 6/22/1995 | 6/21/1995 | 6/22/1995 | 6/22/1995 | 6/21/1995 | 6/21/1995 | 6/21/1995 | 6/21/1995 | 6/22/1995 |
| | | Depth (ft) | 2.5-3 | 0-0.5 | 1.5-2 | 4-4.5 | 0-0.5 | 1.5-2 | 3-3.5 | 0-0.5 | 1.5-2 | 3-3.5 | 6.4-6.8 | 3-3.4 | 6.5-7 | 3-3.5 | 8-10 | 6.6-7.1 | 3-3.5 | 6-7 | 7.2-7.7 | 7.2-7.7 | 7.3-7.8 | 8-9 | 2.7-3.1 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | 1.8 U | | | | | | | 1.8 U | |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | 2,4-DINITROPHENOL | MG/KG | | | | | | | | | | | | | | | 1.8 U | | | | | | | 1.8 U | |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | 2-CHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | | | | | | | | | | | | | | | 0.68 | | | | | | | 0.36 U | |
| SVOC | 2-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | 2-NITROANILINE | MG/KG | | | | | | | | | | | | | | | 1.8 U | | | | | | | 1.8 U | |
| SVOC | 2-NITROPHENOL | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | | | | | | | | | | | | | | | 0.73 U | | | | | | | 0.73 U | |
| SVOC | 3-NITROANILINE | MG/KG | | | | | | | | | | | | | | | 1.8 U | | | | | | | 1.8 U | |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | 1.8 U | | | | | | | 1.8 U | |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | 4-CHLOROANILINE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | 4-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | 4-NITROANILINE | MG/KG | | | | | | | | | | | | | | | 1.8 U | | | | | | | 1.8 U | |
| SVOC | 4-NITROPHENOL | MG/KG | | | | | | | | | | | | | | | 1.8 U | | | | | | | 1.8 U | |
| SVOC | ACENAPHTHENE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | ACENAPHTHYLENE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | ACETOPHENONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ANTHRACENE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | ATRAZINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | BENZO(A)PYRENE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | 1.8 U | | | | | | | 1.8 U | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | | | | | | | | | | | | | | | 0.049 J | | | | | | | 0.11 J | |
| SVOC | CAPROLACTAM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | CARBAZOLE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | CHRYSENE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | DIBENZOFURAN | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | DIETHYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | DIMETHYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | 0.045 J | | | | | | | 0.36 U | |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | FLUORANTHENE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | FLUORENE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | HEXACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | HEXACHLOROETHANE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | ISOPHORONE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | 2.4 | | | | | | | 0.36 U | |
| SVOC | NITROBENZENE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | PENTACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | 0.74 U | | | | | | | 1.8 U | |
| SVOC | PHENANTHRENE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | PHENOL | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |
| SVOC | PYRENE | MG/KG | | | | | | | | | | | | | | | 0.37 U | | | | | | | 0.36 U | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0312 | MPSB0313 | MPSB0313 | MPSB0313 | MPSB0314 | MPSB0314 | MPSB0314 | MPSB0315 | MPSB0315 | MPSB0315 | TB-39 | TB-40 | TB-40 | TB-41 | TB-41 | TB-42 | TB-43 | TB-43 | TB-44 | TB-44 | TB-45 | TB-45 | TB-46 |
| | | Field Sample ID | MPSB0312-SS-AF-AG-0 | MPSB0313-SS-AA-AB-0 | MPSB0313-SS-AD-AE-0 | MPSB0313-SS-AI-AJ-0 | MPSB0314-SS-AA-AB-0 | MPSB0314-SS-AD-AE-0 | MPSB0314-SS-AG-AH-0 | MPSB0315-SS-AA-AB-0 | MPSB0315-SS-AD-AE-0 | MPSB0315-SS-AG-AH-0 | 039-B001 | 040-B001 | 040-B002 | 041-B001 | 041-B002 | 042-B001 | 043-B001 | 043-B002 | 044-B001 | 044-B101 | 045-B002 | 045-B003 | 046-B001 |
| | | Sample Date | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 6/21/1995 | 6/22/1995 | 6/22/1995 | 6/22/1995 | 6/22/1995 | 6/21/1995 | 6/22/1995 | 6/22/1995 | 6/21/1995 | 6/21/1995 | 6/21/1995 | 6/21/1995 | 6/22/1995 |
| | | Depth (ft) | 2.5-3 | 0-0.5 | 1.5-2 | 4-4.5 | 0-0.5 | 1.5-2 | 3-3.5 | 0-0.5 | 1.5-2 | 3-3.5 | 6.4-6.8 | 3-3.4 | 6.5-7 | 3-3.5 | 8-10 | 6.6-7.1 | 3-3.5 | 6-7 | 7.2-7.7 | 7.2-7.7 | 7.3-7.8 | 8-9 | 2.7-3.1 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | | | | | | | | | | 0.006 U | 0.005 U | 0.006 U | 0.006 U | | 0.006 U | 0.006 U | 0.005 U | 0.006 U | 0.005 U | 0.006 U | | 0.006 U |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | | | | | | | | | | 0.006 U | 0.005 U | 0.006 U | 0.006 U | | 0.006 U | 0.006 U | 0.005 U | 0.006 U | 0.005 U | 0.006 U | | 0.006 U |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | | | | | | | | | | 0.006 U | 0.005 U | 0.006 U | 0.006 U | | 0.006 U | 0.006 U | 0.005 U | 0.006 U | 0.005 U | 0.006 U | | 0.006 U |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | | | | | | | | | | 0.006 U | 0.005 U | 0.006 U | 0.006 U | | 0.006 U | 0.006 U | 0.005 U | 0.006 U | 0.005 U | 0.006 U | | 0.006 U |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | | | | | | | | | | 0.006 U | 0.005 U | 0.006 U | 0.006 U | | 0.006 U | 0.006 U | 0.005 U | 0.006 U | 0.005 U | 0.006 U | | 0.006 U |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | | | | | | | | | | 0.006 U | 0.005 U | 0.006 U | 0.006 U | | 0.006 U | 0.006 U | 0.005 U | 0.006 U | 0.005 U | 0.006 U | | 0.006 U |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | | | | | | | | | | 0.006 U | 0.005 U | 0.006 U | 0.006 U | | 0.006 U | 0.006 U | 0.005 U | 0.006 U | 0.005 U | 0.006 U | | 0.006 U |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | | | | | | | | | | 0.011 U | 0.01 U | 0.011 U | 0.011 U | | 0.011 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | | 0.011 U |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | | | | | | | | | | 0.011 U | 0.01 U | 0.011 U | 0.011 U | | 0.011 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | | 0.011 U |
| VOC | ACETONE | MG/KG | | | | | | | | | | | 0.044 B | 0.018 B | 0.045 B | 0.026 B | | 0.037 B | 0.004 J | 0.01 U | 0.034 B | 0.025 B | 0.005 J | | 0.011 U |
| VOC | BENZENE | MG/KG | | | | | | | | | | | 0.006 U | 0.005 U | 0.006 U | 0.006 U | | 0.006 U | 0.006 U | 0.005 U | 0.006 U | 0.005 U | 0.006 U | | 0.006 U |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | | | | | | | | | | | 0.006 U | 0.005 U | 0.006 U | 0.006 U | | 0.006 U | 0.006 U | 0.005 U | 0.006 U | 0.005 U | 0.006 U | | 0.006 U |
| VOC | BROMOFORM | MG/KG | | | | | | | | | | | 0.006 U | 0.005 U | 0.006 U | 0.006 U | | 0.006 U | 0.006 U | 0.005 U | 0.006 U | 0.005 U | 0.006 U | | 0.006 U |
| VOC | BROMOMETHANE | MG/KG | | | | | | | | | | | 0.011 U | 0.01 U | 0.011 U | 0.011 U | | 0.011 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | | 0.011 U |
| VOC | CARBON DISULFIDE | MG/KG | | | | | | | | | | | 0.006 U | 0.005 U | 0.003 J | 0.004 J | | 0.007 | 0.006 U | 0.005 U | 0.005 J | 0.007 | 0.005 J | | 0.006 U |
| VOC | CARBON TETRACHLORIDE | MG/KG | | | | | | | | | | | 0.006 U | 0.005 U | 0.006 U | 0.006 U | | 0.006 U | 0.006 U | 0.005 U | 0.006 U | 0.005 U | 0.006 U | | 0.006 U |
| VOC | CHLOROBENZENE | MG/KG | | | | | | | | | | | 0.006 U | 0.005 U | 0.006 U | 0.006 U | | 0.006 U | 0.006 U | 0.005 U | 0.006 U | 0.005 U | 0.006 U | | 0.006 U |
| VOC | CHLOROETHANE | MG/KG | | | | | | | | | | | 0.011 U | 0.01 U | 0.011 U | 0.011 U | | 0.011 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | | 0.011 U |
| VOC | CHLOROFORM | MG/KG | | | | | | | | | | | 0.006 U | 0.005 U | 0.006 U | 0.006 U | | 0.006 U | 0.006 U | 0.005 U | 0.006 U | 0.005 U | 0.006 U | | 0.006 U |
| VOC | CHLOROMETHANE | MG/KG | | | | | | | | | | | 0.011 U | 0.01 U | 0.011 U | 0.011 U | | 0.011 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | | 0.011 U |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | 0.006 U | 0.005 U | 0.006 U | 0.006 U | | 0.006 U | 0.006 U | 0.005 U | 0.006 U | 0.005 U | 0.006 U | | 0.006 U |
| VOC | CYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | 0.006 U | 0.005 U | 0.006 U | 0.006 U | | 0.006 U | 0.006 U | 0.005 U | 0.006 U | 0.005 U | 0.006 U | | 0.006 U |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | | | | | | | | | | | 0.021 B | 0.008 B | 0.01 B | 0.011 B | | 0.015 B | 0.009 B | 0.006 B | 0.017 B | 0.016 B | 0.017 B | | 0.016 B |
| VOC | ETHYLBENZENE | MG/KG | | | | | | | | | | | 0.006 U | 0.005 U | 0.006 U | 0.006 U | | 0.006 U | 0.006 U | 0.005 U | 0.006 U | 0.005 U | 0.006 U | | 0.006 U |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | | | | | | | | | | | 0.011 U | 0.01 U | 0.005 J | 0.003 J | | 0.004 J | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | | 0.011 U |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | 0.001 J | 0.005 U | 0.006 U | 0.023 B | | 0.028 B | 0.006 U | 0.005 U | 0.004 J | 0.002 J | 0.002 J | | 0.006 U |
| VOC | STYRENE | MG/KG | | | | | | | | | | | 0.006 U | 0.005 U | 0.006 U | 0.006 U | | 0.006 U | 0.006 U | 0.005 U | 0.006 U | 0.005 U | 0.006 U | | 0.006 U |
| VOC | TETRACHLOROETHENE | MG/KG | | | | | | | | | | | 0.006 U | 0.005 U | 0.006 U | 0.006 U | | 0.006 U | 0.006 U | 0.005 U | 0.006 U | 0.005 U | 0.006 U | | 0.006 U |
| VOC | TOLUENE | MG/KG | | | | | | | | | | | 0.006 U | 0.005 U | 0.006 U | 0.006 U | | 0.006 U | 0.006 U | 0.005 U | 0.006 U | 0.005 U | 0.006 U | | 0.006 U |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | 0.006 U | 0.005 U | 0.006 U | 0.006 U | | 0.006 U | 0.006 U | 0.005 U | 0.006 U | 0.005 U | 0.006 U | | 0.006 U |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | 0.006 U | 0.005 U | 0.006 U | 0.006 U | | 0.006 U | 0.006 U | 0.005 U | 0.006 U | 0.005 U | 0.006 U | | 0.006 U |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | | | | | | | | | | 0.006 U | 0.005 U | 0.006 U | 0.006 U | | 0.006 U | 0.006 U | 0.005 U | 0.006 U | 0.005 U | 0.006 U | | 0.006 U |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | 0.011 U | 0.01 U | 0.011 U | 0.011 U | | 0.011 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | | 0.011 U |
| VOC | VINYL CHLORIDE | MG/KG | | | | | | | | | | | 0.011 U | 0.01 U | 0.011 U | 0.011 U | | 0.011 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | | 0.011 U |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | | | | | | | | | | | 0.006 U | 0.005 U | 0.006 U | 0.006 U | | 0.006 U | 0.006 U | 0.005 U | 0.006 U | 0.005 U | 0.006 U | | 0.006 U |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | TB-46 | TB-46 | TB-46 | TB-47 | TB-48 | TB-52 | TB-53 | B-74 | B-74 | B-76 | ERTSB-001 | ERTSB-001 | ERTSB-001 | ERTSB-001 | ERTSB-001 | ERTSB-001 | ERTSB-002 | ERTSB-002 | ERTSB-002 | ERTSB-002 | ERTSB-002 | ERTSB-003 | ERTSB-003 |
| | | Field Sample ID | 046-B002 | 046-B003 | 046-B004 | 047-B001 | 048-B001 | 052-B001 | 053-B001 | B-74A | B74B | B-76 | 0-316-0001 | 0-316-0002 | 0-316-0003 | 0-316-0004 | 0-316-0005 | 0-316-0006 | 0-316-0008 | 0-316-0009 | 0-316-0010 | 0-316-0011 | 0-316-0012 | 0-316-0014 | 0-316-0015 |
| | | Sample Date | 6/22/1995 | 6/22/1995 | 6/22/1995 | 6/22/1995 | 6/22/1995 | 6/21/1995 | 6/22/1995 | 4/16/1997 | 4/16/1997 | 4/16/1997 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 |
| | | Depth (ft) | 5.2-5.5 | 6.9-7.4 | 9-9.5 | 3-3.5 | 6.5-7 | 8-9 | 7-7.4 | 1.5-2 | 4.5-4.5 | 3-3.5 | 0-2 | 2-4 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | | | | | | | | | | | 1310 | 1240 | 1150 | 2780 | 2700 | 1320 | 2010 | 2070 | 1970 | 2910 | 2680 | 1690 | 6440 |
| METALS | ANTIMONY | MG/KG | | | | | | | | 3.5 U | 3.4 U | 3.7 U | 1.1 UJ | 1.2 U | 1.2 U | 1.2 U | 1.2 U | 1.3 U | 1.2 U | 1.1 U | 1.2 U | 1.2 U | 1.2 U | 1.1 U | 1.1 U |
| METALS | ARSENIC | MG/KG | | | | | | | | 14.9 | 31.1 | 3.2 U | 1 J | 0.6 U | 0.58 U | 2.1 | 1.2 | 0.63 U | 1.3 | 2 | 1.3 | 1.8 | 1.4 | 1.4 | 3.6 |
| METALS | BARIUM | MG/KG | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 679 | 43.4 | 82.5 | 12.8 | 10.7 | 12.6 | 10.6 | 9.3 | 7.3 | 18.4 | 45.4 | 12.1 | 9.7 | 8.8 | 24.5 | 71.3 |
| METALS | BERYLLIUM | MG/KG | | | | | | | | 0.5 U | 0.05 U | 0.06 U | 0.55 U | 0.6 U | 0.58 U | 0.62 U | 0.6 U | 0.63 U | 0.62 U | 0.55 U | 0.61 U | 0.62 U | 0.62 U | 0.57 U | 0.53 U |
| METALS | CADMIUM | MG/KG | | | | | | | | 0.34 U | 0.45 | 0.42 | 0.55 U | 0.6 U | 0.58 U | 0.62 U | 0.6 U | 0.63 U | 0.62 U | 0.55 U | 0.61 U | 0.62 U | 0.62 U | 0.57 U | 0.53 U |
| METALS | CALCIUM | MG/KG | | | | | | | | | | | 391 U | 458 U | 433 U | 429 U | 467 U | 444 U | 567 | 446 U | 5590 | 464 U | 470 U | 628 | 4430 |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 27.9 | 8.4 | 13.2 | 5.8 | 6 | 5.7 | 13.1 | 11 | 9.4 | 7.3 | 9.6 | 11.5 | 15.7 | 16.5 | 8.4 | 15 |
| METALS | COBALT | MG/KG | | | | | | | | | | | 0.55 U | 0.6 U | 0.58 U | 0.62 U | 0.6 U | 0.63 U | 0.62 U | 0.55 U | 0.61 U | 0.62 U | 0.62 U | 0.57 U | 4.2 |
| METALS | COPPER | MG/KG | | | | | | | | 15 | 1.7 | 12.1 | 1.5 | 1.2 U | 1.2 U | 2.6 | 2.5 | 1.5 | 2.5 | 4.5 | 1.6 | 2.1 | 3.3 | 2.1 | 23.9 |
| METALS | CYANIDE | MG/KG | 2.7 U | 2.7 U | 2.7 U | 2.7 U | 2.7 U | 2.7 U | 2.7 U | | | | 0.066 J | 0.059 J | 0.6 U | 0.26 J | 0.097 J | 0.64 U | 0.26 J | 0.18 J | 0.073 J | 0.64 U | 0.63 U | 0.11 J | 0.26 J |
| METALS | IRON | MG/KG | | | | | | | | | | | 2170 | 2010 | 2050 | 5980 | 4750 | 2620 | 3590 | 3880 | 5140 | 6760 | 5950 | 3170 | 11700 |
| METALS | LEAD | MG/KG | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 339 | 33.9 | 171 | 10.5 | 3.2 | 3 | 3.6 | 3.3 | 3.1 | 25.4 | 48.9 | 4.6 | 3.4 | 4.4 | 36 | 75.9 |
| METALS | MAGNESIUM | MG/KG | | | | | | | | | | | 391 U | 458 U | 433 U | 429 U | 467 U | 444 U | 478 U | 446 U | 3270 | 464 U | 470 U | 576 U | 2970 |
| METALS | MANGANESE | MG/KG | | | | | | | | | | | 18.6 | 14.2 | 12.8 | 10.1 | 10.4 | 18.4 | 38.5 | 16.6 | 13.4 | 10.5 | 13.2 | 19.2 | 94.2 |
| METALS | MERCURY | MG/KG | | | | | | | | 0.35 | 0.02 U | 0.08 | 0.011 J | 0.12 U | 0.12 U | 0.0066 J | 0.026 J | 0.024 J | 0.018 J | 0.022 J | 0.0024 J | 0.0071 J | 0.031 J | 0.017 J | 0.07 J |
| METALS | NICKEL | MG/KG | | | | | | | | 2.2 | 1.4 | 2.2 | 0.76 | 0.44 J | 0.44 J | 0.64 | 0.53 J | 0.39 J | 1 | 1.4 | 0.57 J | 0.56 J | 0.55 J | 0.99 | 7.1 |
| METALS | POTASSIUM | MG/KG | | | | | | | | | | | 391 U | 458 U | 433 U | 429 U | 467 U | 444 U | 478 U | 446 U | 489 U | 464 U | 470 U | 576 U | 877 |
| METALS | SELENIUM | MG/KG | | | | | | | | 3.8 U | 3.6 U | 4 U | 2.7 UJ | 3 U | 2.9 U | 0.54 J | 3 U | 3.2 U | 3.1 U | 2.8 U | 0.26 J | 0.23 J | 0.42 J | 2.9 U | 2.7 U |
| METALS | SILVER | MG/KG | | | | | | | | 0.46 U | 0.43 U | 0.48 U | 0.55 U | 0.6 U | 0.58 U | 0.62 U | 0.6 U | 0.63 U | 0.62 U | 0.55 U | 0.61 U | 0.62 U | 0.62 U | 0.57 U | 0.53 U |
| METALS | SODIUM | MG/KG | | | | | | | | | | | 391 U | 458 U | 433 U | 429 U | 467 U | 444 U | 478 U | 446 U | 489 U | 464 U | 470 U | 576 U | 1780 |
| METALS | THALLIUM | MG/KG | | | | | | | | 3.4 U | 3.3 U | 3.7 | 0.55 U | 0.6 U | 0.58 U | 0.62 U | 0.6 U | 0.63 U | 0.62 U | 0.55 U | 0.61 U | 0.62 U | 0.62 U | 0.57 U | 0.53 U |
| METALS | VANADIUM | MG/KG | | | | | | | | | | | 5.6 | 5.2 | 4.9 | 8.6 | 8.8 | 7.6 | 6.2 | 8.5 | 7.6 | 10 | 9.6 | 6.4 | 29.1 |
| METALS | ZINC | MG/KG | | | | | | | | 76.1 | 155 | 62.1 | 10.4 J | 3.6 | 3.5 | 3.3 | 3.6 | 3.4 | 27.2 | 60 | 5.9 | 3.4 | 3.5 | 36.8 | 66.5 |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | | | | | | | | | | | 0.037 U | 0.041 U | 0.04 U | 0.041 U | 0.041 U | 0.041 U | 0.042 U | 0.037 U | 0.039 U | 0.04 U | 0.04 U | 0.038 U | 0.037 U |
| PEST/PCB | AROCLOR-1221 | MG/KG | | | | | | | | | | | 0.037 U | 0.041 U | 0.04 U | 0.041 U | 0.041 U | 0.041 U | 0.042 U | 0.037 U | 0.039 U | 0.04 U | 0.04 U | 0.038 U | 0.037 U |
| PEST/PCB | AROCLOR-1232 | MG/KG | | | | | | | | | | | 0.037 U | 0.041 U | 0.04 U | 0.041 U | 0.041 U | 0.041 U | 0.042 U | 0.037 U | 0.039 U | 0.04 U | 0.04 U | 0.038 U | 0.037 U |
| PEST/PCB | AROCLOR-1242 | MG/KG | | | | | | | | | | | 0.037 U | 0.041 U | 0.04 U | 0.041 U | 0.041 U | 0.041 U | 0.042 U | 0.037 U | 0.039 U | 0.04 U | 0.04 U | 0.038 U | 0.037 U |
| PEST/PCB | AROCLOR-1248 | MG/KG | | | | | | | | | | | 0.037 U | 0.041 U | 0.04 U | 0.041 U | 0.041 U | 0.041 U | 0.042 U | 0.037 U | 0.039 U | 0.04 U | 0.04 U | 0.038 U | 0.037 U |
| PEST/PCB | AROCLOR-1254 | MG/KG | | | | | | | | | | | 0.037 U | 0.041 U | 0.04 U | 0.041 U | 0.041 U | 0.041 U | 0.042 U | 0.037 U | 0.039 U | 0.04 U | 0.04 U | 0.038 U | 0.037 U |
| PEST/PCB | AROCLOR-1260 | MG/KG | | | | | | | | | | | 0.037 U | 0.041 U | 0.04 U | 0.041 U | 0.041 U | 0.041 U | 0.042 U | 0.037 U | 0.039 U | 0.04 U | 0.04 U | 0.038 U | 0.037 U |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | | | | | | | | | 0.037 U | 0.041 U | 0.04 U | 0.041 U | 0.041 U | 0.041 U | 0.042 U | 0.037 U | 0.039 U | 0.04 U | 0.04 U | 0.038 U | 0.037 U |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | | | | | | | | | 0.037 U | 0.041 U | 0.04 U | 0.041 U | 0.041 U | 0.041 U | 0.042 U | 0.037 U | 0.039 U | 0.04 U | 0.04 U | 0.038 U | 0.037 U |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | TB-46 | TB-46 | TB-46 | TB-47 | TB-48 | TB-52 | TB-53 | B-74 | B-74 | B-76 | ERTSB-001 | ERTSB-001 | ERTSB-001 | ERTSB-001 | ERTSB-001 | ERTSB-001 | ERTSB-002 | ERTSB-002 | ERTSB-002 | ERTSB-002 | ERTSB-002 | ERTSB-003 | ERTSB-003 |
| | | Field Sample ID | 046-B002 | 046-B003 | 046-B004 | 047-B001 | 048-B001 | 052-B001 | 053-B001 | B-74A | B74B | B-76 | 0-316-0001 | 0-316-0002 | 0-316-0003 | 0-316-0004 | 0-316-0005 | 0-316-0006 | 0-316-0008 | 0-316-0009 | 0-316-0010 | 0-316-0011 | 0-316-0012 | 0-316-0014 | 0-316-0015 |
| | | Sample Date | 6/22/1995 | 6/22/1995 | 6/22/1995 | 6/22/1995 | 6/22/1995 | 6/21/1995 | 6/22/1995 | 4/16/1997 | 4/16/1997 | 4/16/1997 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 |
| | | Depth (ft) | 5.2-5.5 | 6.9-7.4 | 9-9.5 | 3-3.5 | 6.5-7 | 8-9 | 7-7.4 | 1.5-2 | 4.5-4.5 | 3-3.5 | 0-2 | 2-4 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | | | | | | | | | | | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | | | | | | | | | | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | 19 U | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | 19 U | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | 19 U | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | 19 U | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | | | | | | | | | | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.39 J | 0.21 U | 0.56 J | 1.2 J | 0.2 U | 4.6 J | 0.21 U | 0.19 U | 0.19 U |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | | | | | | | | | | 93 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | | | | | | | | | | 93 U | 0.38 UJ | 0.41 U | 0.41 U | 0.41 U | 0.4 U | 0.42 U | 0.42 UJ | 0.37 UJ | 0.39 U | 0.41 U | 0.4 U | 0.37 UJ | 0.37 UJ |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | 2-METHYLPHENOL | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | 2-NITROANILINE | MG/KG | | | | | | | | | | 93 U | 0.38 U | 0.41 U | 0.41 U | 0.41 U | 0.4 U | 0.42 U | 0.42 U | 0.37 U | 0.39 U | 0.41 U | 0.4 U | 0.37 U | 0.37 U |
| SVOC | 2-NITROPHENOL | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | | | | | | | | | | 37 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | 3-NITROANILINE | MG/KG | | | | | | | | | | 93 U | 0.38 U | 0.41 U | 0.41 U | 0.41 U | 0.4 U | 0.42 U | 0.42 U | 0.37 U | 0.39 U | 0.41 U | 0.4 U | 0.37 U | 0.37 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | | | | | | | | | | 93 U | 0.38 UJ | 0.41 U | 0.41 U | 0.41 U | 0.4 U | 0.42 U | 0.42 UJ | 0.37 UJ | 0.39 U | 0.41 U | 0.4 U | 0.37 UJ | 0.37 UJ |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | 4-CHLOROANILINE | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | 4-METHYLPHENOL | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | 4-NITROANILINE | MG/KG | | | | | | | | | | 93 U | 0.38 U | 0.41 U | 0.41 U | 0.41 U | 0.4 U | 0.42 U | 0.42 U | 0.37 U | 0.39 U | 0.41 U | 0.4 U | 0.37 U | 0.37 U |
| SVOC | 4-NITROPHENOL | MG/KG | | | | | | | | | | 93 U | 0.38 U | 0.41 U | 0.41 U | 0.41 U | 0.4 U | 0.42 U | 0.42 U | 0.37 U | 0.39 U | 0.41 U | 0.4 U | 0.37 U | 0.37 U |
| SVOC | ACENAPHTHENE | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | ACENAPHTHYLENE | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | ACETOPHENONE | MG/KG | | | | | | | | | | | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | ANTHRACENE | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | ATRAZINE | MG/KG | | | | | | | | | | | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | BENZALDEHYDE | MG/KG | | | | | | | | | | | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | | | | | | | | | | 19 U | 0.06 J | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.056 J | 0.038 J | 0.2 U | 0.21 U | 0.21 U | 0.031 J | 0.078 J |
| SVOC | BENZO(A)PYRENE | MG/KG | | | | | | | | | | 19 U | 0.069 J | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.072 J | 0.039 J | 0.2 U | 0.21 U | 0.21 U | 0.037 J | 0.083 J |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | | | | | | | | | | 19 U | 0.11 J | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.12 J | 0.055 J | 0.2 U | 0.21 U | 0.21 U | 0.056 J | 0.13 J |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.018 J | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | | | | | | | | | | 19 U | 0.036 J | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.038 J | 0.017 J | 0.2 U | 0.21 U | 0.21 U | 0.019 J | 0.044 J |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | 93 U | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | 19 U | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | | | | | | | | | | 19 U | 0.042 J | 0.21 U | 0.21 U | 0.034 J | 0.21 U | 0.21 U | 0.032 J | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.044 J | 0.055 J |
| SVOC | CAPROLACTAM | MG/KG | | | | | | | | | | | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | CARBAZOLE | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | CHRYSENE | MG/KG | | | | | | | | | | 19 U | 0.078 J | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.083 J | 0.04 J | 0.2 U | 0.21 U | 0.21 U | 0.039 J | 0.094 J |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | DIBENZOFURAN | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | DIETHYLPHTHALATE | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.03 J | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | FLUORANTHENE | MG/KG | | | | | | | | | | 19 U | 0.14 J | 0.027 J | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.14 J | 0.063 J | 0.2 U | 0.21 U | 0.21 U | 0.064 J | 0.15 J |
| SVOC | FLUORENE | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | HEXACHLOROBENZENE | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | | | | | | | | | | 19 U | 0.19 UJ | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 UJ | 0.19 UJ | 0.2 U | 0.21 U | 0.21 U | 0.19 UJ | 0.19 UJ |
| SVOC | HEXACHLOROETHANE | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | | | | | | | | | | 19 U | 0.049 J | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.055 J | 0.024 J | 0.2 U | 0.21 U | 0.21 U | 0.027 J | 0.053 J |
| SVOC | ISOPHORONE | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | NAPHTHALENE | MG/KG | | | | | | | | | | 8.3 J | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | NITROBENZENE | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | | | | | | | | | | 93 U | 0.38 U | 0.41 U | 0.41 U | 0.41 U | 0.4 U | 0.42 U | 0.42 U | 0.37 U | 0.39 U | 0.41 U | 0.4 U | 0.37 U | 0.37 U |
| SVOC | PHENANTHRENE | MG/KG | | | | | | | | | | 19 U | 0.059 J | 0.21 U | 0.21 U | 0.021 J | 0.21 U | 0.21 U | 0.038 J | 0.026 J | 0.2 U | 0.21 U | 0.21 U | 0.019 J | 0.053 J |
| SVOC | PHENOL | MG/KG | | | | | | | | | | 19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U |
| SVOC | PYRENE | MG/KG | | | | | | | | | | 19 U | 0.11 J | 0.024 J | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.11 J | 0.053 J | 0.2 U | 0.21 U | 0.21 U | 0.055 J | 0.13 J |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | EUSA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | TB-46 | TB-46 | TB-46 | TB-47 | TB-48 | TB-52 | TB-53 | B-74 | B-74 | B-76 | ERTSB-001 | ERTSB-001 | ERTSB-001 | ERTSB-001 | ERTSB-001 | ERTSB-001 | ERTSB-002 | ERTSB-002 | ERTSB-002 | ERTSB-002 | ERTSB-002 | ERTSB-003 | ERTSB-003 |
| | | Field Sample ID | 046-B002 | 046-B003 | 046-B004 | 047-B001 | 048-B001 | 052-B001 | 053-B001 | B-74A | B74B | B-76 | 0-316-0001 | 0-316-0002 | 0-316-0003 | 0-316-0004 | 0-316-0005 | 0-316-0006 | 0-316-0008 | 0-316-0009 | 0-316-0010 | 0-316-0011 | 0-316-0012 | 0-316-0014 | 0-316-0015 |
| | | Sample Date | 6/22/1995 | 6/22/1995 | 6/22/1995 | 6/22/1995 | 6/22/1995 | 6/21/1995 | 6/22/1995 | 4/16/1997 | 4/16/1997 | 4/16/1997 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 |
| | | Depth (ft) | 5.2-5.5 | 6.9-7.4 | 9-9.5 | 3-3.5 | 6.5-7 | 8-9 | 7-7.4 | 1.5-2 | 4.5-4.5 | 3-3.5 | 0-2 | 2-4 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | 0.006 U | 0.006 U | 0.028 U | 0.005 U | 0.006 U | 0.006 U | 0.006 U | | | 0.7 U | | | | | | | | | | | | | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | 0.006 U | 0.006 U | 0.028 U | 0.005 U | 0.006 U | 0.006 U | 0.006 U | | | 0.7 U | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | 0.006 U | 0.006 U | 0.028 U | 0.005 U | 0.006 U | 0.006 U | 0.006 U | | | 0.7 U | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | 0.006 U | 0.006 U | 0.028 U | 0.005 U | 0.006 U | 0.006 U | 0.006 U | | | 0.7 U | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | 0.006 U | 0.006 U | 0.028 U | 0.005 U | 0.006 U | 0.006 U | 0.006 U | | | 0.7 U | | | | | | | | | | | | | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | 0.006 U | 0.006 U | 0.028 U | 0.005 U | 0.006 U | 0.006 U | 0.006 U | | | 0.7 U | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | 0.006 U | 0.006 U | 0.028 U | 0.005 U | 0.006 U | 0.006 U | 0.006 U | | | 0.7 U | | | | | | | | | | | | | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | 0.011 U | 0.011 U | 0.055 U | 0.01 U | 0.012 U | 0.011 U | 0.011 U | | | 1.4 U | | | | | | | | | | | | | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | 0.011 U | 0.011 U | 0.055 U | 0.01 U | 0.012 U | 0.011 U | 0.011 U | | | 1.4 U | | | | | | | | | | | | | |
| VOC | ACETONE | MG/KG | 0.028 B | 0.042 B | 0.11 B | 0.005 J | 0.013 B | 0.021 B | 0.039 B | | | 1.4 U | | | | | | | | | | | | | |
| VOC | BENZENE | MG/KG | 0.006 U | 0.006 U | 0.028 U | 0.005 U | 0.006 U | 0.006 U | 0.006 U | | | 0.18 J | | | | | | | | | | | | | |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | 0.006 U | 0.006 U | 0.028 U | 0.005 U | 0.006 U | 0.006 U | 0.006 U | | | 0.7 U | | | | | | | | | | | | | |
| VOC | BROMOFORM | MG/KG | 0.006 U | 0.006 U | 0.028 U | 0.005 U | 0.006 U | 0.006 U | 0.006 U | | | 0.7 U | | | | | | | | | | | | | |
| VOC | BROMOMETHANE | MG/KG | 0.011 U | 0.011 U | 0.055 U | 0.01 U | 0.012 U | 0.011 U | 0.011 U | | | 1.4 U | | | | | | | | | | | | | |
| VOC | CARBON DISULFIDE | MG/KG | 0.007 | 0.006 U | 0.028 U | 0.005 U | 0.007 | 0.008 | 0.006 U | | | 0.7 U | | | | | | | | | | | | | |
| VOC | CARBON TETRACHLORIDE | MG/KG | 0.006 U | 0.006 U | 0.028 U | 0.005 U | 0.006 U | 0.006 U | 0.006 U | | | 0.7 U | | | | | | | | | | | | | |
| VOC | CHLOROBENZENE | MG/KG | 0.006 U | 0.006 U | 0.028 U | 0.005 U | 0.006 U | 0.006 U | 0.006 U | | | 0.7 U | | | | | | | | | | | | | |
| VOC | CHLOROETHANE | MG/KG | 0.011 U | 0.011 U | 0.055 U | 0.01 U | 0.012 U | 0.011 U | 0.011 U | | | 1.4 U | | | | | | | | | | | | | |
| VOC | CHLOROFORM | MG/KG | 0.006 U | 0.006 U | 0.028 U | 0.005 U | 0.006 U | 0.006 U | 0.006 U | | | 0.7 U | | | | | | | | | | | | | |
| VOC | CHLOROMETHANE | MG/KG | 0.011 U | 0.011 U | 0.006 J | 0.01 U | 0.012 U | 0.011 U | 0.011 U | | | 1.4 U | | | | | | | | | | | | | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | 0.006 U | 0.006 U | 0.028 U | 0.005 U | 0.006 U | 0.006 U | 0.006 U | | | 0.7 U | | | | | | | | | | | | | |
| VOC | CYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | 0.006 U | 0.006 U | 0.028 U | 0.005 U | 0.006 U | 0.006 U | 0.006 U | | | 0.7 U | | | | | | | | | | | | | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | 0.021 B | 0.019 B | 0.041 B | 0.013 B | 0.016 B | 0.018 B | 0.011 B | | | 0.44 JB | | | | | | | | | | | | | |
| VOC | ETHYLBENZENE | MG/KG | 0.006 U | 0.006 U | 0.028 U | 0.005 U | 0.006 U | 0.006 U | 0.006 U | | | 20 | | | | | | | | | | | | | |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | 0.002 J | 0.003 J | 0.055 U | 0.01 U | 0.012 U | 0.011 U | 0.003 J | | | 1.4 U | | | | | | | | | | | | | |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | NAPHTHALENE | MG/KG | 0.006 U | 0.006 U | 0.028 U | 0.005 U | 0.001 J | 0.002 J | 0.006 U | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | 0.006 U | 0.006 U | 0.028 U | 0.005 U | 0.006 U | 0.006 U | 0.006 U | | | 0.7 U | | | | | | | | | | | | | |
| VOC | TETRACHLOROETHENE | MG/KG | 0.006 U | 0.006 U | 0.028 U | 0.005 U | 0.006 U | 0.006 U | 0.006 U | | | 0.7 U | | | | | | | | | | | | | |
| VOC | TOLUENE | MG/KG | 0.006 U | 0.006 U | 0.028 U | 0.005 U | 0.006 U | 0.006 U | 0.006 U | | | 0.7 U | | | | | | | | | | | | | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | 0.006 U | 0.006 U | 0.028 U | 0.005 U | 0.006 U | 0.006 U | 0.006 U | | | 0.7 U | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | 0.006 U | 0.006 U | 0.028 U | 0.005 U | 0.006 U | 0.006 U | 0.006 U | | | 0.7 U | | | | | | | | | | | | | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | 0.006 U | 0.006 U | 0.028 U | 0.005 U | 0.006 U | 0.006 U | 0.006 U | | | 0.7 U | | | | | | | | | | | | | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL ACETATE | MG/KG | 0.011 U | 0.011 U | 0.055 U | 0.01 U | 0.012 U | 0.011 U | 0.011 U | | | 1.4 U | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | 0.011 U | 0.011 U | 0.055 U | 0.01 U | 0.012 U | 0.011 U | 0.011 U | | | 1.4 U | | | | | | | | | | | | | |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | 0.006 U | 0.006 U | 0.028 U | 0.005 U | 0.006 U | 0.006 U | 0.006 U | | | 8.8 | | | | | | | | | | | | | |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | ERTSB-003 | ERTSB-003 | ERTSB-003 | ERTSB-003 | ERTSB-003 | ERTSB-004 | ERTSB-004 | ERTSB-004 | ERTSB-004 | ERTSB-004 | ERTSB-005 | ERTSB-005 | ERTSB-005 | ERTSB-005 | ERTSB-005 | ERTSB-006 | ERTSB-006 | ERTSB-006 | ERTSB-006 | ERTSB-006 | ERTSB-007 | ERTSB-007 | ERTSB-007 |
| | | Field Sample ID | 0-316-0016 | 0-316-0017 | 0-316-0018 | 0-316-0019 | 0-316-0020 | 0-316-0022 | 0-316-0023 | 0-316-0024 | 0-316-0025 | 0-316-0026 | 0-316-0028 | 0-316-0029 | 0-316-0030 | 0-316-0031 | 0-316-0032 | 0-316-0034 | 0-316-0035 | 0-316-0036 | 0-316-0037 | 0-316-0038 | 0-316-0040 | 0-316-0041 | 0-316-0042 |
| | | Sample Date | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 |
| | | Depth (ft) | 4-6 | 4-6 | 6-8 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | 1800 | 1820 | 2210 | 2570 | 3210 | 1150 | 1010 | 1650 | 1930 | 1980 | 1830 | 2440 | 2430 | 2110 | 2430 | 4260 | 3060 | 3000 | 3040 | 1960 | 2560 | 571 | 1760 |
| METALS | ANTIMONY | MG/KG | 1.2 UJ | 1.2 U | 6.4 UJ | 1.3 U | 1.3 U | 1.1 U | 1.1 U | 1.2 U | 6.2 U | 6.5 U | 1.1 U | 1.2 U | 1.2 U | 1.2 U | 1.3 U | 1.2 U | 1.2 U | 1.3 U | 1.3 U | 1.3 U | 1.1 U | 1.1 U | 1.2 U |
| METALS | ARSENIC | MG/KG | 1 J | 1.4 | 3.2 UJ | 1.5 | 2.6 | 0.97 | 0.67 | 1.1 | 3.1 U | 3.2 U | 1.2 | 1.9 | 1.6 | 1.1 | 1.4 | 5.2 | 1.2 | 1.8 | 2.1 | 1.6 | 9.7 | 20.5 | 5 |
| METALS | BARIUM | MG/KG | 10.1 | 10 | 31.8 U | 8.1 | 10.3 | 28.6 | 6.8 | 7.4 | 31.1 U | 32.5 U | 11.9 | 10.3 | 10.7 | 7.1 | 10.4 | 13.5 | 11.6 | 9.8 | 9.9 | 8.9 | 445 | 68.6 | 8.2 |
| METALS | BERYLLIUM | MG/KG | 0.62 U | 0.62 U | 3.2 U | 0.63 U | 0.65 U | 0.53 U | 0.57 U | 0.62 U | 3.1 U | 3.2 U | 0.55 U | 0.6 U | 0.62 U | 0.62 U | 0.63 U | 0.58 U | 0.61 U | 0.63 U | 0.64 U | 0.65 U | 0.53 U | 0.54 U | 0.6 U |
| METALS | CADMIUM | MG/KG | 0.62 U | 0.62 U | 3.2 U | 0.63 U | 0.65 U | 0.53 U | 0.57 U | 0.62 U | 3.1 U | 3.2 U | 0.55 U | 0.6 U | 0.62 U | 0.62 U | 0.63 U | 0.58 U | 0.61 U | 0.63 U | 0.64 U | 0.65 U | 0.44 J | 0.54 U | 0.6 U |
| METALS | CALCIUM | MG/KG | 3200 | 1270 | 455 U | 620 U | 480 U | 25000 | 569 U | 436 U | 568 U | 546 U | 22900 | 567 U | 430 U | 424 U | 459 U | 15400 | 552 U | 456 U | 448 U | 574 U | 5820 | 459 U | 479 U |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 9.1 | 9.4 | 9.6 | 9.2 | 17.8 | 5.5 | 5.1 | 8.5 | 11.6 | 30.1 | 8.2 | 11.5 | 16.7 | 12.5 | 13.4 | 13.9 | 11.5 | 16.9 | 16.7 | 11.2 | 79.1 | 7.7 | 6.7 |
| METALS | COBALT | MG/KG | 0.62 U | 0.62 U | 3.2 U | 0.63 U | 0.65 U | 0.79 | 0.57 U | 0.62 U | 3.1 U | 3.2 U | 0.57 | 0.6 U | 0.62 U | 0.62 U | 0.63 U | 0.61 | 0.61 U | 0.63 U | 0.64 U | 0.65 U | 1.9 | 0.54 U | 0.6 U |
| METALS | COPPER | MG/KG | 3.6 | 4.6 | 1.2 J | 1.3 U | 3.7 | 3.4 | 0.9 J | 1.4 | 1.5 J | 2.4 J | 2.5 | 2 | 1.9 | 2.2 | 2 | 4 | 1.8 | 2.7 | 2.7 | 1.9 | 18.8 | 8.6 | 1.4 |
| METALS | CYANIDE | MG/KG | 0.63 U | 0.069 J | 0.64 U | 0.64 U | 0.66 U | 0.11 J | 0.59 U | 0.6 U | 0.63 U | 0.65 U | 0.54 U | 0.058 J | 0.62 U | 0.11 J | 0.6 U | 0.59 U | 0.61 U | 0.63 U | 0.64 U | 0.63 U | 1 | 1.3 | 0.46 J |
| METALS | IRON | MG/KG | 5380 | 5550 | 5630 | 6370 | 8900 | 2530 | 2500 | 5890 | 6270 | 8080 | 5020 | 8380 | 7810 | 6510 | 5720 | 10100 | 7180 | 8700 | 6680 | 3720 | 6510 | 7290 | 6070 |
| METALS | LEAD | MG/KG | 3.2 | 3.2 | 3.2 | 3 | 4 | 26.7 | 2.3 | 2.8 | 3.4 | 3.7 | 10.4 | 3.4 | 3.4 | 3 | 3.6 | 4.5 | 3.3 | 3.5 | 3.8 | 3.4 | 664 | 67.6 | 2.9 |
| METALS | MAGNESIUM | MG/KG | 1870 | 723 | 68.7 J | 620 U | 480 U | 14300 | 569 U | 436 U | 71.2 J | 77.2 J | 13100 | 567 U | 430 U | 424 U | 459 U | 8590 | 552 U | 456 U | 448 U | 574 U | 2090 | 459 U | 479 U |
| METALS | MANGANESE | MG/KG | 16.2 | 16.7 | 17.2 | 10.4 | 10.5 | 55.4 | 9.4 | 14.7 | 14.5 | 13.2 | 33.6 | 19.9 | 15.5 | 16 | 15.2 | 43.7 | 12.5 | 15.4 | 16.5 | 14 | 58.5 | 6.3 | 8 |
| METALS | MERCURY | MG/KG | 0.015 J | 0.0054 J | 0.011 J | 0.0021 J | 0.042 J | 0.003 J | 0.12 U | 0.0071 J | 0.021 J | 0.019 J | 0.013 J | 0.0054 J | 0.005 J | 0.0027 J | 0.015 J | 0.019 J | 0.0064 J | 0.0057 J | 0.03 J | 0.013 J | 0.15 | 0.072 J | 0.0052 J |
| METALS | NICKEL | MG/KG | 0.65 | 0.71 | 0.55 J | 0.47 J | 0.68 | 1.8 | 0.33 J | 0.43 J | 0.61 J | 0.59 J | 1.3 | 0.77 | 0.79 | 0.44 J | 0.69 | 2.2 | 0.88 | 0.65 | 0.75 | 0.74 | 5.1 | 0.55 | 0.36 J |
| METALS | POTASSIUM | MG/KG | 509 U | 522 U | 455 U | 620 U | 480 U | 487 U | 569 U | 436 U | 568 U | 546 U | 506 U | 567 U | 430 U | 424 U | 459 U | 461 U | 552 U | 456 U | 448 U | 574 U | 463 U | 459 U | 479 U |
| METALS | SELENIUM | MG/KG | 3.1 UJ | 0.41 J | 0.28 J | 3.2 U | 3.3 U | 2.6 U | 2.9 U | 3.1 U | 0.47 J | 0.66 J | 0.28 J | 0.55 J | 0.58 J | 0.55 J | 0.31 J | 0.47 J | 0.64 J | 0.84 J | 0.78 J | 0.39 J | 0.49 J | 1 J | 0.39 J |
| METALS | SILVER | MG/KG | 0.62 U | 0.62 U | 3.2 U | 0.63 U | 0.65 U | 0.53 U | 0.57 U | 0.62 U | 3.1 U | 3.2 U | 0.55 U | 0.6 U | 0.62 U | 0.62 U | 0.63 U | 0.58 U | 0.61 U | 0.63 U | 0.64 U | 0.65 U | 0.53 U | 0.54 U | 0.6 U |
| METALS | SODIUM | MG/KG | 509 U | 522 U | 8.3 J | 620 U | 480 U | 487 U | 569 U | 436 U | 148 J | 226 J | 1010 | 567 U | 430 U | 424 U | 459 U | 461 U | 552 U | 456 U | 448 U | 574 U | 769 | 459 U | 479 U |
| METALS | THALLIUM | MG/KG | 0.62 U | 0.62 U | 3.2 U | 0.63 U | 0.65 U | 0.53 U | 0.57 U | 0.62 U | 3.1 U | 3.2 U | 0.55 U | 0.6 U | 0.62 U | 0.62 U | 0.63 U | 0.58 U | 0.61 U | 0.63 U | 0.64 U | 0.65 U | 0.53 U | 0.54 U | 0.6 U |
| METALS | VANADIUM | MG/KG | 7.7 | 8.2 | 8.3 J | 7.9 | 13.9 | 6.3 | 3.2 | 7 | 9.3 J | 10.1 J | 7.6 | 11.3 | 11.2 | 8.8 | 10.1 | 15.2 | 8.4 | 11.3 | 16.3 | 7.7 | 10.9 | 4.8 | 5.8 |
| METALS | ZINC | MG/KG | 6.7 | 5.9 | 4.3 J | 2.6 | 3.7 | 20.8 | 3.5 | 3.9 | 3.9 J | 5.1 J | 14.6 | 4.9 | 4.6 | 3.8 | 4.4 | 20.7 | 11.5 | 4 | 11.3 | 10.8 | 277 | 7.2 | 2.7 |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | 0.04 U | 0.04 U | 0.041 U | 0.043 U | 0.041 U | 0.036 U | 0.039 U | 0.041 U | 0.04 U | 0.041 U | 0.037 U | 0.04 U | 0.043 U | 0.042 U | 0.042 U | 0.043 U | 0.038 U | 0.041 U | 0.038 U | 0.042 U | 0.044 U | 0.035 U | 0.036 U |
| PEST/PCB | AROCLOR-1221 | MG/KG | 0.04 U | 0.04 U | 0.041 U | 0.043 U | 0.041 U | 0.036 U | 0.039 U | 0.041 U | 0.04 U | 0.041 U | 0.037 U | 0.04 U | 0.043 U | 0.042 U | 0.042 U | 0.043 U | 0.038 U | 0.041 U | 0.038 U | 0.042 U | 0.044 U | 0.035 U | 0.036 U |
| PEST/PCB | AROCLOR-1232 | MG/KG | 0.04 U | 0.04 U | 0.041 U | 0.043 U | 0.041 U | 0.036 U | 0.039 U | 0.041 U | 0.04 U | 0.041 U | 0.037 U | 0.04 U | 0.043 U | 0.042 U | 0.042 U | 0.043 U | 0.038 U | 0.041 U | 0.038 U | 0.042 U | 0.044 U | 0.035 U | 0.036 U |
| PEST/PCB | AROCLOR-1242 | MG/KG | 0.04 U | 0.04 U | 0.041 U | 0.043 U | 0.041 U | 0.036 U | 0.039 U | 0.041 U | 0.04 U | 0.041 U | 0.037 U | 0.04 U | 0.043 U | 0.042 U | 0.042 U | 0.043 U | 0.038 U | 0.041 U | 0.038 U | 0.042 U | 0.044 U | 0.035 U | 0.036 U |
| PEST/PCB | AROCLOR-1248 | MG/KG | 0.04 U | 0.04 U | 0.041 U | 0.043 U | 0.041 U | 0.036 U | 0.039 U | 0.041 U | 0.04 U | 0.041 U | 0.037 U | 0.04 U | 0.043 U | 0.042 U | 0.042 U | 0.043 U | 0.038 U | 0.041 U | 0.038 U | 0.042 U | 0.044 U | 0.035 U | 0.036 U |
| PEST/PCB | AROCLOR-1254 | MG/KG | 0.04 U | 0.04 U | 0.041 U | 0.043 U | 0.041 U | 0.036 U | 0.039 U | 0.041 U | 0.04 U | 0.041 U | 0.037 U | 0.04 U | 0.043 U | 0.042 U | 0.042 U | 0.043 U | 0.038 U | 0.041 U | 0.038 U | 0.042 U | 0.044 U | 0.035 U | 0.036 U |
| PEST/PCB | AROCLOR-1260 | MG/KG | 0.04 U | 0.04 U | 0.041 U | 0.043 U | 0.041 U | 0.036 U | 0.039 U | 0.041 U | 0.04 U | 0.041 U | 0.037 U | 0.04 U | 0.043 U | 0.042 U | 0.042 U | 0.043 U | 0.038 U | 0.041 U | 0.038 U | 0.042 U | 3.9 | 0.093 J | 0.036 U |
| PEST/PCB | AROCLOR-1262 | MG/KG | 0.04 U | 0.04 U | 0.041 U | 0.043 U | 0.041 U | 0.036 U | 0.039 U | 0.041 U | 0.04 U | 0.041 U | 0.037 U | 0.04 U | 0.043 U | 0.042 U | 0.042 U | 0.043 U | 0.038 U | 0.041 U | 0.038 U | 0.042 U | 0.044 U | 0.035 U | 0.036 U |
| PEST/PCB | AROCLOR-1268 | MG/KG | 0.04 U | 0.04 U | 0.041 U | 0.043 U | 0.041 U | 0.036 U | 0.039 U | 0.041 U | 0.04 U | 0.041 U | 0.037 U | 0.04 U | 0.043 U | 0.042 U | 0.042 U | 0.043 U | 0.038 U | 0.041 U | 0.038 U | 0.042 U | 0.044 U | 0.035 U | 0.036 U |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | ERTSB-003 | ERTSB-003 | ERTSB-003 | ERTSB-003 | ERTSB-003 | ERTSB-004 | ERTSB-004 | ERTSB-004 | ERTSB-004 | ERTSB-004 | ERTSB-005 | ERTSB-005 | ERTSB-005 | ERTSB-005 | ERTSB-005 | ERTSB-006 | ERTSB-006 | ERTSB-006 | ERTSB-006 | ERTSB-006 | ERTSB-007 | ERTSB-007 | ERTSB-007 |
| | | Field Sample ID | 0-316-0016 | 0-316-0017 | 0-316-0018 | 0-316-0019 | 0-316-0020 | 0-316-0022 | 0-316-0023 | 0-316-0024 | 0-316-0025 | 0-316-0026 | 0-316-0028 | 0-316-0029 | 0-316-0030 | 0-316-0031 | 0-316-0032 | 0-316-0034 | 0-316-0035 | 0-316-0036 | 0-316-0037 | 0-316-0038 | 0-316-0040 | 0-316-0041 | 0-316-0042 |
| | | Sample Date | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 |
| | | Depth (ft) | 4-6 | 4-6 | 6-8 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.017 J | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.083 J | 0.18 U | 0.18 U |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 0.41 U | 0.4 U | 0.4 U | 0.43 U | 0.41 U | 0.36 UJ | 0.39 UJ | 0.41 U | 0.4 U | 0.41 U | | 0.4 U | 0.43 U | 0.42 U | 0.41 U | | 0.38 U | 0.41 U | 0.38 U | 0.42 U | | | 0.35 U |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 1.1 U | 0.18 U | 0.18 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.071 J | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.21 J | 0.18 U | 0.18 U |
| SVOC | 2-METHYLPHENOL | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | 2-NITROANILINE | MG/KG | 0.41 U | 0.4 U | 0.4 U | 0.43 U | 0.41 U | 0.36 U | 0.39 U | 0.41 U | 0.4 U | 0.41 U | 0.37 U | 0.4 U | 0.43 U | 0.42 U | 0.41 U | 0.43 U | 0.38 U | 0.41 U | 0.38 U | 0.42 U | 0.44 U | 0.35 U | 0.35 U |
| SVOC | 2-NITROPHENOL | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | | 0.18 U | 0.18 U |
| SVOC | 3-NITROANILINE | MG/KG | 0.41 U | 0.4 U | 0.4 U | 0.43 U | 0.41 U | 0.36 U | 0.39 U | 0.41 U | 0.4 U | 0.41 U | 0.37 U | 0.4 U | 0.43 U | 0.42 U | 0.41 U | 0.43 U | 0.38 U | 0.41 U | 0.38 U | 0.42 U | 9.1 | 0.35 U | 0.35 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 0.41 U | 0.4 U | 0.4 U | 0.43 U | 0.41 U | 0.36 U | 0.39 UJ | 0.41 U | 0.4 U | 0.41 U | | 0.4 U | 0.43 U | 0.42 U | 0.41 U | | 0.38 U | 0.41 U | 0.38 U | 0.42 U | | | 0.35 U |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | 4-CHLOROANILINE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | 4-METHYLPHENOL | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 5.3 J | 0.18 U | 0.18 U |
| SVOC | 4-NITROANILINE | MG/KG | 0.41 U | 0.4 U | 0.4 U | 0.43 U | 0.41 U | 0.36 U | 0.39 U | 0.41 U | 0.4 U | 0.41 U | 0.37 U | 0.4 U | 0.43 U | 0.42 U | 0.41 U | 0.43 U | 0.38 U | 0.41 U | 0.38 U | 0.42 U | 9.3 | 0.35 U | 0.35 U |
| SVOC | 4-NITROPHENOL | MG/KG | 0.41 U | 0.4 U | 0.4 U | 0.43 U | 0.41 U | 0.36 U | 0.39 U | 0.41 U | 0.4 U | 0.41 U | 0.37 U | 0.4 U | 0.43 U | 0.42 U | 0.41 U | 0.43 U | 0.38 U | 0.41 U | 0.38 U | 0.42 U | 0.44 U | 0.35 U | 0.35 U |
| SVOC | ACENAPHTHENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.15 J | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.025 J | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.025 J | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 1.1 | 0.18 U | 0.18 U |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 3.8 | 0.18 U | 0.18 U |
| SVOC | ACETOPHENONE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.021 J | 0.18 U | 0.18 U |
| SVOC | ANTHRACENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.14 J | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.033 J | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.027 J | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 2.2 | 0.18 U | 0.18 U |
| SVOC | ATRAZINE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | BENZALDEHYDE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.24 | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.13 J | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.069 J | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 3.9 | 0.029 J | 0.18 U |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.22 | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.15 J | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.078 J | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 3.5 J | 0.027 J | 0.18 U |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.42 | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.28 | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.16 J | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 5.3 J | 0.042 J | 0.18 U |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.036 J | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.019 J | 0.21 U | 0.22 U | 0.22 U | 0.21 U | | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.7 J | | 0.18 U |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.14 J | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.092 J | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.05 J | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 2.1 J | 0.016 J | 0.18 U |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | | 0.18 U | 0.18 U |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.11 J | 0.18 U | 0.18 U |
| SVOC | CAPROLACTAM | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | CARBAZOLE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.1 J | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.032 J | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 1.1 | 0.18 U | 0.18 U |
| SVOC | CHRYSENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.32 | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.2 | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.13 J | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 3.8 | 0.032 J | 0.18 U |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.022 J | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.017 J | 0.21 U | 0.22 U | 0.22 U | 0.21 U | | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 8.3 | | 0.18 U |
| SVOC | DIBENZOFURAN | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.11 J | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.017 J | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.7 | 0.18 U | 0.18 U |
| SVOC | DIETHYLPHTHALATE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 UJ | 0.21 U | 0.22 U | 0.22 U | 0.21 U | | 0.2 U | 0.21 U | 0.2 U | 0.22 U | | | 0.18 U |
| SVOC | FLUORANTHENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 1 | 0.042 J | 0.21 U | 0.21 U | 0.21 U | 0.46 | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.25 | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 7.4 J | 0.066 J | 0.18 U |
| SVOC | FLUORENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.11 J | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.018 J | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 1 | 0.18 U | 0.18 U |
| SVOC | HEXACHLOROBENZENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 UJ | 0.2 UJ | 0.21 U | 0.21 U | 0.21 U | 0.19 UJ | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 UJ | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 UJ | 0.18 UJ | 0.18 U |
| SVOC | HEXACHLOROETHANE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.1 J | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.079 J | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.04 J | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 1.4 J | | 0.18 U |
| SVOC | ISOPHORONE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | NAPHTHALENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.017 J | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.49 | 0.18 U | 0.18 U |
| SVOC | NITROBENZENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | 0.41 U | 0.4 U | 0.4 U | 0.43 U | 0.41 U | 0.36 U | 0.39 U | 0.41 U | 0.4 U | 0.41 U | 0.37 U | 0.4 U | 0.43 U | 0.42 U | 0.41 U | 0.43 U | 0.38 U | 0.41 U | 0.38 U | 0.42 U | 0.44 U | 0.35 U | 0.35 U |
| SVOC | PHENANTHRENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 1.1 | 0.048 J | 0.21 U | 0.21 U | 0.21 U | 0.28 | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.17 J | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 7.3 | 0.054 J | 0.18 U |
| SVOC | PHENOL | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.22 U | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.18 U | 0.18 U |
| SVOC | PYRENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.21 U | 0.81 | 0.033 J | 0.21 U | 0.21 U | 0.21 U | 0.41 | 0.21 U | 0.22 U | 0.22 U | 0.21 U | 0.28 | 0.2 U | 0.21 U | 0.2 U | 0.22 U | 9.1 | 0.07 J | 0.18 U |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | ERTSB-003 | ERTSB-003 | ERTSB-003 | ERTSB-003 | ERTSB-003 | ERTSB-004 | ERTSB-004 | ERTSB-004 | ERTSB-004 | ERTSB-004 | ERTSB-005 | ERTSB-005 | ERTSB-005 | ERTSB-005 | ERTSB-005 | ERTSB-006 | ERTSB-006 | ERTSB-006 | ERTSB-006 | ERTSB-006 | ERTSB-007 | ERTSB-007 | ERTSB-007 |
| | | Field Sample ID | 0-316-0016 | 0-316-0017 | 0-316-0018 | 0-316-0019 | 0-316-0020 | 0-316-0022 | 0-316-0023 | 0-316-0024 | 0-316-0025 | 0-316-0026 | 0-316-0028 | 0-316-0029 | 0-316-0030 | 0-316-0031 | 0-316-0032 | 0-316-0034 | 0-316-0035 | 0-316-0036 | 0-316-0037 | 0-316-0038 | 0-316-0040 | 0-316-0041 | 0-316-0042 |
| | | Sample Date | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 |
| | | Depth (ft) | 4-6 | 4-6 | 6-8 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ACETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOFORM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CARBON DISULFIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CARBON TETRACHLORIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROFORM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ETHYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TETRACHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TOLUENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | ERTSB-007 | ERTSB-007 | ERTSB-007 | ERTSB-008 | ERTSB-008 | ERTSB-008 | ERTSB-008 | ERTSB-008 | ERTSB-008 | ERTSB-009 | ERTSB-009 | ERTSB-009 | ERTSB-009 | ERTSB-009 | ERTSB-010 | ERTSB-010 | ERTSB-010 | ERTSB-010 | ERTSB-010 | ERTSB-011 | ERTSB-011 | ERTSB-011 | ERTSB-011 |
| | | Field Sample ID | 0-316-0043 | 0-316-0044 | 0-316-0045 | 0-316-0048 | 0-316-0049 | 0-316-0050 | 0-316-0051 | 0-316-0052 | 0-316-0053 | 0-316-0055 | 0-316-0056 | 0-316-0057 | 0-316-0058 | 0-316-0059 | 0-316-0062 | 0-316-0063 | 0-316-0064 | 0-316-0065 | 0-316-0066 | 0-316-0068 | 0-316-0069 | 0-316-0070 | 0-316-0071 |
| | | Sample Date | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 |
| | | Depth (ft) | 6-8 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | 2910 | 1920 | 1980 | 1860 | 2990 | 2680 | | 3600 | 1930 | 2600 | 2820 | 3720 | 3370 | 3220 | 2740 | 2470 | 2310 | 2200 | 2240 | 1960 | 2710 | 6280 | 2910 |
| METALS | ANTIMONY | MG/KG | 1.2 UJ | 1.2 U | 1.3 U | 1.1 U | 5.6 U | 5.7 U | | 6.6 U | 5.9 U | 5.4 U | 5.6 U | 5.8 U | 6.6 U | 6.5 U | 1.1 U | 1.1 U | 1.1 U | 1.2 U | 1.3 U | 1 U | 1.1 U | 1.1 U | 1.1 U |
| METALS | ARSENIC | MG/KG | 3.5 J | 3.3 | 4.1 | 6.1 | 7.5 | 2.9 U | | 3.3 U | 3 U | 26.7 | 10.9 | 3 | 24 | 5.8 | 11.9 | 9.4 | 3.3 | 6.5 | 0.86 | 2.4 | 3.4 | 4.5 | 2.9 |
| METALS | BARIUM | MG/KG | 9.7 | 10.7 | 11.4 | 68.1 | 173 | 38.7 | | 32.8 U | 29.7 U | 706 | 34.7 | 28.9 U | 32.9 U | 32.3 U | 319 | 111 | 27.8 | 15 | 15.1 | 52.7 | 780 | 311 | 991 |
| METALS | BERYLLIUM | MG/KG | 0.62 U | 0.62 U | 0.65 U | 0.53 U | 2.8 U | 2.9 U | | 3.3 U | 3 U | 2.7 U | 2.8 U | 2.9 U | 3.3 U | 3.2 U | 0.55 U | 0.55 U | 0.57 U | 0.58 U | 0.65 U | 0.52 U | 0.55 U | 0.55 U | 0.55 U |
| METALS | CADMIUM | MG/KG | 0.62 U | 0.62 U | 0.65 U | 0.045 J | 2.8 U | 2.9 U | | 3.3 U | 3 U | 0.16 J | 2.8 U | 2.9 U | 3.3 U | 3.2 U | 0.55 U | 0.55 U | 0.57 U | 0.58 U | 0.65 U | 0.52 U | 0.55 U | 0.55 U | 1.2 |
| METALS | CALCIUM | MG/KG | 575 U | 511 U | 520 U | 18000 | 5520 | 2050 | | 514 U | 527 U | 9210 | 1410 | 541 U | 483 U | 611 U | 913 | 801 | 493 U | 512 U | 452 U | 43900 | 3290 | 43000 | 5860 |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 11.4 | 11.2 | 18.3 | 12.2 | 47.3 | 17 | | 20.4 | 11.3 | 33.5 | 15.7 | 11.7 | 13 | 34.7 | 23 | 20.9 | 9.1 | 22.4 | 15 | 7.8 | 62.9 | 84 | 83 |
| METALS | COBALT | MG/KG | 0.62 U | 0.62 U | 0.65 U | 3.4 | 2.8 U | 2.9 U | | 3.3 U | 3 U | 2.7 U | 2.8 U | 2.9 U | 3.3 U | 3.2 U | 1.6 | 1.3 | 0.57 U | 0.58 U | 0.65 U | 3.3 | 1.4 | 2.6 | 1.2 |
| METALS | COPPER | MG/KG | 1.9 | 1.7 | 3.5 | 10.4 | 12.3 | 4.6 J | | 2 J | 1.3 J | 13.5 | 5.6 U | 5.8 U | 6.6 U | 6.5 U | 12.9 | 12.5 | 1.7 | 2.5 | 2.8 | 9.1 | 10.9 | 11.9 | 11.8 |
| METALS | CYANIDE | MG/KG | 0.08 J | 0.077 J | 0.66 U | 0.12 J | 0.51 J | 0.44 J | | 0.12 J | 0.059 J | 0.75 | 0.81 | 0.061 J | 2.6 | 0.21 J | 0.45 J | 0.23 J | 0.29 J | 0.17 J | 0.057 J | 0.091 J | 7.2 | 3.9 | 7.6 |
| METALS | IRON | MG/KG | 8490 | 8090 | 8550 | 3830 | 11100 | 6500 | | 6360 | 5570 | 6150 | 4460 | 874 | 1730 | 4270 | 5770 | 5020 | 4690 | 10200 | 2930 | 4800 | 5290 | 9000 | 5600 |
| METALS | LEAD | MG/KG | 3.5 | 3.7 | 4.1 | 83.2 | 136 | 23.5 | | 4.2 | 3.2 | 363 | 25.6 | 4.4 | 3.8 | 3.3 | 153 | 129 | 17.1 | 4.4 | 4.9 | 60.9 | 609 | 362 | 1330 |
| METALS | MAGNESIUM | MG/KG | 575 U | 511 U | 520 U | 10200 | 1230 | 251 J | | 140 J | 96.8 J | 3890 | 274 J | 143 J | 181 J | 138 J | 471 | 266 J | 80.8 J | 73.7 J | 117 J | 24800 | 367 J | 2780 | 897 |
| METALS | MANGANESE | MG/KG | 11.3 | 13.8 | 16.5 | 46 | 507 | 24 | | 19.8 | 14.7 | 76.3 | 16 | 19.8 | 13.9 | 13.8 | 24.3 | 30.8 | 12 | 13 | 13.7 | 151 | 33.5 | 162 | 29.6 |
| METALS | MERCURY | MG/KG | 0.005 J | 0.13 U | 0.13 U | 0.16 | 0.16 | 0.038 J | | 0.034 J | 0.0077 J | 0.14 | 0.086 J | 0.012 J | 0.028 J | 0.012 J | 0.11 | 0.1 J | 0.023 J | 0.036 J | 0.018 J | 0.32 | 0.62 | 0.21 | 0.91 |
| METALS | NICKEL | MG/KG | 0.58 J | 0.72 | 2.5 | 3.2 | 4.5 | 1.9 J | | 0.73 J | 0.45 J | 5.2 | 1.2 J | 0.71 J | 0.83 J | 0.66 J | 2.4 | 2.2 | 1.3 | 1 | 0.94 | 3.7 | 2.1 | 6.4 | 3.8 |
| METALS | POTASSIUM | MG/KG | 575 U | 511 U | 520 U | 482 U | 398 U | 542 U | | 514 U | 527 U | 510 U | 414 U | 541 U | 483 U | 611 U | 444 U | 427 U | 493 U | 512 U | 452 U | 487 U | 472 U | 451 | 403 U |
| METALS | SELENIUM | MG/KG | 0.59 J | 0.35 J | 0.89 J | 0.29 J | 0.52 J | 14.3 U | | 0.51 J | 14.8 U | 13.6 U | 13.9 U | 14.4 U | 16.4 U | 16.2 U | 0.2 J | 0.7 J | 0.6 J | 0.65 J | 0.87 J | 0.18 J | 0.39 J | 0.48 J | 0.58 J |
| METALS | SILVER | MG/KG | 0.62 U | 0.62 U | 0.65 U | 0.53 U | 2.8 U | 2.9 U | | 3.3 U | 3 U | 2.7 U | 2.8 U | 2.9 U | 3.3 U | 3.2 U | 0.55 U | 0.55 U | 0.57 U | 0.58 U | 0.65 U | 0.52 U | 0.55 U | 0.55 U | 0.55 U |
| METALS | SODIUM | MG/KG | 575 U | 511 U | 520 U | 482 U | 213 J | 242 J | | 250 J | 86.9 J | 326 J | 336 J | 360 J | 288 J | 442 J | 444 U | 427 U | 493 U | 512 U | 529 | 685 | 472 U | 662 | 403 U |
| METALS | THALLIUM | MG/KG | 0.62 U | 0.62 U | 0.65 U | 0.53 U | 2.8 U | 2.9 U | | 3.3 U | 3 U | 2.7 U | 2.8 U | 2.9 U | 3.3 U | 3.2 U | 0.55 U | 0.55 U | 0.57 U | 0.58 U | 0.65 U | 0.52 U | 0.55 U | 0.55 U | 0.55 U |
| METALS | VANADIUM | MG/KG | 9.8 | 9.6 | 12.8 | 12.8 | 17.6 | 8.9 J | | 9.2 J | 11.2 J | 12.7 J | 9.9 J | 11.7 J | 11.4 J | 5.6 J | 6.3 | 7.8 | 5.7 | 14.5 | 14.4 | 6.4 | 0.43 J | 1.2 J | 2.5 J |
| METALS | ZINC | MG/KG | 3.5 | 3.7 | 4.9 | 61.7 | 109 | 36.8 | | 7.6 | 5.2 J | 162 | 18.9 | 3.9 J | 10.5 | 14.1 | 68.8 | 61.7 | 13.4 | 6.3 | 5.9 | 44.7 | 199 | 84.5 | 298 |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | 0.036 U | 0.04 U | 0.042 U | 0.036 U | 0.37 U | 0.039 U | | 0.04 U | 0.037 U | 0.04 U | 0.04 U | 0.04 U | 0.042 U | 0.042 U | 0.075 U | 0.036 U | 0.037 U | 0.04 U | 0.041 U | 0.035 U | 0.036 U | 0.037 U | 0.037 U |
| PEST/PCB | AROCLOR-1221 | MG/KG | 0.036 U | 0.04 U | 0.042 U | 0.036 U | 0.37 U | 0.039 U | | 0.04 U | 0.037 U | 0.04 U | 0.04 U | 0.04 U | 0.042 U | 0.042 U | 0.075 U | 0.036 U | 0.037 U | 0.04 U | 0.041 U | 0.035 U | 0.036 U | 0.037 U | 0.037 U |
| PEST/PCB | AROCLOR-1232 | MG/KG | 0.036 U | 0.04 U | 0.042 U | 0.036 U | 0.37 U | 0.039 U | | 0.04 U | 0.037 U | 0.04 U | 0.04 U | 0.04 U | 0.042 U | 0.042 U | 0.075 U | 0.036 U | 0.037 U | 0.04 U | 0.041 U | 0.035 U | 0.036 U | 0.037 U | 0.037 U |
| PEST/PCB | AROCLOR-1242 | MG/KG | 0.036 U | 0.04 U | 0.042 U | 0.036 U | 0.37 U | 0.039 U | | 0.04 U | 0.037 U | 0.04 U | 0.04 U | 0.04 U | 0.042 U | 0.042 U | 0.075 U | 0.036 U | 0.037 U | 0.04 U | 0.041 U | 0.035 U | 0.036 U | 0.037 U | 0.037 U |
| PEST/PCB | AROCLOR-1248 | MG/KG | 0.036 U | 0.04 U | 0.042 U | 0.036 U | 0.37 U | 0.039 U | | 0.04 U | 0.037 U | 0.04 U | 0.04 U | 0.04 U | 0.042 U | 0.042 U | 0.075 U | 0.036 U | 0.037 U | 0.04 U | 0.041 U | 0.035 U | 0.036 U | 0.037 U | 0.037 U |
| PEST/PCB | AROCLOR-1254 | MG/KG | 0.036 U | 0.04 U | 0.042 U | 0.036 U | 0.37 U | 0.039 U | | 0.04 U | 0.037 U | 0.04 U | 0.04 U | 0.04 U | 0.042 U | 0.042 U | 0.075 U | 0.036 U | 0.037 U | 0.04 U | 0.041 U | 0.035 U | 0.036 U | 0.037 U | 0.037 U |
| PEST/PCB | AROCLOR-1260 | MG/KG | 0.036 U | 0.04 U | 0.042 U | 0.76 J | 4.9 J | 2.9 | | 0.04 U | 0.037 U | 0.51 J | 0.04 U | 0.04 U | 0.042 U | 0.042 U | 7.4 J | 5.2 J | 0.3 J | 0.04 U | 0.041 U | 0.72 J | 3.6 | 1.5 J | 4.8 J |
| PEST/PCB | AROCLOR-1262 | MG/KG | 0.036 U | 0.04 U | 0.042 U | 0.036 U | 0.37 U | 0.039 U | | 0.04 U | 0.037 U | 0.04 U | 0.04 U | 0.04 U | 0.042 U | 0.042 U | 0.075 U | 0.036 U | 0.037 U | 0.04 U | 0.041 U | 0.035 U | 0.036 U | 0.037 U | 0.037 U |
| PEST/PCB | AROCLOR-1268 | MG/KG | 0.036 U | 0.04 U | 0.042 U | 0.036 U | 0.37 U | 0.039 U | | 0.04 U | 0.037 U | 0.04 U | 0.04 U | 0.04 U | 0.042 U | 0.042 U | 0.075 U | 0.036 U | 0.037 U | 0.04 U | 0.041 U | 0.035 U | 0.036 U | 0.037 U | 0.037 U |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | ERTSB-007 | ERTSB-007 | ERTSB-007 | ERTSB-008 | ERTSB-008 | ERTSB-008 | ERTSB-008 | ERTSB-008 | ERTSB-008 | ERTSB-009 | ERTSB-009 | ERTSB-009 | ERTSB-009 | ERTSB-009 | ERTSB-010 | ERTSB-010 | ERTSB-010 | ERTSB-010 | ERTSB-010 | ERTSB-011 | ERTSB-011 | ERTSB-011 | ERTSB-011 |
| | | Field Sample ID | 0-316-0043 | 0-316-0044 | 0-316-0045 | 0-316-0048 | 0-316-0049 | 0-316-0050 | 0-316-0051 | 0-316-0052 | 0-316-0053 | 0-316-0055 | 0-316-0056 | 0-316-0057 | 0-316-0058 | 0-316-0059 | 0-316-0062 | 0-316-0063 | 0-316-0064 | 0-316-0065 | 0-316-0066 | 0-316-0068 | 0-316-0069 | 0-316-0070 | 0-316-0071 |
| | | Sample Date | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 |
| | | Depth (ft) | 6-8 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 2 J | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 1.1 | 2.3 | 0.19 UJ | 0.19 U |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 0.36 U | 0.4 U | 0.42 U | | 22 U | 0.39 UJ | | 0.4 U | 0.37 U | 0.4 UJ | 0.4 UJ | 0.4 U | 0.42 U | 0.42 U | 0.37 UJ | 0.36 UJ | 0.37 UJ | 0.4 U | 0.41 U | 0.35 UJ | 0.36 UJ | 0.37 UJ | 0.37 UJ |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 5.8 J | 0.17 J | | 0.2 U | 0.19 U | 0.029 J | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | 2-METHYLPHENOL | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | 2-NITROANILINE | MG/KG | 0.36 U | 0.4 U | 0.42 U | 0.36 U | 22 U | 0.39 U | | 0.4 U | 0.37 U | 0.4 UJ | 0.4 U | 0.4 U | 0.42 U | 0.42 U | 0.37 U | 0.36 UJ | 0.37 U | 0.4 U | 0.41 U | 0.35 U | 0.36 U | 0.37 U | 0.37 U |
| SVOC | 2-NITROPHENOL | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | 3-NITROANILINE | MG/KG | 0.36 U | 0.4 U | 0.42 U | 0.36 U | 22 U | 0.39 U | | 0.4 U | 0.37 U | 0.4 UJ | 0.4 U | 0.4 U | 0.42 U | 0.42 U | 0.37 U | 0.36 UJ | 0.37 U | 0.4 U | 0.41 U | 0.35 U | 0.36 U | 0.37 U | 0.37 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 0.36 U | 0.4 U | 0.42 U | | 22 U | 0.39 UJ | | 0.4 U | 0.37 U | 0.4 UJ | 0.4 UJ | 0.4 U | 0.42 U | 0.42 U | 0.37 UJ | 0.36 UJ | 0.37 UJ | 0.4 U | 0.41 U | 0.35 UJ | 0.36 UJ | 0.37 UJ | 0.37 UJ |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | 4-CHLOROANILINE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | 4-METHYLPHENOL | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | 4-NITROANILINE | MG/KG | 0.36 U | 0.4 U | 0.42 U | 0.36 U | 22 U | 0.39 U | | 0.4 U | 0.37 U | 0.4 UJ | 0.4 U | 0.4 U | 0.42 U | 0.42 U | 0.37 U | 0.36 UJ | 0.37 U | 0.4 U | 0.41 U | 0.35 U | 0.36 U | 0.37 U | 0.37 U |
| SVOC | 4-NITROPHENOL | MG/KG | 0.36 U | 0.4 U | 0.42 U | 0.36 U | 22 U | 0.39 U | | 0.4 U | 0.37 U | 0.4 UJ | 0.4 U | 0.4 U | 0.42 U | 0.42 U | 0.37 U | 0.36 UJ | 0.37 U | 0.4 U | 0.41 U | 0.35 U | 0.36 U | 0.37 U | 0.37 U |
| SVOC | ACENAPHTHENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.016 J | 28 | 0.03 J | | 0.2 U | 0.19 U | 0.17 J | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.032 J | 0.027 J | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.022 J | 0.19 U | 0.19 U |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.066 J | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.038 J | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.041 J | 0.19 U | 0.046 J |
| SVOC | ACETOPHENONE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | ANTHRACENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.037 J | 54 | 0.076 J | | 0.2 U | 0.19 U | 0.25 | 0.023 J | 0.21 U | 0.22 U | 0.22 U | 0.12 J | 0.074 J | 0.19 U | 0.21 U | 0.21 U | 0.016 J | 0.086 J | 0.031 J | 0.044 J |
| SVOC | ATRAZINE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | BENZALDEHYDE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.24 | 62 | 0.12 J | | 0.2 U | 0.19 U | 0.89 | 0.068 J | 0.21 U | 0.22 U | 0.22 U | 0.51 | 0.27 | 0.034 J | 0.21 U | 0.21 U | 0.11 J | 0.29 | 0.13 J | 0.28 |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.28 J | 54 | 0.11 J | | 0.2 U | 0.19 U | 0.92 | 0.061 J | 0.21 U | 0.22 U | 0.22 U | 0.34 | 0.18 J | 0.029 J | 0.21 U | 0.21 U | 0.11 J | 0.18 J | 0.13 J | 0.31 |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.54 J | 65 | 0.13 J | | 0.2 U | 0.19 U | 1.4 | 0.098 J | 0.21 U | 0.22 U | 0.22 U | 0.74 | 0.38 | 0.046 J | 0.21 U | 0.21 U | 0.23 | 0.36 | 0.19 J | 0.4 |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.059 J | 20 | 0.025 J | | 0.2 U | 0.19 U | 0.23 | 0.21 UJ | 0.21 U | 0.22 U | 0.22 U | 0.12 J | 0.05 J | 0.19 U | 0.21 U | 0.21 U | 0.018 J | 0.041 J | 0.017 J | 0.072 J |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.19 J | 24 | 0.048 J | | 0.2 U | 0.19 U | 0.53 | 0.029 J | 0.21 U | 0.22 U | 0.22 U | 0.24 | 0.15 J | 0.19 U | 0.21 U | 0.21 U | 0.083 J | 0.13 J | 0.058 J | 0.13 J |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 UJ | 0.19 U |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.035 J | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.064 J | 0.068 J | 0.021 J | 0.21 U | 0.21 U | 0.18 U | 0.033 J | 0.3 J | 0.071 J |
| SVOC | CAPROLACTAM | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 UJ | 0.19 U |
| SVOC | CARBAZOLE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.058 J | 31 | 0.064 J | | 0.2 U | 0.19 U | 0.049 J | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.048 J | 0.039 J | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.022 J | 0.19 U | 0.19 U |
| SVOC | CHRYSENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.37 | 55 | 0.14 J | | 0.2 U | 0.19 U | 0.94 | 0.087 J | 0.21 U | 0.22 U | 0.22 U | 0.55 | 0.29 | 0.038 J | 0.21 U | 0.21 U | 0.15 J | 0.29 | 0.15 J | 0.28 |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.031 J | 7.9 J | 0.2 U | | 0.2 U | 0.19 U | 0.091 J | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.064 J | 0.034 J | 0.19 U | 0.21 U | 0.21 U | 0.016 J | 0.041 J | 0.19 U | 0.041 J |
| SVOC | DIBENZOFURAN | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 19 | 0.018 J | | 0.2 U | 0.19 U | 0.061 J | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.019 J | 0.017 J | 0.19 U | 0.21 U | 0.21 U | 0.025 J | 0.076 J | 0.19 U | 0.19 U |
| SVOC | DIETHYLPHTHALATE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 UJ | 0.19 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.5 J | 0.19 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.034 J | 0.04 J | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 UJ | 0.19 U |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 0.19 U | 0.21 U | 0.21 U | | 11 U | 0.2 UJ | | 0.2 U | 0.19 U | 0.21 U | 0.21 UJ | 0.21 U | 0.22 U | 0.22 U | 0.19 UJ | 0.19 UJ | 0.19 U | 0.21 U | 0.21 U | 0.18 UJ | 0.19 U | 0.19 UJ | 0.19 U |
| SVOC | FLUORANTHENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.71 | 150 | 0.25 | | 0.2 U | 0.19 U | 1.6 | 0.15 J | 0.21 U | 0.22 U | 0.22 U | 1 | 0.54 | 0.079 J | 0.21 U | 0.21 U | 0.26 | 0.6 | 0.29 | 0.46 |
| SVOC | FLUORENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 28 | 0.036 J | | 0.2 U | 0.19 U | 0.093 J | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.034 J | 0.024 J | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.071 J | 0.19 U | 0.19 U |
| SVOC | HEXACHLOROBENZENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 UJ | | 0.2 U | 0.19 U | 0.21 UJ | 0.21 UJ | 0.21 U | 0.22 U | 0.22 U | 0.19 UJ | 0.19 UJ | 0.19 UJ | 0.21 U | 0.21 U | 0.18 UJ | 0.19 UJ | 0.19 UJ | 0.19 UJ |
| SVOC | HEXACHLOROETHANE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.13 J | 33 | 0.038 J | | 0.2 U | 0.19 U | 0.37 | 0.033 J | 0.21 U | 0.22 U | 0.22 U | 0.26 | 0.14 J | 0.025 J | 0.21 U | 0.21 U | 0.066 J | 0.17 J | 0.065 J | 0.18 J |
| SVOC | ISOPHORONE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | NAPHTHALENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 23 | 0.099 J | | 0.2 U | 0.19 U | 0.084 J | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.019 J | 0.019 J | 0.19 U |
| SVOC | NITROBENZENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | 0.36 U | 0.4 U | 0.42 U | 0.36 | 22 U | 0.39 U | | 0.4 U | 0.37 U | 0.4 U | 0.4 U | 0.4 U | 0.42 U | 0.42 U | 0.37 U | 0.36 U | 0.37 U | 0.4 U | 0.41 U | 0.35 U | 0.36 U | 0.37 U | 0.37 U |
| SVOC | PHENANTHRENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.34 | 170 | 0.25 | | 0.2 U | 0.19 U | 0.92 | 0.11 J | 0.21 U | 0.22 U | 0.22 U | 0.46 | 0.31 | 0.042 J | 0.21 U | 0.21 U | 0.076 J | 0.34 | 0.13 J | 0.12 J |
| SVOC | PHENOL | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 11 U | 0.2 U | | 0.2 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.02 J | 0.034 J | 0.19 U |
| SVOC | PYRENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.83 | 110 | 0.21 | | 0.2 U | 0.19 U | 1.7 | 0.12 J | 0.021 J | 0.22 U | 0.22 U | 0.8 | 0.43 | 0.069 J | 0.21 U | 0.21 U | 0.23 | 0.52 | 0.26 | 0.49 |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | ERTSB-007 | ERTSB-007 | ERTSB-007 | ERTSB-008 | ERTSB-008 | ERTSB-008 | ERTSB-008 | ERTSB-008 | ERTSB-008 | ERTSB-009 | ERTSB-009 | ERTSB-009 | ERTSB-009 | ERTSB-009 | ERTSB-010 | ERTSB-010 | ERTSB-010 | ERTSB-010 | ERTSB-010 | ERTSB-011 | ERTSB-011 | ERTSB-011 | ERTSB-011 |
| | | Field Sample ID | 0-316-0043 | 0-316-0044 | 0-316-0045 | 0-316-0048 | 0-316-0049 | 0-316-0050 | 0-316-0051 | 0-316-0052 | 0-316-0053 | 0-316-0055 | 0-316-0056 | 0-316-0057 | 0-316-0058 | 0-316-0059 | 0-316-0062 | 0-316-0063 | 0-316-0064 | 0-316-0065 | 0-316-0066 | 0-316-0068 | 0-316-0069 | 0-316-0070 | 0-316-0071 |
| | | Sample Date | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/23/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 |
| | | Depth (ft) | 6-8 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | | | | 2.9 U | 1.2 U | 1.2 U | 0.011 U | 0.01 U | 0.0099 U | | | | | | | | | | | | | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | | | | 2.9 U | 1.2 U | 1.2 U | 0.011 U | 0.01 U | 0.0099 U | | | | | | | | | | | | | |
| VOC | ACETONE | MG/KG | | | | | 2.9 U | 1.2 U | 1.2 U | 0.011 U | 0.01 U | 0.043 | | | | | | | | | | | | | |
| VOC | BENZENE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.0013 J | | | | | | | | | | | | | |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | BROMOFORM | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | BROMOMETHANE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | CARBON DISULFIDE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | CARBON TETRACHLORIDE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | CHLOROBENZENE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | CHLOROETHANE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | CHLOROFORM | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | CHLOROMETHANE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | CYCLOHEXANE | MG/KG | | | | | 0.19 J | 0.049 J | 0.046 J | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | ETHYLBENZENE | MG/KG | | | | | 1.5 | 0.45 J | 0.38 J | 0.00051 J | 0.0051 U | 0.0059 | | | | | | | | | | | | | |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | 0.66 J | 0.12 J | 0.096 J | 0.0053 U | 0.0051 U | 0.0041 J | | | | | | | | | | | | | |
| VOC | METHYL ACETATE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | | | | | 2.9 U | 1.2 U | 1.2 U | 0.011 U | 0.01 U | 0.0099 U | | | | | | | | | | | | | |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | 4.8 | 0.62 | 0.53 J | 0.0053 U | 0.0051 U | 0.017 | | | | | | | | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | TETRACHLOROETHENE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | TOLUENE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | | | | 1.4 U | 0.59 U | 0.6 U | 0.0053 U | 0.0051 U | 0.005 U | | | | | | | | | | | | | |
| VOC | XYLENE, O- | MG/KG | | | | | 0.065 J | 0.071 J | 0.054 J | 0.0053 U | 0.0051 U | 0.0062 | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | | | | | 3.565 J | 3.771 J | 3.354 J | 0.0036 J | 0.00016 J | 0.0131 | | | | | | | | | | | | | |
| VOC | XYLENES, M & P | MG/KG | | | | | 3.5 | 3.7 | 3.3 | 0.0036 J | 0.00016 J | 0.0069 | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | ERTSB-011 | ERTSB-012 | ERTSB-012 | ERTSB-012 | ERTSB-012 | ERTSB-012 | ERTSB-012 | ERTSB-013 | ERTSB-013 | ERTSB-013 | ERTSB-013 | ERTSB-013 | ERTSB-014 | ERTSB-014 | ERTSB-014 | ERTSB-014 | ERTSB-014 | ERTSB-015 | ERTSB-015 | ERTSB-015 | ERTSB-015 | ERTSB-015 | ERTSB-016 |
| | | Field Sample ID | 0-316-0072 | 0-316-0077 | 0-316-0078 | 0-316-0079 | 0-316-0080 | 0-316-0081 | 0-316-0082 | 0-316-0084 | 0-316-0085 | 0-316-0086 | 0-316-0087 | 0-316-0088 | 0-316-0090 | 0-316-0091 | 0-316-0092 | 0-316-0093 | 0-316-0094 | 0-316-0096 | 0-316-0097 | 0-316-0098 | 0-316-0099 | 0-316-0100 | 0-316-0102 |
| | | Sample Date | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 |
| | | Depth (ft) | 8-10 | 0-2 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | 2310 | 2980 | 2700 | 2950 | 2080 | 1080 | 3690 | 3480 | 1460 | 1990 | 2050 | 3570 | 2550 | 2010 | 3170 | 1880 | 718 | 1000 | 2450 | 2970 | 2630 | 2060 | 1750 |
| METALS | ANTIMONY | MG/KG | 1.2 U | 1.2 UJ | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.3 U | 1.1 U | 1.1 U | 1.1 U | 1.2 U | 1.2 U | 1.3 U | 1.1 U | 1.2 U | 1.2 U | 1.2 U | 1.3 U | 1.3 U | 1.3 U | 1.3 U | 1.2 U | 5.5 U |
| METALS | ARSENIC | MG/KG | 1 | 24.3 | 26.5 | 33.6 | 1 | 13 | 9.7 | 6.4 | 5 | 5.2 | 5.3 | 2.9 | 68.7 | 200 | 78.5 | 33.3 | 14.9 | 7.9 | 2 | 2.3 | 2.2 | 0.89 | 8 |
| METALS | BARIUM | MG/KG | 137 | 260 | 286 | 540 | 191 | 300 | 272 | 27.6 | 30.7 | 45.6 | 30.9 | 10.5 | 115 | 148 | 96.4 | 22.6 | 15.5 | 11.4 | 9.1 | 9 | 8.5 | 8.4 | 113 |
| METALS | BERYLLIUM | MG/KG | 0.61 U | 0.58 U | 0.56 U | 0.54 U | 0.55 U | 0.56 U | 0.65 U | 0.56 U | 0.57 U | 0.57 U | 0.6 U | 0.61 U | 0.65 U | 0.54 U | 0.58 U | 0.59 U | 0.58 U | 0.63 U | 0.64 U | 0.65 U | 0.63 U | 0.62 U | 2.7 U |
| METALS | CADMIUM | MG/KG | 0.61 U | 0.58 U | 0.63 | 0.54 U | 0.55 U | 1.2 | 0.65 U | 0.56 U | 0.57 U | 0.57 U | 0.6 U | 0.61 U | 0.65 U | 0.54 U | 0.58 U | 0.59 U | 0.58 U | 0.63 U | 0.64 U | 0.65 U | 0.63 U | 0.62 U | 2.7 U |
| METALS | CALCIUM | MG/KG | 1620 | 1750 | 1530 | 2480 | 483 U | 564 U | 606 U | 650 | 403 U | 3450 | 420 U | 482 U | 699 | 477 | 43700 | 4640 | 799 | 1160 | 523 U | 620 U | 544 U | 450 U | 2250 |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 24.4 | 28.2 | 26.6 | 74.1 | 12.1 | 51.5 | 56.9 | 11 | 6.9 | 9.3 | 10.2 | 16.7 | 13.1 | 13.4 | 18.4 | 9.7 | 9 | 9.3 | 14 | 13.9 | 13 | 9.9 | 13.5 |
| METALS | COBALT | MG/KG | 0.61 U | 1.8 | 1.8 | 1.9 | 0.79 | 2.9 | 5.6 | 0.96 | 0.6 | 0.92 | 0.85 | 0.61 U | 1.2 | 1.1 | 4.5 | 1.8 | 0.92 | 0.63 U | 0.64 U | 0.65 U | 0.63 U | 0.62 U | 2.7 U |
| METALS | COPPER | MG/KG | 2.3 | 15.4 | 20.9 | 28.5 | 4.9 | 7.2 | 37.9 | 7 | 9.4 | 10.8 | 5.5 | 2.5 | 64.9 | 208 | 53 | 9.6 | 5.7 | 4.2 | 2.2 | 2.8 | 2.2 | 1.5 | 7 |
| METALS | CYANIDE | MG/KG | 1.2 | 0.5 J | 0.65 | 4.7 | 0.61 | 3 | 0.6 J | 0.094 J | 0.12 J | 0.15 J | 0.1 J | 0.63 U | 0.1 J | 0.28 J | 0.12 J | 0.6 U | 0.56 U | 7.2 | 0.17 J | 0.39 J | 0.69 | 0.3 J | 13.4 |
| METALS | IRON | MG/KG | 2730 | 8430 J | 6840 | 4980 | 3910 | 3320 | 8250 | 6190 | 4200 | 3900 | 2780 | 9140 | 7490 | 5360 | 7400 | 2400 | 803 | 3650 | 8020 | 9210 | 8730 | 4690 | 4080 |
| METALS | LEAD | MG/KG | 129 | 289 | 298 | 538 | 231 | 1110 | 726 | 46.8 | 45.7 | 64.4 | 32.8 | 4.3 | 164 | 279 | 98 | 21.9 | 8.2 | 7.7 | 3.6 | 3.5 | 3.3 | 3.3 | 72.2 |
| METALS | MAGNESIUM | MG/KG | 239 J | 645 | 718 | 397 J | 123 J | 71.2 J | 83.8 J | 270 J | 403 U | 1720 | 420 U | 482 U | 477 U | 379 U | 25000 | 2690 | 454 | 524 U | 523 U | 620 U | 544 U | 450 U | 496 U |
| METALS | MANGANESE | MG/KG | 13.6 | 38.1 | 35.6 | 30.4 | 44.5 | 18.1 | 16.7 | 38.1 | 13.4 | 9.4 | 18.7 | 12.8 | 37.8 | 23.2 | 132 | 22.9 | 8.2 | 11.7 | 13.3 | 17.2 | 11.7 | 15.3 | 19.1 |
| METALS | MERCURY | MG/KG | 0.096 J | 0.14 | 0.13 | 0.28 | 0.047 J | 0.35 | 0.82 | 0.036 J | 0.024 J | 0.044 J | 0.032 J | 0.021 J | 0.098 J | 0.077 J | 0.08 J | 0.0099 J | 0.12 U | 0.068 J | 0.048 J | 0.011 J | 0.0071 J | 0.0029 J | 0.15 |
| METALS | NICKEL | MG/KG | 1.2 | 4.2 | 5 | 2.6 | 2.8 | 7.9 | 12.3 | 2.7 | 1.8 | 2.6 | 4.1 | 0.81 | 3.5 | 4.6 | 12.2 | 3.3 | 2.3 | 0.47 J | 0.74 | 0.92 | 0.66 | 0.62 | 1.1 J |
| METALS | POTASSIUM | MG/KG | 577 U | 468 | 562 U | 490 U | 483 U | 564 U | 606 U | 423 U | 403 U | 409 U | 420 U | 482 U | 477 U | 379 U | 559 U | 511 U | 440 U | 524 U | 523 U | 620 U | 544 U | 450 U | 496 U |
| METALS | SELENIUM | MG/KG | 0.41 J | 0.55 J | 0.88 J | 0.42 J | 0.26 J | 0.35 J | 1 J | 0.35 J | 2.8 U | 2.9 U | 3 U | 3 U | 3.2 U | 2.7 U | 2.9 U | 2.9 U | 2.9 U | 3.1 U | 3.2 U | 3.3 U | 3.1 U | 3.1 U | 13.7 U |
| METALS | SILVER | MG/KG | 0.61 U | 0.58 U | 0.56 U | 0.54 U | 0.55 U | 0.56 U | 0.65 U | 0.56 U | 0.57 U | 0.57 U | 0.6 U | 0.61 U | 0.032 J | 0.034 J | 0.038 J | 0.023 J | 0.014 J | 0.039 J | 0.1 J | 0.11 J | 0.11 J | 0.089 J | 0.041 J |
| METALS | SODIUM | MG/KG | 577 U | 448 U | 562 U | 490 U | 483 U | 564 U | 606 U | 423 U | 403 U | 409 U | 420 U | 482 U | 477 U | 379 U | 559 U | 511 U | 440 U | 524 U | 523 U | 620 U | 544 U | 450 U | 496 U |
| METALS | THALLIUM | MG/KG | 0.61 U | 0.58 U | 0.56 U | 0.54 U | 0.55 U | 0.56 U | 0.65 U | 0.56 U | 0.57 U | 0.57 U | 0.6 U | 0.61 U | 0.65 U | 0.54 U | 0.58 U | 0.59 U | 0.58 U | 0.63 U | 0.64 U | 0.65 U | 0.63 U | 0.62 U | 2.7 U |
| METALS | VANADIUM | MG/KG | 6.9 | 12 | 15.8 | 2.1 J | 4.7 | 2.8 U | 1.2 J | 9.8 | 4.3 | 6.2 | 23.7 | 17.8 | 8.2 | 7.4 | 44.1 | 9.7 | 1.5 J | 4.9 | 10.1 | 12 | 9.9 | 7.3 | 4.6 J |
| METALS | ZINC | MG/KG | 26 | 123 | 114 | 135 | 42.4 | 764 | 111 | 38.1 | 53.2 | 66.6 | 38 | 4.9 | 76 | 82.1 | 114 | 36.6 | 45.1 | 6.9 | 5 | 5 | 4.8 | 4.3 | 34.7 |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | 0.04 U | 0.19 U | 0.19 U | 1.8 U | 0.036 U | 0.04 U | 0.042 U | 0.039 U | 0.038 U | 0.038 U | 0.039 U | 0.042 U | 0.039 U | 0.036 U | 0.37 U | 0.38 U | 0.39 U | 0.042 U | 0.042 U | 0.04 U | 0.04 U | 0.041 U | 0.036 U |
| PEST/PCB | AROCLOR-1221 | MG/KG | 0.04 U | 0.19 U | 0.19 U | 1.8 U | 0.036 U | 0.04 U | 0.042 U | 0.039 U | 0.038 U | 0.038 U | 0.039 U | 0.042 U | 0.039 U | 0.036 U | 0.37 U | 0.38 U | 0.39 U | 0.042 U | 0.042 U | 0.04 U | 0.04 U | 0.041 U | 0.036 U |
| PEST/PCB | AROCLOR-1232 | MG/KG | 0.04 U | 0.19 U | 0.19 U | 1.8 U | 0.036 U | 0.04 U | 0.042 U | 0.039 U | 0.038 U | 0.038 U | 0.039 U | 0.042 U | 0.039 U | 0.036 U | 0.37 U | 0.38 U | 0.39 U | 0.042 U | 0.042 U | 0.04 U | 0.04 U | 0.041 U | 0.036 U |
| PEST/PCB | AROCLOR-1242 | MG/KG | 0.04 U | 0.19 U | 0.19 U | 1.8 U | 0.036 U | 0.04 U | 0.042 U | 0.039 U | 0.038 U | 0.038 U | 0.039 U | 0.042 U | 0.039 U | 0.036 U | 0.37 U | 0.38 U | 0.39 U | 0.042 U | 0.042 U | 0.04 U | 0.04 U | 0.041 U | 0.036 U |
| PEST/PCB | AROCLOR-1248 | MG/KG | 0.04 U | 0.19 U | 0.19 U | 1.8 U | 0.036 U | 0.04 U | 0.042 U | 0.039 U | 0.038 U | 0.038 U | 0.039 U | 0.042 U | 0.039 U | 0.036 U | 0.37 U | 0.38 U | 0.39 U | 0.042 U | 0.042 U | 0.04 U | 0.04 U | 0.041 U | 0.036 U |
| PEST/PCB | AROCLOR-1254 | MG/KG | 0.04 U | 0.19 U | 0.19 U | 1.8 U | 0.036 U | 0.04 U | 0.042 U | 0.039 U | 0.038 U | 0.038 U | 0.039 U | 0.042 U | 0.039 U | 0.036 U | 0.37 U | 0.38 U | 0.39 U | 0.042 U | 0.042 U | 0.04 U | 0.04 U | 0.041 U | 0.036 U |
| PEST/PCB | AROCLOR-1260 | MG/KG | 0.26 | 20 J | 18 | 160 J | 0.058 | 0.04 U | 0.073 J | 0.2 | 0.2 J | 0.37 J | 0.21 J | 0.042 U | 3 J | 4.3 J | 13 | 0.38 U | 0.39 U | 0.042 U | 0.042 U | 0.04 U | 0.04 U | 0.041 U | 0.036 U |
| PEST/PCB | AROCLOR-1262 | MG/KG | 0.04 U | 0.19 U | 0.19 U | 1.8 U | 0.036 U | 0.04 U | 0.042 U | 0.039 U | 0.038 U | 0.038 U | 0.039 U | 0.042 U | 0.039 U | 0.036 U | 0.37 U | 0.38 U | 0.39 U | 0.042 U | 0.042 U | 0.04 U | 0.04 U | 0.041 U | 0.036 U |
| PEST/PCB | AROCLOR-1268 | MG/KG | 0.04 U | 0.19 U | 0.19 U | 1.8 U | 0.036 U | 0.04 U | 0.042 U | 0.039 U | 0.038 U | 0.038 U | 0.039 U | 0.042 U | 0.039 U | 0.036 U | 0.37 U | 0.38 U | 0.39 U | 0.042 U | 0.042 U | 0.04 U | 0.04 U | 0.041 U | 0.036 U |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | ERTSB-011 | ERTSB-012 | ERTSB-012 | ERTSB-012 | ERTSB-012 | ERTSB-012 | ERTSB-012 | ERTSB-013 | ERTSB-013 | ERTSB-013 | ERTSB-013 | ERTSB-013 | ERTSB-014 | ERTSB-014 | ERTSB-014 | ERTSB-014 | ERTSB-014 | ERTSB-015 | ERTSB-015 | ERTSB-015 | ERTSB-015 | ERTSB-015 | ERTSB-016 |
| | | Field Sample ID | 0-316-0072 | 0-316-0077 | 0-316-0078 | 0-316-0079 | 0-316-0080 | 0-316-0081 | 0-316-0082 | 0-316-0084 | 0-316-0085 | 0-316-0086 | 0-316-0087 | 0-316-0088 | 0-316-0090 | 0-316-0091 | 0-316-0092 | 0-316-0093 | 0-316-0094 | 0-316-0096 | 0-316-0097 | 0-316-0098 | 0-316-0099 | 0-316-0100 | 0-316-0102 |
| | | Sample Date | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 |
| | | Depth (ft) | 8-10 | 0-2 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 0.06 J | 0.016 J | 0.017 J | 0.028 J | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.027 J | 0.023 J | 0.8 J | 14 | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | 0.21 U | 0.045 J | 0.035 J | 0.067 J | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 0.4 UJ | 0.38 UJ | 0.38 UJ | 0.36 UJ | 0.36 UJ | 0.41 UJ | 0.42 UJ | 0.39 UJ | 0.38 UJ | 0.38 UJ | 0.39 UJ | 0.42 U | 0.39 UJ | 0.36 UJ | 0.37 UJ | 3.8 UJ | 4 UJ | 0.42 UJ | 0.42 UJ | 0.4 U | 0.41 U | 0.42 U | 0.37 UJ |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.21 U | 0.019 J | 0.2 U | 0.024 J | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.019 J | 0.034 J | 0.023 J | 0.22 U | 0.027 J | 0.084 J | 0.071 J | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.019 J |
| SVOC | 2-METHYLPHENOL | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | 2-NITROANILINE | MG/KG | 0.4 U | 0.38 U | 0.38 U | 0.36 U | 0.36 U | 0.41 U | 0.42 U | 0.39 U | 0.38 U | 0.38 U | 0.39 U | 0.42 U | 0.39 U | 0.36 U | 0.37 U | 3.8 U | 4 U | 0.42 U | 0.42 U | 0.4 U | 0.41 U | 0.42 U | 0.37 U |
| SVOC | 2-NITROPHENOL | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | 3-NITROANILINE | MG/KG | 0.4 U | 0.38 U | 0.38 U | 0.36 U | 0.36 U | 0.41 U | 0.42 U | 0.39 U | 0.38 U | 0.38 U | 0.39 U | 0.42 U | 0.39 U | 0.36 U | 0.37 U | 3.8 U | 4 U | 0.42 U | 0.42 U | 0.4 U | 0.41 U | 0.42 U | 0.37 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 0.4 UJ | 0.38 UJ | 0.38 UJ | 0.36 UJ | 0.36 UJ | 0.41 UJ | 0.42 UJ | 0.39 UJ | 0.38 UJ | 0.38 UJ | 0.39 UJ | 0.42 U | 0.39 UJ | 0.36 UJ | 0.37 UJ | 3.8 UJ | 4 UJ | 0.42 UJ | 0.42 UJ | 0.4 U | 0.41 U | 0.42 U | 0.37 UJ |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | 4-CHLOROANILINE | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | 4-METHYLPHENOL | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | 4-NITROANILINE | MG/KG | 0.4 U | 0.38 U | 0.38 U | 0.36 U | 0.36 U | 0.41 U | 0.42 U | 0.39 U | 0.38 U | 0.38 U | 0.39 U | 0.42 U | 0.39 U | 0.36 U | 0.37 U | 3.8 U | 4 U | 0.42 U | 0.42 U | 0.4 U | 0.41 U | 0.42 U | 0.37 U |
| SVOC | 4-NITROPHENOL | MG/KG | 0.4 U | 0.38 U | 0.38 U | 0.36 U | 0.36 U | 0.41 U | 0.42 U | 0.39 U | 0.38 U | 0.38 U | 0.39 U | 0.42 U | 0.39 U | 0.36 U | 0.37 U | 3.8 U | 4 U | 0.42 U | 0.42 U | 0.4 U | 0.41 U | 0.42 U | 0.37 U |
| SVOC | ACENAPHTHENE | MG/KG | 0.21 U | 0.073 J | 0.068 J | 0.11 J | 0.19 U | 0.21 U | 0.21 U | 0.05 J | 0.077 J | 0.12 J | 0.089 J | 0.22 U | 0.14 J | 0.25 | 0.26 | 2 | 9.4 | 0.026 J | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.047 J |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.21 U | 0.041 J | 0.038 J | 0.032 J | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.028 J | 0.036 J | 0.035 J | 2.6 | 8.3 | 0.059 J | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.015 J |
| SVOC | ACETOPHENONE | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | ANTHRACENE | MG/KG | 0.21 U | 0.24 | 0.24 | 0.21 | 0.19 U | 0.21 U | 0.21 U | 0.15 J | 0.26 | 0.3 | 0.29 | 0.22 U | 0.46 | 0.68 | 0.77 | 3.6 | 25 | 0.14 J | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.12 J |
| SVOC | ATRAZINE | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | BENZALDEHYDE | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.019 J | 0.025 J | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.022 J | 0.21 U | 0.21 U | 0.19 U |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.049 J | 0.8 | 0.9 | 0.64 | 0.19 U | 0.21 U | 0.021 J | 0.48 | 0.65 | 0.82 | 0.7 | 0.22 U | 1.5 | 1.6 | 2.1 | 12 | 22 | 0.42 | 0.027 J | 0.21 U | 0.21 U | 0.21 U | 0.38 |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.052 J | 0.75 J | 0.64 J | 0.45 J | 0.19 U | 0.21 U | 0.02 J | 0.36 J | 0.36 | 0.73 | 0.6 | 0.22 U | 1 | 0.97 | 1.2 J | 16 | 18 | 0.27 | 0.027 J | 0.21 U | 0.21 U | 0.21 U | 0.33 |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 0.072 J | 1.3 J | 1.6 J | 1.1 J | 0.022 J | 0.21 U | 0.033 J | 0.85 J | 0.75 | 1 | 0.83 | 0.22 U | 2.3 | 2.1 | 2.8 J | 10 | 15 | 0.53 | 0.024 J | 0.21 U | 0.21 U | 0.21 U | 0.46 |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.21 U | 0.12 J | 0.18 J | 0.13 J | 0.19 U | 0.21 U | 0.21 U | 0.083 J | 0.18 J | 0.23 | 0.16 J | 0.22 U | 0.4 | 0.34 | 0.39 J | 6.2 | 7.1 | 0.064 J | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.061 J |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.025 J | 0.48 J | 0.51 J | 0.38 J | 0.19 U | 0.21 U | 0.21 U | 0.29 J | 0.27 | 0.33 | 0.29 | 0.22 U | 0.76 | 0.78 | 1.1 J | 2.1 | 3.2 | 0.18 J | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.17 J |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 0.21 U | 0.039 J | 0.038 J | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 0.018 J | 0.18 J | 0.44 | 0.036 J | 0.19 U | 0.21 U | 0.21 U | 0.064 J | 0.031 J | 0.038 J | 0.054 J | 0.22 U | 0.096 J | 0.047 J | 0.066 J | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | CAPROLACTAM | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | CARBAZOLE | MG/KG | 0.21 U | 0.14 J | 0.15 J | 0.13 J | 0.19 U | 0.21 U | 0.21 U | 0.092 J | 0.17 J | 0.22 | 0.18 J | 0.22 U | 0.31 | 0.39 | 0.4 | 2 U | 2 U | 0.074 J | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.07 J |
| SVOC | CHRYSENE | MG/KG | 0.053 J | 0.88 | 1 | 0.69 | 0.015 J | 0.21 U | 0.023 J | 0.56 | 0.66 | 0.82 | 0.72 | 0.22 U | 1.6 | 1.6 | 2 | 12 | 21 | 0.42 | 0.024 J | 0.21 U | 0.21 U | 0.21 U | 0.37 |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.21 U | 0.079 J | 0.089 J | 0.064 J | 0.19 U | 0.21 U | 0.21 U | 0.049 J | 0.087 J | 0.11 J | 0.087 J | 0.22 U | 0.18 J | 0.18 J | 0.19 J | 1.6 J | 2.1 | 0.06 J | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.056 J |
| SVOC | DIBENZOFURAN | MG/KG | 0.21 U | 0.054 J | 0.047 J | 0.06 J | 0.19 U | 0.21 U | 0.21 U | 0.029 J | 0.059 J | 0.09 J | 0.065 J | 0.22 U | 0.091 J | 0.22 | 0.21 | 2 U | 2 U | 0.023 J | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.039 J |
| SVOC | DIETHYLPHTHALATE | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 0.21 U | 0.1 J | 0.21 | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.016 J | 0.2 U | 0.027 J | 0.22 U | 0.2 U | 0.022 J | 0.028 J | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 0.21 U | | | | 0.19 U | 0.21 U | 0.21 U | | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 UJ |
| SVOC | FLUORANTHENE | MG/KG | 0.1 J | 1.6 | 2 | 1.3 | 0.026 J | 0.019 J | 0.045 J | 1.1 | 1.5 | 1.7 | 1.6 | 0.22 U | 3.4 | 3.6 | 4.6 | 12 | 27 | 0.86 | 0.04 J | 0.21 U | 0.21 U | 0.21 U | 0.72 |
| SVOC | FLUORENE | MG/KG | 0.21 U | 0.073 J | 0.072 J | 0.087 J | 0.19 U | 0.21 U | 0.21 U | 0.048 J | 0.078 J | 0.11 J | 0.093 J | 0.22 U | 0.13 J | 0.28 | 0.27 | 5.2 | 19 | 0.041 J | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.059 J |
| SVOC | HEXACHLOROBENZENE | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 0.21 UJ | 0.19 UJ | 0.2 UJ | 0.19 UJ | 0.19 UJ | 0.21 UJ | 0.21 UJ | 0.2 UJ | 0.2 UJ | 0.2 UJ | 0.2 UJ | 0.22 U | 0.2 UJ | 0.19 UJ | 0.19 UJ | 2 UJ | 2 UJ | 0.22 UJ | 0.22 UJ | 0.21 U | 0.21 U | 0.21 U | 0.19 UJ |
| SVOC | HEXACHLOROETHANE | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.026 J | 0.31 J | 0.36 J | 0.26 J | 0.19 U | 0.21 U | 0.21 U | 0.2 J | 0.34 | 0.44 | 0.34 | 0.22 U | 0.7 | 0.64 | 0.7 J | 5.3 | 6.2 | 0.21 J | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.22 |
| SVOC | ISOPHORONE | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | NAPHTHALENE | MG/KG | 0.21 U | 0.045 J | 0.028 J | 0.052 J | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.053 J | 0.092 J | 0.052 J | 0.22 U | 0.055 J | 0.21 | 0.15 J | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.052 J |
| SVOC | NITROBENZENE | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | 0.4 U | 0.38 U | 0.38 U | 0.36 U | 0.36 U | 0.41 U | 0.42 U | 0.39 U | 0.38 U | 0.38 U | 0.39 U | 0.42 U | 0.055 J | 0.36 U | 0.37 U | 3.8 U | 4 U | 0.42 U | 0.42 U | 0.4 U | 0.41 U | 0.42 U | 0.37 U |
| SVOC | PHENANTHRENE | MG/KG | 0.061 J | 0.98 | 1.1 | 0.86 | 0.19 U | 0.21 U | 0.021 J | 0.62 | 1.1 | 1.3 | 1.1 | 0.22 U | 2 | 2.8 | 3.5 | 6.3 | 67 | 0.63 | 0.034 J | 0.21 U | 0.21 U | 0.21 U | 0.54 |
| SVOC | PHENOL | MG/KG | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.19 U | 0.19 U | 2 U | 2 U | 0.22 U | 0.22 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U |
| SVOC | PYRENE | MG/KG | 0.087 J | 1.7 | 2.2 | 1.4 | 0.022 J | 0.21 U | 0.056 J | 1.1 | 1.1 | 1.5 | 1.2 | 0.22 U | 2.6 | 2.8 | 3.6 | 41 | 69 | 0.7 | 0.054 J | 0.21 U | 0.21 U | 0.21 U | 0.61 |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | ERTSB-011 | ERTSB-012 | ERTSB-012 | ERTSB-012 | ERTSB-012 | ERTSB-012 | ERTSB-012 | ERTSB-013 | ERTSB-013 | ERTSB-013 | ERTSB-013 | ERTSB-013 | ERTSB-014 | ERTSB-014 | ERTSB-014 | ERTSB-014 | ERTSB-014 | ERTSB-015 | ERTSB-015 | ERTSB-015 | ERTSB-015 | ERTSB-015 | ERTSB-016 |
| | | Field Sample ID | 0-316-0072 | 0-316-0077 | 0-316-0078 | 0-316-0079 | 0-316-0080 | 0-316-0081 | 0-316-0082 | 0-316-0084 | 0-316-0085 | 0-316-0086 | 0-316-0087 | 0-316-0088 | 0-316-0090 | 0-316-0091 | 0-316-0092 | 0-316-0093 | 0-316-0094 | 0-316-0096 | 0-316-0097 | 0-316-0098 | 0-316-0099 | 0-316-0100 | 0-316-0102 |
| | | Sample Date | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 |
| | | Depth (ft) | 8-10 | 0-2 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | | | | | | 0.97 U | | | | | | | | | 0.61 U | 0.6 U | | | | | | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | | | | | | 0.97 U | | | | | | | | | 0.61 U | 0.6 U | | | | | | |
| VOC | ACETONE | MG/KG | | | | | | | 0.97 U | | | | | | | | | 0.61 U | 0.6 U | | | | | | |
| VOC | BENZENE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | BROMOFORM | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | BROMOMETHANE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | CARBON DISULFIDE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | CARBON TETRACHLORIDE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | CHLOROBENZENE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | CHLOROETHANE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | CHLOROFORM | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | CHLOROMETHANE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | CYCLOHEXANE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | ETHYLBENZENE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | METHYL ACETATE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | | | | | | | 0.97 U | | | | | | | | | 0.61 U | 0.6 U | | | | | | |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.1 J | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | TETRACHLOROETHENE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | TOLUENE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | XYLENE, O- | MG/KG | | | | | | | 0.48 U | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | | | | | | | 0.026 J | | | | | | | | | 0.3 U | 0.3 U | | | | | | |
| VOC | XYLENES, M & P | MG/KG | | | | | | | 0.026 J | | | | | | | | | 0.3 U | 0.3 U | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | ERTSB-016 | ERTSB-016 | ERTSB-016 | ERTSB-016 | ERTSB-017 | ERTSB-017 | ERTSB-017 | ERTSB-017 | ERTSB-017 | ERTSB-018 | ERTSB-018 | ERTSB-018 | ERTSB-018 | ERTSB-018 | ERTSB-018 | ERTSB-018 | ERTSB-018 | ERTSB-019 | ERTSB-019 | ERTSB-019 | ERTSB-019 | ERTSB02 | ERTSB-020 |
| | | Field Sample ID | 0-316-0103 | 0-316-0104 | 0-316-0105 | 0-316-0106 | 0-316-0108 | 0-316-0109 | 0-316-0110 | 0-316-0111 | 0-316-0112 | 0-316-0115 | 0-316-0116 | 0-316-0117 | 0-316-0118 | 0-316-0119 | 0-316-0120 | 0-316-0121 | 0-316-0124 | 0-316-0123 | 0-316-0125 | 0-316-0126 | 0-316-0127 | ERTSB02E-SS-AQ-AU-0 | 0-316-0129 |
| | | Sample Date | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/23/2015 | 2/25/2015 |
| | | Depth (ft) | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 4-6 | 6-8 | 6-8 | 8-10 | 2-4 | 0-2 | 4-6 | 6-8 | 8-10 | 8-10 | 0-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | 1330 | 1950 | 2950 | 1910 | 4390 | 1060 | 2070 | 2300 | 1630 | 7070 | 3150 | 2580 | 2000 | 2630 | 1970 | 1600 | 3130 | 4590 | 6140 | 1550 | 2400 | 4550 | 2520 |
| METALS | ANTIMONY | MG/KG | 6 U | 6.3 U | 6.5 U | 6.1 U | 5.6 U | 5.9 U | 5.6 U | 5.9 U | 6 U | 5.3 U | 5.6 U | 6 UJ | 6 U | 6 UJ | 6 U | 6.3 U | 5.7 U | 5.3 U | 5.2 U | 5.3 U | 6.2 U | 5.5 UJ | 6.1 U |
| METALS | ARSENIC | MG/KG | 4.5 J | 2.5 J | 1.7 J | 1.3 J | 3 | 2.4 J | 1.1 J | 0.66 J | 0.63 J | 17.8 | 30.3 | 3.2 | 3.3 | 3 UJ | 1.9 J | 11.6 | 3.6 | 4.1 | 3.3 | 1.2 J | 1.8 J | 2.4 J | 5.8 |
| METALS | BARIUM | MG/KG | 47.7 | 41.8 | 9.1 J | 8.1 J | 2960 | 1960 | 388 | 16.7 J | 27.5 J | 1370 | 7620 | 621 | 501 | 47.8 J | 15.8 J | 15.3 J | 297 | 350 | 202 | 180 | 32.5 | 8.2 J | 309 |
| METALS | BERYLLIUM | MG/KG | 3 U | 3.1 U | 3.2 U | 3 U | 2.8 U | 5.9 U | 2.8 U | 2.9 U | 3 U | 2.6 U | 5.6 U | 3 U | 3 U | 3 U | 3 U | 3.1 U | 2.8 U | 2.7 U | 2.6 U | 2.7 U | 3.1 U | 0.024 J | 3.1 U |
| METALS | CADMIUM | MG/KG | 3 U | 3.1 U | 3.2 U | 3 U | 2.8 U | 0.085 J | 0.064 J | 2.9 U | 3 U | 1.7 J | 15.2 | 3 U | 2.6 J | 3 U | 3 U | 3.1 U | 2.8 U | 0.25 J | 2.6 U | 2.7 U | 3.1 U | 0.09 J | 3.1 U |
| METALS | CALCIUM | MG/KG | 582 U | 1790 | 502 U | 557 U | 12000 | 38500 | 505 U | 488 U | 465 U | 6230 | 4750 | 920 | 790 | 497 U | 471 U | 468 U | 1150 | 3160 | 979 | 615 | 534 U | 239 J | 57300 |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 10.6 J | 18.1 J | 16.6 | 11.7 | 78 | 8.7 | 23.8 | 5.9 U | 6 U | 70.9 | 85.8 | 13.3 | 13.5 | 13.4 | 12.7 | 9.8 | 19.8 | 23.6 | 16.2 | 8.1 | 10.1 | 16.4 | 12.6 |
| METALS | COBALT | MG/KG | 3 U | 3.1 U | 3.2 U | 3 U | 2.8 U | 2.9 U | 2.8 U | 2.9 U | 3 U | 5.5 | 2.8 U | 3 U | 3 U | 3 UJ | 3 U | 3.1 U | 2.8 U | 3.2 | 2.6 U | 2.7 U | 3.1 U | 0.2 J | 3.1 U |
| METALS | COPPER | MG/KG | 14.1 | 12.8 | 6.5 U | 6.1 U | 8.8 | 5.9 U | 5.6 U | 5.9 U | 6 U | 29 | 58.8 | 6.8 | 6.2 | 6 U | 6 U | 6.3 U | 8.9 | 15.8 | 7.6 | 5.4 | 6.2 U | 3.6 | 11.5 |
| METALS | CYANIDE | MG/KG | 5.7 | 5.3 | 0.81 | 0.53 | 11.5 | 14.4 | 9.4 | 0.42 U | 0.72 | 2.5 | 4.2 | 4.2 | 3.3 | 0.54 J | 0.44 U | 0.67 | 1.9 | 2.5 | 1 | 1.1 | 1.1 | 0.62 U | 1 |
| METALS | IRON | MG/KG | 3570 | 5100 | 7770 | 4290 | 8850 | 2230 | 2300 | 1900 | 1220 | 11600 | 8030 | 3050 | 2780 | 821 | 638 | 1520 | 9110 | 7680 | 7140 | 2200 | 3850 | 6330 | 5160 |
| METALS | LEAD | MG/KG | 24.7 | 18.6 | 3.3 | 3.5 | 731 | 208 | 286 | 3.5 | 11.2 | 1190 | 6080 | 208 | 193 | 10.9 J | 5.9 | 5 | 235 | 249 | 114 | 87.4 | 9.4 | 4.7 | 130 |
| METALS | MAGNESIUM | MG/KG | 582 U | 624 U | 502 U | 557 U | 1740 | 19800 | 607 | 488 U | 465 U | 3520 | 478 U | 505 U | 495 U | 497 U | 471 U | 468 U | 455 U | 1470 | 427 U | 454 U | 534 U | 195 J | 32000 |
| METALS | MANGANESE | MG/KG | 14.6 | 20.3 | 11.7 | 13.9 | 64.7 | 53.5 | 11.1 | 9.4 | 8.2 | 144 | 83.7 | 23.6 | 18.3 | 21.8 | 15.6 | 13.7 | 32.4 | 191 | 20.5 | 18.2 | 18.8 | 15.9 | 83.4 |
| METALS | MERCURY | MG/KG | 0.0066 J | 0.021 J | 0.0068 J | 0.12 U | 0.13 | 0.076 J | 0.01 J | 0.014 J | 0.0046 J | 0.25 | 1.4 | 0.031 J | 0.028 J | 0.021 J | 0.023 J | 0.025 J | 2.8 | 0.66 | 0.5 | 0.066 J | 0.014 J | 0.12 U | 0.1 J |
| METALS | NICKEL | MG/KG | 0.56 J | 1.2 J | 0.59 J | 0.54 J | 3.9 | 1.7 J | 1.3 J | 0.58 J | 0.44 J | 8.6 | 4.2 | 1.4 J | 1.1 J | 0.68 J | 0.52 J | 0.98 J | 22.3 | 7.3 | 9.4 | 0.78 J | 1.1 J | 0.92 J | 3.3 |
| METALS | POTASSIUM | MG/KG | 582 U | 624 U | 502 U | 557 U | 857 | 485 U | 505 U | 488 U | 465 U | 1550 | 478 U | 505 U | 495 U | 497 U | 471 U | 468 U | 455 U | 672 | 427 U | 454 U | 534 U | 399 J | 484 U |
| METALS | SELENIUM | MG/KG | 15.1 U | 15.7 U | 0.31 J | 15.2 U | 14 U | 14.7 U | 0.27 J | 14.7 U | 15 U | 13.2 U | 1.3 J | 0.24 J | 15 U | 15.1 UJ | 15 U | 15.7 U | 0.36 J | 0.23 J | 13.1 U | 13.3 U | 15.4 U | 3.2 U | 15.3 U |
| METALS | SILVER | MG/KG | 0.073 J | 0.067 J | 0.11 J | 0.12 J | 0.048 J | 0.025 J | 0.032 J | 0.047 J | 0.024 J | 0.1 J | 0.31 J | 3 U | 0.067 J | 3 U | 0.14 J | 0.1 J | 2.8 U | 0.064 J | 2.6 U | 2.7 U | 3.1 U | 0.91 U | 3.1 U |
| METALS | SODIUM | MG/KG | 582 U | 624 U | 502 U | 557 U | 485 U | 485 U | 505 U | 488 U | 465 U | 2110 | 478 U | 505 U | 495 U | 497 U | 471 U | 468 U | 455 U | 808 | 427 U | 454 U | 534 U | 457 U | 484 U |
| METALS | THALLIUM | MG/KG | 3 U | 3.1 U | 3.2 U | 3 U | 2.8 U | 2.9 U | 2.8 U | 2.9 U | 3 U | 2.6 U | 2.8 U | 3 U | 3 U | 3 U | 3 U | 3.1 U | 2.8 U | 2.7 U | 2.6 U | 2.7 U | 3.1 U | 2.3 U | 3.1 U |
| METALS | VANADIUM | MG/KG | 5.4 J | 6.1 J | 10.4 J | 9.8 J | 14 U | 3.4 J | 4.3 J | 6 J | 3.6 J | 18 | 0.4 J | 3.8 J | 3.7 J | 5.9 J | 5.7 J | 6.9 J | 8.7 J | 18.4 | 14 | 4 J | 7.4 J | 10.6 | 11.2 J |
| METALS | ZINC | MG/KG | 14.3 | 11.8 | 6.5 U | 6.1 U | 100 | 91.5 | 124 | 5.9 U | 8.2 | 794 | 4330 | 365 | 377 | 37.6 | 28 | 29.8 | 152 | 188 | 67.9 | 62.2 | 52.7 | 5.5 U | 73.8 |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | 0.041 U | 0.041 U | 0.041 U | 0.04 U | 0.037 U | 0.039 U | 0.038 U | 0.038 U | 0.039 U | 0.036 U | 0.038 U | 0.04 U | 0.04 U | 0.04 U | 0.04 U | 0.041 U | 0.036 U | 0.036 U | 0.036 U | 0.04 U | 0.039 U | 0.043 U | 0.035 U |
| PEST/PCB | AROCLOR-1221 | MG/KG | 0.041 U | 0.041 U | 0.041 U | 0.04 U | 0.037 U | 0.039 U | 0.038 U | 0.038 U | 0.039 U | 0.036 U | 0.038 U | 0.04 U | 0.04 U | 0.04 U | 0.04 U | 0.041 U | 0.036 U | 0.036 U | 0.036 U | 0.04 U | 0.039 U | 0.043 U | 0.035 U |
| PEST/PCB | AROCLOR-1232 | MG/KG | 0.041 U | 0.041 U | 0.041 U | 0.04 U | 0.037 U | 0.039 U | 0.038 U | 0.038 U | 0.039 U | 0.036 U | 0.038 U | 0.04 U | 0.04 U | 0.04 U | 0.04 U | 0.041 U | 0.036 U | 0.036 U | 0.036 U | 0.04 U | 0.039 U | 0.043 U | 0.035 U |
| PEST/PCB | AROCLOR-1242 | MG/KG | 0.041 U | 0.041 U | 0.041 U | 0.04 U | 0.037 U | 0.039 U | 0.038 U | 0.038 U | 0.039 U | 0.036 U | 0.038 U | 0.04 U | 0.04 U | 0.04 U | 0.04 U | 0.041 U | 0.036 U | 0.036 U | 0.036 U | 0.04 U | 0.039 U | 0.043 U | 0.035 U |
| PEST/PCB | AROCLOR-1248 | MG/KG | 0.041 U | 0.041 U | 0.041 U | 0.04 U | 0.037 U | 0.039 U | 0.038 U | 0.038 U | 0.039 U | 0.036 U | 0.038 U | 0.04 U | 0.04 U | 0.04 U | 0.04 U | 0.041 U | 0.036 U | 0.036 U | 0.036 U | 0.04 U | 0.039 U | 0.043 U | 0.035 U |
| PEST/PCB | AROCLOR-1254 | MG/KG | 0.041 U | 0.041 U | 0.041 U | 0.04 U | 0.037 U | 0.039 U | 0.038 U | 0.038 U | 0.039 U | 0.036 U | 0.038 U | 0.04 U | 0.04 U | 0.04 U | 0.04 U | 0.041 U | 0.036 U | 0.036 U | 0.036 U | 0.04 U | 0.039 U | 0.043 U | 0.035 U |
| PEST/PCB | AROCLOR-1260 | MG/KG | 0.041 U | 0.041 U | 0.041 U | 0.04 U | 0.037 U | 0.039 U | 0.038 U | 0.038 U | 0.039 U | 0.036 U | 0.038 U | 0.04 U | 0.04 U | 0.04 U | 0.04 U | 0.041 U | 0.77 | 0.35 | 0.2 | 0.04 U | 0.039 U | 0.043 U | 0.035 U |
| PEST/PCB | AROCLOR-1262 | MG/KG | 0.041 U | 0.041 U | 0.041 U | 0.04 U | 0.037 U | 0.039 U | 0.038 U | 0.038 U | 0.039 U | 0.036 U | 0.038 U | 0.04 U | 0.04 U | 0.04 U | 0.04 U | 0.041 U | 0.036 U | 0.036 U | 0.036 U | 0.04 U | 0.039 U | 0.043 U | 0.035 U |
| PEST/PCB | AROCLOR-1268 | MG/KG | 0.041 U | 0.041 U | 0.041 U | 0.04 U | 0.037 U | 0.039 U | 0.038 U | 0.038 U | 0.039 U | 0.036 U | 0.038 U | 0.04 U | 0.04 U | 0.04 U | 0.04 U | 0.041 U | 0.036 U | 0.036 U | 0.036 U | 0.04 U | 0.039 U | 0.043 U | 0.035 U |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | ERTSB-016 | ERTSB-016 | ERTSB-016 | ERTSB-016 | ERTSB-017 | ERTSB-017 | ERTSB-017 | ERTSB-017 | ERTSB-017 | ERTSB-018 | ERTSB-018 | ERTSB-018 | ERTSB-018 | ERTSB-018 | ERTSB-018 | ERTSB-018 | ERTSB-018 | ERTSB-019 | ERTSB-019 | ERTSB-019 | ERTSB-019 | ERTSB02 | ERTSB-020 |
| | | Field Sample ID | 0-316-0103 | 0-316-0104 | 0-316-0105 | 0-316-0106 | 0-316-0108 | 0-316-0109 | 0-316-0110 | 0-316-0111 | 0-316-0112 | 0-316-0115 | 0-316-0116 | 0-316-0117 | 0-316-0118 | 0-316-0119 | 0-316-0120 | 0-316-0121 | 0-316-0124 | 0-316-0123 | 0-316-0125 | 0-316-0126 | 0-316-0127 | ERTSB02E-SS-AQ-AU-0 | 0-316-0129 |
| | | Sample Date | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/23/2015 | 2/25/2015 |
| | | Depth (ft) | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 4-6 | 6-8 | 6-8 | 8-10 | 2-4 | 0-2 | 4-6 | 6-8 | 8-10 | 8-10 | 0-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 UJ | 0.19 U | 0.2 U | 0.2 U | 0.053 J | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 UJ | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 UJ | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 UJ | 0.19 U | 0.2 U | 0.2 U | 0.029 J | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 UJ | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 UJ | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 UJ | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 UJ | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 UJ | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 UJ | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 UJ | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 0.41 U | 0.41 U | 0.4 U | 0.4 U | 0.38 U | 0.39 UJ | 0.38 U | 0.38 U | 0.39 U | 0.71 UJ | 0.37 UJ | 0.4 U | 0.4 UJ | 0.4 U | 0.4 U | 0.41 U | 0.36 U | 0.36 UJ | 0.36 U | 0.4 U | 0.39 U | 0.42 U | 0.35 U |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.21 J | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | 2-METHYLPHENOL | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | 2-NITROANILINE | MG/KG | 0.41 U | 0.41 U | 0.4 U | 0.4 U | 0.38 U | 0.39 UJ | 0.38 U | 0.38 U | 0.39 U | 0.71 U | 0.37 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.41 U | 0.36 U | 0.36 U | 0.36 U | 0.4 U | 0.39 U | 0.42 U | 0.35 U |
| SVOC | 2-NITROPHENOL | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 UJ | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | 3-NITROANILINE | MG/KG | 0.41 U | 0.41 U | 0.4 U | 0.4 U | 0.38 U | 0.39 UJ | 0.38 U | 0.38 U | 0.39 U | 0.71 U | 0.37 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.41 U | 0.36 U | 0.36 U | 0.36 U | 0.4 U | 0.39 U | 0.42 U | 0.35 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 0.41 U | 0.41 U | 0.4 U | 0.4 U | 0.38 U | 0.39 U | 0.38 U | 0.38 U | 0.39 U | 0.71 UJ | 0.37 UJ | 0.4 U | 0.4 UJ | 0.4 U | 0.4 U | 0.41 U | 0.36 U | 0.36 UJ | 0.36 U | 0.4 U | 0.39 U | 0.42 U | 0.35 U |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 UJ | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 UJ | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | 4-CHLOROANILINE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | 4-METHYLPHENOL | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | 4-NITROANILINE | MG/KG | 0.41 U | 0.41 U | 0.4 U | 0.4 U | 0.38 U | 0.39 UJ | 0.38 U | 0.38 U | 0.39 U | 0.71 U | 0.37 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.41 U | 0.36 U | 0.36 U | 0.36 U | 0.4 U | 0.39 U | 0.42 U | 0.35 U |
| SVOC | 4-NITROPHENOL | MG/KG | 0.41 U | 0.41 U | 0.4 U | 0.4 U | 0.38 U | 0.39 UJ | 0.38 U | 0.38 U | 0.39 U | 0.71 U | 0.37 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.41 U | 0.36 U | 0.36 U | 0.36 U | 0.4 U | 0.39 U | 0.42 U | 0.35 U |
| SVOC | ACENAPHTHENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.15 J | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.031 J | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.079 J |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.57 | 0.19 U | 0.027 J | 0.019 J | 0.21 U | 0.21 U | 0.21 U | 0.023 J | 0.018 J | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.021 J |
| SVOC | ACETOPHENONE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | ANTHRACENE | MG/KG | 0.21 U | 0.025 J | 0.21 U | 0.21 U | 0.19 U | 0.02 J | 0.19 U | 0.2 U | 0.2 U | 0.93 | 0.019 J | 0.1 J | 0.026 J | 0.21 U | 0.21 U | 0.21 U | 0.059 J | 0.021 J | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.09 J |
| SVOC | ATRAZINE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | BENZALDEHYDE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.028 J | 0.095 J | 0.042 J | 0.21 U | 0.21 U | 0.21 U | 0.016 J | 0.19 U | 0.19 U | 0.035 J | 0.2 U | 0.21 U | 0.18 U |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.023 J | 0.084 J | 0.21 U | 0.21 U | 0.042 J | 0.09 J | 0.19 U | 0.2 U | 0.2 U | 2.3 | 0.075 J | 0.32 | 0.14 J | 0.21 U | 0.21 U | 0.21 U | 0.22 | 0.13 J | 0.049 J | 0.21 U | 0.035 J | 0.21 U | 0.38 |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.024 J | 0.073 J | 0.21 U | 0.21 U | 0.041 J | 0.078 J | 0.19 U | 0.2 U | 0.2 U | 2.7 J | 0.074 J | 0.24 | 0.14 J | 0.21 U | 0.21 U | 0.21 U | 0.22 | 0.14 J | 0.056 J | 0.21 U | 0.039 J | 0.0042 U | 0.35 |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 0.031 J | 0.1 J | 0.21 U | 0.21 U | 0.058 J | 0.11 J | 0.19 U | 0.2 U | 0.2 U | 4.1 J | 0.14 J | 0.36 | 0.24 | 0.02 J | 0.21 U | 0.21 U | 0.32 | 0.29 | 0.089 J | 0.21 U | 0.065 J | 0.21 UJ | 0.55 |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.88 J | 0.018 J | 0.054 J | 0.027 J | 0.21 U | 0.21 U | 0.21 U | 0.063 J | 0.033 J | 0.19 U | 0.21 U | 0.2 U | 0.21 UJ | 0.11 J |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.21 U | 0.033 J | 0.21 U | 0.21 U | 0.02 J | 0.037 J | 0.19 U | 0.2 U | 0.2 U | 1.5 J | 0.045 J | 0.12 J | 0.082 J | 0.21 U | 0.21 U | 0.21 U | 0.12 J | 0.1 J | 0.033 J | 0.21 U | 0.024 J | 0.21 U | 0.22 |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 UJ | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 UJ | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 UJ | 0.21 UJ | 0.2 U | 0.21 U | 0.18 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 UJ | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.02 J | 0.2 U | 0.29 | 0.21 U | 0.21 U | 0.13 J | 0.19 U | 0.018 J | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | CAPROLACTAM | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 UJ | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | CARBAZOLE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.29 J | 0.19 U | 0.024 J | 0.033 J | 0.21 U | 0.21 U | 0.21 U | 0.033 J | 0.021 J | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.071 J |
| SVOC | CHRYSENE | MG/KG | 0.023 J | 0.078 J | 0.21 U | 0.21 U | 0.047 J | 0.091 J | 0.19 U | 0.2 U | 0.2 U | 2.6 | 0.1 J | 0.31 | 0.19 J | 0.017 J | 0.21 U | 0.21 U | 0.24 | 0.18 J | 0.068 J | 0.21 U | 0.053 J | 0.21 U | 0.41 |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.28 J | 0.19 U | 0.039 J | 0.021 J | 0.21 U | 0.21 U | 0.21 U | 0.034 J | 0.023 J | 0.19 U | 0.21 U | 0.2 U | 0.0042 U | 0.048 J |
| SVOC | DIBENZOFURAN | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.29 J | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.022 J |
| SVOC | DIETHYLPHTHALATE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 UJ | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.014 J | 0.18 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.43 J | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 UJ | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 UJ | 0.19 U | 0.2 U | 0.2 U | | 0.19 UJ | 0.2 U | 0.21 UJ | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 UJ | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | FLUORANTHENE | MG/KG | 0.038 J | 0.16 J | 0.21 U | 0.02 J | 0.088 J | 0.18 J | 0.19 U | 0.2 U | 0.2 U | 5.1 | 0.15 J | 0.67 | 0.43 | 0.034 J | 0.018 J | 0.21 U | 0.5 | 0.33 | 0.14 J | 0.21 U | 0.098 J | 0.21 U | 0.82 |
| SVOC | FLUORENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.39 | 0.19 U | 0.02 J | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.022 J | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.03 J |
| SVOC | HEXACHLOROBENZENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 UJ | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 UJ | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.37 UJ | 0.19 UJ | 0.2 U | 0.21 UJ | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 UJ | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | HEXACHLOROETHANE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.017 J | 0.051 J | 0.21 U | 0.21 U | 0.026 J | 0.05 J | 0.19 U | 0.2 U | 0.2 U | 1.2 J | 0.054 J | 0.14 J | 0.09 J | 0.21 U | 0.21 U | 0.21 U | 0.14 J | 0.094 J | 0.041 J | 0.21 U | 0.032 J | 0.21 UJ | 0.2 |
| SVOC | ISOPHORONE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 UJ | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 UJ | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 UJ | 0.21 UJ | 0.2 U | 0.21 U | 0.18 U |
| SVOC | NAPHTHALENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.37 J | 0.016 J | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.017 J |
| SVOC | NITROBENZENE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 UJ | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 UJ | 0.21 UJ | 0.2 U | 0.21 U | 0.18 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | 0.41 U | 0.41 U | 0.4 U | 0.4 U | 0.38 U | 0.39 UJ | 0.38 U | 0.38 U | 0.39 U | 0.71 U | 0.37 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.41 U | 0.36 U | 0.36 UJ | 0.36 U | 0.4 U | 0.39 U | 0.42 U | 0.35 U |
| SVOC | PHENANTHRENE | MG/KG | 0.019 J | 0.11 J | 0.21 U | 0.21 U | 0.051 J | 0.11 J | 0.19 U | 0.2 U | 0.2 U | 3.2 | 0.076 J | 0.38 | 0.23 | 0.21 U | 0.21 U | 0.21 U | 0.24 | 0.13 J | 0.048 J | 0.21 U | 0.042 J | 0.21 U | 0.48 |
| SVOC | PHENOL | MG/KG | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.2 U | 0.19 U | 0.2 U | 0.2 U | 0.37 U | 0.19 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.21 U | 0.18 U |
| SVOC | PYRENE | MG/KG | 0.037 J | 0.13 J | 0.21 U | 0.017 J | 0.067 J | 0.15 J | 0.19 U | 0.2 U | 0.2 U | 5.2 | 0.13 J | 0.49 | 0.36 | 0.031 J | 0.017 J | 0.21 U | 0.37 | 0.28 | 0.11 J | 0.21 U | 0.085 J | 0.21 U | 0.65 |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | ERTSB-016 | ERTSB-016 | ERTSB-016 | ERTSB-016 | ERTSB-017 | ERTSB-017 | ERTSB-017 | ERTSB-017 | ERTSB-017 | ERTSB-018 | ERTSB-018 | ERTSB-018 | ERTSB-018 | ERTSB-018 | ERTSB-018 | ERTSB-018 | ERTSB-018 | ERTSB-019 | ERTSB-019 | ERTSB-019 | ERTSB-019 | ERTSB02 | ERTSB-020 |
| | | Field Sample ID | 0-316-0103 | 0-316-0104 | 0-316-0105 | 0-316-0106 | 0-316-0108 | 0-316-0109 | 0-316-0110 | 0-316-0111 | 0-316-0112 | 0-316-0115 | 0-316-0116 | 0-316-0117 | 0-316-0118 | 0-316-0119 | 0-316-0120 | 0-316-0121 | 0-316-0124 | 0-316-0123 | 0-316-0125 | 0-316-0126 | 0-316-0127 | ERTSB02E-SS-AQ-AU-0 | 0-316-0129 |
| | | Sample Date | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/24/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/23/2015 | 2/25/2015 |
| | | Depth (ft) | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 4-6 | 6-8 | 6-8 | 8-10 | 2-4 | 0-2 | 4-6 | 6-8 | 8-10 | 8-10 | 0-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ACETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOFORM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CARBON DISULFIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CARBON TETRACHLORIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROFORM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ETHYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TETRACHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TOLUENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | ERTSB-020 | ERTSB-020 | ERTSB-020 | ERTSB-020 | ERTSB08 | ERTSB12 | FP168 | FP170 | FP171 | MPSB0001 | MPSB0001 | MPSB0002 | MPSB0002 | MPSB0004 | MPSB0004 | MPSB0004 | MPSB0005 | MPSB0005 | MPSB0009 | MPSB0009 | MPSB0009 | MPSB0010 | MPSB0010 |
| | | Field Sample ID | 0-316-0130 | 0-316-0131 | 0-316-0132 | 0-316-0133 | ERTSB08B-SS-AE-AI-0 | ERTSB12E-SS-AQ-AU-0 | SS-FP168-0-4 | SS-FP170-0-4 | SS-FP171-4-8 | MPSB0001-SS-AA-AB-0 | MPSB0001-SS-AD-AE-0 | MPSB0002-SS-AA-AB-0 | MPSB0002-SS-AD-AE-0 | MPSB0004-SS-AA-AB-0 | MPSB0004-SS-AD-AE-0 | MPSB0004-SS-AH-AI-0 | MPSB0005-SS-AA-AB-0 | MPSB0005-SS-AD-AE-0 | MPSB0009-SS-AA-AB-0 | MPSB0009-SS-AD-AE-0 | MPSB0009-SS-AR-AS-0 | MPSB0010-SS-AA-AB-0 | MPSB0010-SS-AD-AE-0 |
| | | Sample Date | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/23/2015 | 2/25/2015 | 12/13/2003 | 12/13/2003 | 12/13/2003 | 11/17/2009 | 11/17/2009 | 11/17/2009 | 11/17/2009 | 11/18/2009 | 11/18/2009 | 11/18/2009 | 11/19/2009 | 11/19/2009 | 11/30/2009 | 11/30/2009 | 11/30/2009 | 11/30/2009 | 11/30/2009 |
| | | Depth (ft) | 2-4 | 4-6 | 6-8 | 8-10 | 2-4 | 8-10 | 0-4 | 0-4 | 4-8 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 8.5-9 | 0-0.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | 1310 | 1130 | 2070 | 3740 | 4060 | 3930 | | | | 1450 J | | 2010 J | | 3010 | | 1920 | 5240 | | 2500 | | 2640 | 4580 | |
| METALS | ANTIMONY | MG/KG | 6.4 U | 6.2 U | 6.1 U | 6.5 U | 6.9 U | 5.1 UJ | | | | 0.89 J | | 5.3 UJ | | 5.8 UJ | | 3.9 J | 5.1 UJ | | 0.54 J | | 5.9 UJ | 5.5 UJ | |
| METALS | ARSENIC | MG/KG | 1.3 J | 0.42 J | 0.8 J | 0.85 J | 10.8 | 9 | | | | 3.3 | | 2 | | 7.8 | | 41 | 4.1 | | 3.1 | | 2.5 | 3.4 | |
| METALS | BARIUM | MG/KG | 37.2 | 31.2 U | 30.6 U | 34.8 | 115 | 413 J | | | | 200 J | | 15.6 J | | 16.4 J | | 495 J | 18 | | 51.1 | | 6.5 J | 20.4 | |
| METALS | BERYLLIUM | MG/KG | 3.2 U | 3.1 U | 3.1 U | 3.2 U | 0.11 J | 0.12 J | | | | 0.4 U | | 0.083 J | | 0.11 J | | 0.12 J | 0.16 J | | 0.47 U | | 0.49 U | 0.085 J | |
| METALS | CADMIUM | MG/KG | 3.2 U | 3.1 U | 3.1 U | 3.2 U | 0.46 J | 0.35 J | | | | 0.26 J | | 0.2 J | | 0.16 J | | 1.4 | 0.058 J | | 0.1 J | | 0.49 U | 0.46 U | |
| METALS | CALCIUM | MG/KG | 2470 | 434 U | 481 U | 492 U | 4100 | 259 J | | | | | | | | 527 J | | 3160 J | 673 | | 6380 | | 188 J | 1030 | |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 6.4 U | 7.7 | 10.6 | 13.2 | 33.3 | 39.8 | | | | 9.7 J | | 7.6 J | | 10.8 J | | 40.3 J | 13.2 | | 11.5 | | 10.3 | 8 | |
| METALS | COBALT | MG/KG | 3.2 U | 3.1 U | 3.1 U | 3.2 U | 1.9 J | 4.5 | | | | 1.1 J | | 0.39 J | | 0.38 J | | 1.8 J | 0.57 J | | 1.9 J | | 4.9 U | 0.86 J | |
| METALS | COPPER | MG/KG | 6.4 U | 6.2 U | 6.1 U | 6.5 U | 14.7 | 22.3 | | | | 6.8 | | 13.2 | | 4.8 | | 68.5 | 5.7 | | 12.7 | | 2.1 J | 8.5 | |
| METALS | CYANIDE | MG/KG | 0.53 J | 0.76 | 1.2 | 0.35 J | 1.5 | 0.58 U | | | | 0.17 J | | 2.8 U | | 0.1 J | | 35.2 | 0.11 J | | 0.14 J | | 2.9 U | 2.6 U | |
| METALS | IRON | MG/KG | 2810 | 2910 | 5300 | 7560 | 12200 | 6680 J | | | | 5320 J | | 4780 J | | 3710 | | 5190 | 10700 | | 6210 | | 7180 | 6950 | |
| METALS | LEAD | MG/KG | 15.2 | 3.2 | 3.3 | 4.3 | 108 | 503 | | | | 400 | | 61.1 | | 25.9 | | 732 | 21.7 | | 67.8 | | 3.3 | 28.8 | |
| METALS | MAGNESIUM | MG/KG | 1080 | 434 U | 481 U | 492 U | 683 | 148 J | | | | 116 J | | 716 | | 229 J | | 711 | 296 J | | 2140 | | 62 J | 351 J | |
| METALS | MANGANESE | MG/KG | 17.1 | 14.4 | 18.9 | 17.7 | 97 | 16.3 J | | | | 27.8 J | | 29.3 J | | 14.2 J | | 22.7 J | 20.7 J | | 25.4 J | | 8.8 J | 35.2 J | |
| METALS | MERCURY | MG/KG | 0.1 J | 0.0077 J | 0.018 J | 0.13 U | 0.13 | 0.32 J | | | | 0.079 U | | 0.098 U | | 0.11 U | | 0.19 | 0.1 U | | 0.053 J | | 0.095 U | 0.056 J | |
| METALS | NICKEL | MG/KG | 0.97 J | 0.53 J | 0.55 J | 0.9 J | 5.3 | 9.8 J | | | | 0.9 J | | 0.92 J | | 1.3 J | | 2.7 J | 1.7 J | | 1.3 J | | 0.2 J | 1.9 J | |
| METALS | POTASSIUM | MG/KG | 498 U | 434 U | 481 U | 492 U | 317 J | 203 J | | | | 64.8 J | | 173 J | | 301 J | | 102 J | 298 J | | 278 J | | 208 J | 199 J | |
| METALS | SELENIUM | MG/KG | 0.31 J | 15.6 U | 0.43 J | 16.2 U | 4.1 U | 3 U | | | | 0.44 J | | 3.1 UJ | | 3.4 UJ | | 0.66 J | 3 U | | 3.3 U | | 3.4 U | 3.2 U | |
| METALS | SILVER | MG/KG | 3.2 U | 3.1 U | 3.1 U | 3.2 U | 1.2 U | 0.84 U | | | | 0.8 U | | 0.88 U | | 0.96 U | | 0.93 U | 0.85 U | | 0.95 U | | 0.98 U | 0.91 U | |
| METALS | SODIUM | MG/KG | 498 U | 434 U | 481 U | 492 U | 579 U | 422 U | | | | 19.4 J | | 441 U | | 10.7 J | | 15.5 J | 8 J | | 22.2 J | | 9.9 J | 18 J | |
| METALS | THALLIUM | MG/KG | 3.2 U | 3.1 U | 3.1 U | 3.2 U | 2.9 U | 2.1 U | | | | 2 U | | 2.2 U | | 2.4 U | | 2.3 U | 0.15 J | | 2.4 U | | 2.4 U | 2.3 U | |
| METALS | VANADIUM | MG/KG | 8.1 J | 6.9 J | 7.2 J | 11.3 J | 15.6 | 4.8 | | | | 5.8 | | 9.2 | | 7.1 | | 6.8 | 12.5 | | 8.5 | | 13.8 | 9.6 | |
| METALS | ZINC | MG/KG | 17.8 | 12.8 | 6.1 U | 6.5 U | 139 | 131 | | | | 104 J | | 28.4 J | | 19.3 | | 376 | 22.8 | | 43.8 | | 1.9 J | 19.5 | |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | 0.0019 J | | 0.0033 J | | 0.0044 | | 0.044 | 0.0038 U | | 0.002 J | | 0.0036 U | 0.026 | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | 0.022 | | 0.058 | | 0.076 | | 0.017 | 0.025 | | 0.003 J | | 0.0036 U | 0.094 | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | 0.044 | | 0.055 | | 0.12 | | 0.024 J | 0.028 | | 0.0036 | | 0.0036 U | 0.024 | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | 0.0018 U | | 0.002 U | | 0.0021 U | | 0.0019 U | 0.0019 U | | 0.0018 U | | 0.0019 U | 0.0018 U | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | 0.0018 U | | 0.002 U | | 0.0021 U | | 0.0019 U | 0.0019 U | | 0.0018 U | | 0.0019 U | 0.0018 U | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | 0.0018 U | | 0.002 U | | 0.0021 U | | 0.0019 U | 0.0019 U | | 0.0046 J | | 0.0019 U | 0.0018 U | |
| PEST/PCB | AROCLOR-1016 | MG/KG | 0.038 U | 0.041 U | 0.041 U | 0.041 U | 0.077 U | 0.042 U | | | | 0.036 U | | 0.038 U | | 0.04 U | | 0.037 U | 0.038 U | | 0.036 U | | 0.036 U | 0.035 U | |
| PEST/PCB | AROCLOR-1221 | MG/KG | 0.038 U | 0.041 U | 0.041 U | 0.041 U | 0.077 U | 0.042 U | | | | 0.036 U | | 0.038 U | | 0.04 U | | 0.037 U | 0.038 U | | 0.036 U | | 0.036 U | 0.035 U | |
| PEST/PCB | AROCLOR-1232 | MG/KG | 0.038 U | 0.041 U | 0.041 U | 0.041 U | 0.077 U | 0.042 U | | | | 0.036 U | | 0.038 U | | 0.04 U | | 0.037 U | 0.038 U | | 0.036 U | | 0.036 U | 0.035 U | |
| PEST/PCB | AROCLOR-1242 | MG/KG | 0.038 U | 0.041 U | 0.041 U | 0.041 U | 0.077 U | 0.042 U | | | | 0.036 U | | 0.038 U | | 0.04 U | | 0.037 U | 0.038 U | | 0.036 U | | 0.036 U | 0.035 U | |
| PEST/PCB | AROCLOR-1248 | MG/KG | 0.038 U | 0.041 U | 0.041 U | 0.041 U | 0.077 U | 0.042 U | | | | 0.036 U | | 0.038 U | | 0.04 U | | 0.037 U | 0.038 U | | 0.036 U | | 0.036 U | 0.035 U | |
| PEST/PCB | AROCLOR-1254 | MG/KG | 0.038 U | 0.041 U | 0.041 U | 0.041 U | 0.077 U | 0.042 U | | | | 0.036 U | | 0.038 U | | 0.04 U | | 0.037 U | 0.038 U | | 0.036 U | | 0.036 U | 0.035 U | |
| PEST/PCB | AROCLOR-1260 | MG/KG | 0.038 U | 0.041 U | 0.041 U | 0.041 U | 5.1 | 0.075 | | | | 0.036 U | | 0.038 U | | 0.04 U | | 0.037 U | 0.038 U | | 0.036 U | | 0.036 U | 0.035 U | |
| PEST/PCB | AROCLOR-1262 | MG/KG | 0.038 U | 0.041 U | 0.041 U | 0.041 U | 0.077 U | 0.042 U | | | | 0.036 U | | 0.038 U | | 0.04 U | | 0.037 U | 0.038 U | | 0.036 U | | 0.036 U | 0.035 U | |
| PEST/PCB | AROCLOR-1268 | MG/KG | 0.038 U | 0.041 U | 0.041 U | 0.041 U | 0.077 U | 0.042 U | | | | 0.036 U | | 0.038 U | | 0.04 U | | 0.037 U | 0.038 U | | 0.036 U | | 0.036 U | 0.035 U | |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | 0.0018 U | | 0.002 U | | 0.0021 U | | 0.0019 U | 0.0019 U | | 0.0018 U | | 0.0019 U | 0.0018 U | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | 0.0018 U | | 0.002 U | | 0.0021 U | | 0.0019 U | 0.0019 U | | 0.0018 U | | 0.0019 U | 0.0018 U | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | 0.0036 U | | 0.0038 U | | 0.004 U | | 0.0037 U | 0.0038 U | | 0.0036 U | | 0.0036 U | 0.0076 J | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | 0.0018 U | | 0.002 U | | 0.0021 U | | 0.0019 U | 0.0019 U | | 0.0018 U | | 0.0019 U | 0.0018 U | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | 0.0036 U | | 0.0038 U | | 0.004 U | | 0.0037 U | 0.0038 U | | 0.0036 U | | 0.0036 U | 0.0035 U | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | 0.0036 U | | 0.0038 U | | 0.004 U | | 0.0037 U | 0.0038 U | | 0.0036 U | | 0.0036 U | 0.0035 U | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | 0.0036 U | | 0.0038 U | | 0.004 U | | 0.0037 U | 0.0038 U | | 0.0036 U | | 0.0036 U | 0.0035 U | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | 0.0036 U | | 0.0038 U | | 0.004 U | | 0.0037 U | 0.0038 U | | 0.0036 U | | 0.0036 U | 0.0035 U | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | 0.0036 U | | 0.0038 U | | 0.004 U | | 0.0037 U | 0.0038 U | | 0.0036 U | | 0.0036 U | 0.0035 U | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | 0.0018 U | | 0.002 U | | 0.0021 U | | 0.0019 U | 0.0019 U | | 0.0018 U | | 0.0019 U | 0.0018 U | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | 0.0018 U | | 0.002 U | | 0.0021 U | | 0.0019 U | 0.0019 U | | 0.0048 | | 0.0019 U | 0.0018 U | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | 0.0018 U | | 0.002 U | | 0.0021 U | | 0.0019 U | 0.0019 U | | 0.001 J | | 0.0019 U | 0.0018 U | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | 0.0018 U | | 0.002 U | | 0.0021 U | | 0.0019 U | 0.0019 U | | 0.0018 U | | 0.0019 U | 0.0018 U | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | 0.018 U | | 0.02 U | | 0.021 U | | 0.019 U | 0.019 U | | 0.018 U | | 0.019 U | 0.018 U | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | 0.18 U | | 0.2 U | | 0.21 U | | 0.19 U | 0.19 U | | 0.18 U | | 0.19 U | 0.18 U | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | ERTSB-020 | ERTSB-020 | ERTSB-020 | ERTSB-020 | ERTSB08 | ERTSB12 | FP168 | FP170 | FP171 | MPSB0001 | MPSB0001 | MPSB0002 | MPSB0002 | MPSB0004 | MPSB0004 | MPSB0004 | MPSB0005 | MPSB0005 | MPSB0009 | MPSB0009 | MPSB0009 | MPSB0010 | MPSB0010 |
| | | Field Sample ID | 0-316-0130 | 0-316-0131 | 0-316-0132 | 0-316-0133 | ERTSB08B-SS-AE-AI-0 | ERTSB12E-SS-AQ-AU-0 | SS-FP168-0-4 | SS-FP170-0-4 | SS-FP171-4-8 | MPSB0001-SS-AA-AB-0 | MPSB0001-SS-AD-AE-0 | MPSB0002-SS-AA-AB-0 | MPSB0002-SS-AD-AE-0 | MPSB0004-SS-AA-AB-0 | MPSB0004-SS-AD-AE-0 | MPSB0004-SS-AH-AI-0 | MPSB0005-SS-AA-AB-0 | MPSB0005-SS-AD-AE-0 | MPSB0009-SS-AA-AB-0 | MPSB0009-SS-AD-AE-0 | MPSB0009-SS-AR-AS-0 | MPSB0010-SS-AA-AB-0 | MPSB0010-SS-AD-AE-0 |
| | | Sample Date | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/23/2015 | 2/25/2015 | 12/13/2003 | 12/13/2003 | 12/13/2003 | 11/17/2009 | 11/17/2009 | 11/17/2009 | 11/17/2009 | 11/18/2009 | 11/18/2009 | 11/18/2009 | 11/19/2009 | 11/19/2009 | 11/30/2009 | 11/30/2009 | 11/30/2009 | 11/30/2009 | 11/30/2009 |
| | | Depth (ft) | 2-4 | 4-6 | 6-8 | 8-10 | 2-4 | 8-10 | 0-4 | 0-4 | 4-8 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 8.5-9 | 0-0.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 1.6 J | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 | 0.19 U | |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 0.38 U | 0.4 U | 0.41 U | 0.41 U | 38 U | 0.41 U | | | | 0.36 U | | 0.38 U | | 0.39 U | | 0.37 U | 0.36 U | | 0.37 U | | 0.38 U | 0.36 U | |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | 2-CHLOROPHENOL | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 5.6 J | 0.21 U | | | | 0.055 J | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 1.3 | 0.19 U | |
| SVOC | 2-METHYLPHENOL | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | 2-NITROANILINE | MG/KG | 0.38 U | 0.4 U | 0.41 U | 0.41 U | 38 U | 0.41 U | | | | 0.36 U | | 0.38 U | | 0.39 U | | 0.37 U | 0.36 U | | 0.37 U | | 0.38 U | 0.36 U | |
| SVOC | 2-NITROPHENOL | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | 3-NITROANILINE | MG/KG | 0.38 U | 0.4 U | 0.41 U | 0.41 U | 38 U | 0.41 U | | | | 0.36 U | | 0.38 U | | 0.39 U | | 0.37 U | 0.36 U | | 0.37 U | | 0.38 U | 0.36 U | |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 0.38 U | 0.4 U | 0.41 U | 0.41 U | 38 U | 0.41 U | | | | 0.36 U | | 0.38 U | | 0.39 U | | 0.37 U | 0.36 U | | 0.37 U | | 0.38 U | 0.36 U | |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | 4-CHLOROANILINE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | 4-METHYLPHENOL | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | 4-NITROANILINE | MG/KG | 0.38 U | 0.4 U | 0.41 U | 0.41 U | 38 U | 0.41 U | | | | 0.36 U | | 0.38 U | | 0.39 U | | 0.37 U | 0.36 U | | 0.37 U | | 0.38 U | 0.36 U | |
| SVOC | 4-NITROPHENOL | MG/KG | 0.38 U | 0.4 U | 0.41 U | 0.41 U | 38 U | 0.41 U | | | | 0.36 U | | 0.38 U | | 0.39 U | | 0.37 U | 0.36 U | | 0.37 U | | 0.38 U | 0.36 U | |
| SVOC | ACENAPHTHENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 33 | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.027 J | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | ACETOPHENONE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.019 J | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | ANTHRACENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 67 | 0.0072 J | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.09 J | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | ATRAZINE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | BENZALDEHYDE | MG/KG | 0.19 U | 0.018 J | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 80 | 0.02 J | | | | 0.028 J | | 0.039 J | | 0.1 J | | 0.4 | 0.046 J | | 0.06 J | | 0.2 U | 0.19 U | |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.015 J | 0.21 U | 0.21 U | 0.21 U | 69 | 0.029 J | | | | 0.034 J | | 0.048 J | | 0.13 J | | 0.4 | 0.058 J | | 0.065 J | | 0.019 U | 0.023 J | |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 0.022 J | 0.21 U | 0.21 U | 0.21 U | 65 J | 0.024 J | | | | 0.028 J | | 0.042 J | | 0.15 J | | 0.38 | 0.063 J | | 0.068 J | | 0.2 U | 0.19 U | |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 36 J | 0.053 J | | | | 0.03 J | | 0.032 J | | 0.1 J | | 0.18 J | 0.047 J | | 0.07 J | | 0.2 U | 0.19 U | |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 59 | 0.025 J | | | | 0.032 J | | 0.038 J | | 0.11 J | | 0.48 | 0.051 J | | 0.057 J | | 0.2 U | 0.19 U | |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 0.19 UJ | 0.21 UJ | 0.21 UJ | 0.21 UJ | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 0.19 U | 0.21 UJ | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.045 J | | 0.039 J | 0.04 J | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | CAPROLACTAM | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | CARBAZOLE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 35 | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.048 J | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | CHRYSENE | MG/KG | 0.019 J | 0.21 U | 0.21 U | 0.21 U | 78 | 0.028 J | | | | 0.039 J | | 0.057 J | | 0.16 J | | 0.48 | 0.068 J | | 0.076 J | | 0.068 J | 0.023 J | |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 13 J | 0.0075 J | | | | 0.19 U | | 0.19 U | | 0.029 J | | 0.076 J | 0.19 U | | 0.022 J | | 0.019 U | 0.19 U | |
| SVOC | DIBENZOFURAN | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 21 | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.05 J | 0.19 U | |
| SVOC | DIETHYLPHTHALATE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.061 J | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | FLUORANTHENE | MG/KG | 0.033 J | 0.21 U | 0.21 U | 0.21 U | 200 | 0.036 J | | | | 0.046 J | | 0.074 J | | 0.27 | | 0.67 | 0.1 J | | 0.085 J | | 0.2 U | 0.036 J | |
| SVOC | FLUORENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 33 | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.033 J | 0.19 U | | 0.19 U | | 0.1 J | 0.19 U | |
| SVOC | HEXACHLOROBENZENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | HEXACHLOROETHANE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 37 J | 0.02 J | | | | 0.022 J | | 0.026 J | | 0.097 J | | 0.19 | 0.04 J | | 0.06 J | | 0.2 U | 0.19 U | |
| SVOC | ISOPHORONE | MG/KG | 0.19 UJ | 0.21 UJ | 0.21 UJ | 0.21 UJ | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | NAPHTHALENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 25 | 0.21 U | | | | 0.11 J | | 0.19 U | | 0.2 U | | 0.029 J | 0.19 U | | 0.19 U | | 0.44 | 0.19 U | |
| SVOC | NITROBENZENE | MG/KG | 0.19 UJ | 0.21 UJ | 0.21 UJ | 0.21 UJ | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | PENTACHLOROPHENOL | MG/KG | 0.38 U | 0.4 U | 0.41 U | 0.41 U | 38 U | 0.41 U | | | | 0.36 U | | 0.38 U | | 0.39 U | | 0.37 U | 0.36 U | | 0.37 U | | 0.38 U | 0.36 U | |
| SVOC | PHENANTHRENE | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 220 | 0.026 J | | | | 0.036 J | | 0.036 J | | 0.096 J | | 0.46 | 0.036 J | | 0.048 J | | 0.2 | 0.028 J | |
| SVOC | PHENOL | MG/KG | 0.19 U | 0.21 U | 0.21 U | 0.21 U | 20 U | 0.21 U | | | | 0.19 U | | 0.19 U | | 0.2 U | | 0.19 U | 0.19 U | | 0.19 U | | 0.2 U | 0.19 U | |
| SVOC | PYRENE | MG/KG | 0.029 J | 0.21 U | 0.21 U | 0.21 U | 160 | 0.054 J | | | | 0.064 J | | 0.086 J | | 0.25 | | 0.62 | 0.1 J | | 0.1 J | | 0.2 U | 0.026 J | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | ERTSB-020 | ERTSB-020 | ERTSB-020 | ERTSB-020 | ERTSB08 | ERTSB12 | FP168 | FP170 | FP171 | MPSB0001 | MPSB0001 | MPSB0002 | MPSB0002 | MPSB0004 | MPSB0004 | MPSB0004 | MPSB0005 | MPSB0005 | MPSB0009 | MPSB0009 | MPSB0009 | MPSB0010 | MPSB0010 |
| | | Field Sample ID | 0-316-0130 | 0-316-0131 | 0-316-0132 | 0-316-0133 | ERTSB08B-SS-AE-AI-0 | ERTSB12E-SS-AQ-AU-0 | SS-FP168-0-4 | SS-FP170-0-4 | SS-FP171-4-8 | MPSB0001-SS-AA-AB-0 | MPSB0001-SS-AD-AE-0 | MPSB0002-SS-AA-AB-0 | MPSB0002-SS-AD-AE-0 | MPSB0004-SS-AA-AB-0 | MPSB0004-SS-AD-AE-0 | MPSB0004-SS-AH-AI-0 | MPSB0005-SS-AA-AB-0 | MPSB0005-SS-AD-AE-0 | MPSB0009-SS-AA-AB-0 | MPSB0009-SS-AD-AE-0 | MPSB0009-SS-AR-AS-0 | MPSB0010-SS-AA-AB-0 | MPSB0010-SS-AD-AE-0 |
| | | Sample Date | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/25/2015 | 2/23/2015 | 2/25/2015 | 12/13/2003 | 12/13/2003 | 12/13/2003 | 11/17/2009 | 11/17/2009 | 11/17/2009 | 11/17/2009 | 11/18/2009 | 11/18/2009 | 11/18/2009 | 11/19/2009 | 11/19/2009 | 11/30/2009 | 11/30/2009 | 11/30/2009 | 11/30/2009 | 11/30/2009 |
| | | Depth (ft) | 2-4 | 4-6 | 6-8 | 8-10 | 2-4 | 8-10 | 0-4 | 0-4 | 4-8 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 8.5-9 | 0-0.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | 4.1 U | 0.77 U | | | | | 0.0054 U | | 0.0048 U | | | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | | | | 8.2 U | 1.5 U | 64 U | 11 U | 1.3 U | | 0.011 U | | 0.0096 U | | 0.0094 U | 0.56 U | | 0.012 U | | 4.7 U | 6.8 U | | 0.55 U |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | | | | 8.2 U | 1.5 U | 64 U | 11 U | 1.3 U | | 0.011 U | | 0.0096 U | | 0.0094 U | 0.56 U | | 0.012 U | | 4.7 U | 6.8 U | | 0.55 U |
| VOC | ACETONE | MG/KG | | | | | 8.2 U | 1.5 U | 64 U | 11 U | 1.3 U | | 0.011 U | | 0.0096 U | | 0.0094 U | 0.15 J | | 0.012 U | | 4.7 U | 6.8 U | | 0.55 U |
| VOC | BENZENE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 0.18 J | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.48 | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | 4.1 U | 0.77 U | | | | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | BROMODICHLOROMETHANE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | BROMOFORM | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | BROMOMETHANE | MG/KG | | | | | 4.1 UJ | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | CARBON DISULFIDE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | CARBON TETRACHLORIDE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | CHLOROBENZENE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | CHLOROETHANE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | CHLOROFORM | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | CHLOROMETHANE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | CYCLOHEXANE | MG/KG | | | | | 4.1 U | 0.77 U | 51 J | 13 | 0.73 J | | 0.0054 U | | 0.0048 U | | 0.0047 U | 1 | | 0.0059 U | | 3.2 | 51 J | | 0.25 J |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | DICHLOROMETHANE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | ETHYLBENZENE | MG/KG | | | | | 5.3 | 0.77 U | 38 J | 0.9 J | 0.18 J | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.059 J | | 0.0059 U | | 2.3 U | 62 | | 0.27 U |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | 2.2 J | 0.77 U | 19 J | 3.5 J | 0.17 J | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.11 J | | 0.0059 U | | 0.86 J | 11 | | 0.25 J |
| VOC | METHYL ACETATE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.14 J | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | METHYL ETHYL KETONE | MG/KG | | | | | 8.2 U | 1.5 U | 64 U | 11 U | 1.3 U | | 0.011 U | | 0.0096 U | | 0.0094 U | 0.56 U | | 0.012 U | | 4.7 U | 6.8 U | | 0.55 U |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | 17 | 8.1 | 460 | 110 | 1.5 | | 0.0054 U | | 0.0048 U | | 0.0047 U | 4.8 | | 0.0059 U | | 38 | 430 | | 3.2 |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | TETRACHLOROETHENE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | TOLUENE | MG/KG | | | | | 4.1 U | 0.031 J | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0017 J | 0.081 J | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | | | | 4.1 U | 0.77 U | 64 U | 11 U | 1.3 U | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.28 U | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | XYLENE, O- | MG/KG | | | | | 4.1 U | 0.77 U | | | | | 0.0054 U | | 0.0048 U | | 0.0047 U | 0.1 J | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | XYLENES (TOTAL) | MG/KG | | | | | | | 57 J | 11 U | 0.26 J | | 0.0054 U | | 0.0048 U | | 0.0031 J | 0.32 J | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |
| VOC | XYLENES, M & P | MG/KG | | | | | 14 | 0.77 U | | | | | 0.0054 U | | 0.0048 U | | 0.0031 J | 0.22 J | | 0.0059 U | | 2.3 U | 3.4 U | | 0.27 U |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0010 | MPSB0011 | MPSB0011 | MPSB0011 | MPSB0012 | MPSB0012 | MPSB0012 | MPSB0012 | MPSB0013 | MPSB0013 | MPSB0013 | MPSB0014 | MPSB0014 | MPSB0015 | MPSB0015 | MPSB0016 | MPSB0016 | MPSB0017 | MPSB0017 | MPSB0017 | MPSB0019 | MPSB0019 | MPSB0019 |
| | | Field Sample ID | MPSB0010-SS-AG-AH-0 | MPSB0011-SS-AA-AB-0 | MPSB0011-SS-AD-AE-0 | MPSB0011-SS-AS-AT-0 | MPSB0012-SS-AA-AB-0 | MPSB0012-SS-AD-AE-0 | MPSB0012-SS-AO-AP-0 | MPSB0012-SS-AQ-AR-0 | MPSB0013-SS-AA-AB-0 | MPSB0013-SS-AD-AE-0 | MPSB0013-SS-AN-AO-0 | MPSB0014-SS-AA-AB-0 | MPSB0014-SS-AD-AE-0 | MPSB0015-SS-AA-AB-0 | MPSB0015-SS-AD-AE-0 | MPSB0016-SS-AA-AB-0 | MPSB0016-SS-AD-AE-0 | MPSB0017-SS-AA-AB-0 | MPSB0017-SS-AD-AE-0 | MPSB0017-SS-AS-AT-0 | MPSB0019-SS-AA-AB-0 | MPSB0019-SS-AD-AE-0 | MPSB0019-SS-AL-AM-0 |
| | | Sample Date | 11/30/2009 | 12/1/2009 | 12/1/2009 | 12/1/2009 | 12/1/2009 | 12/1/2009 | 12/1/2009 | 12/1/2009 | 12/2/2009 | 12/2/2009 | 12/2/2009 | 12/2/2009 | 12/2/2009 | 12/3/2009 | 12/3/2009 | 12/7/2009 | 12/7/2009 | 12/7/2009 | 12/7/2009 | 12/7/2009 | 12/8/2009 | 12/8/2009 | 12/8/2009 |
| | | Depth (ft) | 3-3.5 | 0-0.5 | 1.5-2 | 9-9.5 | 0-0.5 | 1.5-2 | 7-7.5 | 8-8.5 | 0-0.5 | 1.5-2 | 6.5-7 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 9-9.5 | 0-0.5 | 1.5-2 | 5.5-6 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | 1820 | 3310 | | 1970 | 10400 | | 1620 | 1950 | 8800 | | 2260 | 687 | | 2120 | | 6540 | | 7510 | | 1680 | 1330 | 3200 | 2020 |
| METALS | ANTIMONY | MG/KG | 5.6 UJ | 4.4 UJ | | 6.1 UJ | 0.54 J | | 5.3 UJ | 6.5 UJ | 4.6 UJ | | 5.7 UJ | 5.5 UJ | | 0.68 J | | 5.5 UJ | | 5.2 UJ | | 6.1 UJ | 5.3 UJ | 1.3 J | 2.1 J |
| METALS | ARSENIC | MG/KG | 0.74 J | 3.6 | | 1.9 | 9.4 | | 1.5 | 2.1 | 3.1 | | 1.5 | 2.2 | | 6.5 | | 6.5 | | 3.9 | | 2 | 2.2 | 12.4 | 2 |
| METALS | BARIUM | MG/KG | 5.9 J | 113 | | 4.6 J | 41.7 | | 7.1 J | 8 J | 73.4 | | 20.9 | 2.9 J | | 32.2 | | 22.7 | | 32.2 | | 20 U | 26.3 | 1050 | 1290 |
| METALS | BERYLLIUM | MG/KG | 0.47 U | 0.086 J | | 0.51 U | 0.58 | | 0.44 U | 0.54 U | 0.43 | | 0.47 U | 0.46 U | | 0.5 U | | 0.3 J | | 0.31 J | | 0.51 U | 0.46 | 0.09 J | 0.42 U |
| METALS | CADMIUM | MG/KG | 0.47 U | 0.11 J | | 0.51 U | 0.14 J | | 0.44 U | 0.54 U | 0.38 U | | 0.48 U | 0.46 U | | 0.5 U | | 0.46 U | | 0.11 J | | 0.51 U | 0.4 J | 0.88 | 0.22 J |
| METALS | CALCIUM | MG/KG | 156 J | 1710 | | 217 J | 19200 | | 201 J | 245 J | 8830 | | 554 | 61.1 J | | 971 | | 432 J | | 2590 | | 94.2 J | 200000 | 7120 | 3130 |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 9.4 | 10.9 | | 11.5 | 25.8 | | 8.7 | 11.8 | 17.8 | | 9 | 4.3 | | 9.4 | | 13.1 | | 15.9 | | 7.6 | 3 | 114 | 407 |
| METALS | COBALT | MG/KG | 0.13 J | 2.7 J | | 5.1 U | 7.3 | | 4.4 U | 5.4 U | 4.4 | | 4.75 U | 4.6 U | | 5 U | | 1.2 J | | 4.8 | | 5.1 U | 5.2 | 2.3 J | 0.65 J |
| METALS | COPPER | MG/KG | 1.7 J | 21.3 | | 1.6 J | 20.2 | | 1.3 J | 1.9 J | 19.6 | | 3.2 | 1.2 J | | 9.2 J | | 7.3 | | 13.6 | | 1.8 J | 13.9 | 21.5 | 20.1 |
| METALS | CYANIDE | MG/KG | 0.1 J | 0.2 J | | 2.9 U | 0.058 J | | 2.9 U | 3 U | 0.089 J | | 0.21 J | 0.1 J | | 2.9 U | | 0.071 J | | 0.16 J | | 3 U | 2.3 J | 4.2 | 39.1 |
| METALS | IRON | MG/KG | 4050 | 6710 | | 6080 | 18000 | | 5230 | 6110 | 12100 | | 5600 | 2790 | | 4850 | | 8910 | | 10000 | | 4690 | 6330 | 7610 | 3690 |
| METALS | LEAD | MG/KG | 4.2 | 105 | | 3.3 | 47.1 | | 2.7 | 3 | 288 | | 55.2 | 6.4 | | 82.3 | | 22.1 | | 239 | | 3.5 | 20.8 | 940 | 1320 |
| METALS | MAGNESIUM | MG/KG | 34.4 J | 854 | | 52.1 J | 9690 | | 59.5 J | 67.6 J | 5340 | | 197 J | 25.1 J | | 238 J | | 551 | | 2580 | | 47.3 J | 118000 | 1110 | 931 |
| METALS | MANGANESE | MG/KG | 10.7 J | 40.6 J | | 33.8 J | 401 J | | 40.6 J | 36.4 J | 665 J | | 13.3 J | 5.8 J | | 22 J | | 33.4 | | 103 | | 10.6 | 459 | 178 | 57.7 |
| METALS | MERCURY | MG/KG | 0.097 U | 0.18 J | | 0.089 UJ | 0.087 UJ | | 0.096 UJ | 0.11 UJ | 0.092 UJ | | 0.081 UJ | 0.085 UJ | | 0.11 U | | 0.15 | | 0.11 U | | 0.092 U | 0.028 J | 0.69 | 0.52 |
| METALS | NICKEL | MG/KG | 0.37 J | 2.5 J | | 4 U | 13.4 | | 3.6 U | 4.3 U | 9.5 | | 0.64 J | 3.6 U | | 4 U | | 3.4 J | | 6.1 | | 4.1 U | 4 | 2.4 J | 1.4 J |
| METALS | POTASSIUM | MG/KG | 65.5 J | 247 J | | 212 J | 3700 | | 217 J | 261 J | 2260 | | 475 U | 455 U | | 502 U | | 460 U | | 1520 | | 509 U | 235 J | 238 J | 173 J |
| METALS | SELENIUM | MG/KG | 3.3 U | 2.6 U | | 3.5 U | 3.2 U | | 3.1 U | 0.7 J | 2.7 U | | 3.3 U | 3.2 U | | 3.5 U | | 3.2 U | | 3 U | | 0.56 J | 3.1 UJ | 3.1 UJ | 3 UJ |
| METALS | SILVER | MG/KG | 0.93 U | 0.74 U | | 1 U | 0.91 U | | 0.89 U | 1.1 U | 0.77 UJ | | 0.95 UJ | 0.91 UJ | | 1.2 J | | 0.92 U | | 0.17 J | | 1 U | 0.88 U | 0.42 J | 0.85 U |
| METALS | SODIUM | MG/KG | 467 U | 36.7 J | | 13.4 J | 4660 | | 481 | 600 | 3730 | | 114 J | 22.7 J | | 15.8 J | | 86.4 J | | 2270 | | 108 J | 83.1 J | 297 J | 534 |
| METALS | THALLIUM | MG/KG | 2.3 U | 1.9 U | | 2.5 U | 0.56 J | | 2.2 U | 2.7 U | 1.9 U | | 2.4 U | 2.3 U | | 2.5 U | | 2.3 U | | 0.21 J | | 2.5 U | 0.88 J | 2.2 U | 2.1 U |
| METALS | VANADIUM | MG/KG | 6.8 | 9.6 | | 11.1 | 43.5 | | 11.5 | 10.5 | 25.1 J | | 7.3 J | 4.4 J | | 16.2 J | | 14 | | 16.6 | | 6.7 | 6.6 | 9.1 | 6.6 |
| METALS | ZINC | MG/KG | 3.5 J | 80.3 | | 2.4 J | 48.5 | | 1.5 J | 1.3 J | 60.1 | | 34.3 | 5.5 U | | 37.9 | | 20.8 | | 76.8 | | 1.2 J | 20.1 | 335 | 165 |
| PEST/PCB | 4,4'-DDD | MG/KG | 0.0036 U | 0.0019 J | | 0.0039 U | 0.0036 U | | 0.0037 U | 0.004 U | 0.0035 U | | 0.0036 U | 0.0034 U | | 0.0038 U | | 0.004 U | | 0.0037 U | | 0.004 U | 0.0035 U | 0.018 U | 0.0038 U |
| PEST/PCB | 4,4'-DDE | MG/KG | 0.0036 U | 0.0063 | | 0.0039 U | 0.0036 U | | 0.0037 U | 0.004 U | 0.0035 U | | 0.0036 U | 0.0034 U | | 0.0053 J | | 0.0067 J | | 0.0037 U | | 0.004 U | 0.0035 U | 0.018 U | 0.0038 U |
| PEST/PCB | 4,4'-DDT | MG/KG | 0.0036 U | 0.0091 | | 0.0039 U | 0.0036 U | | 0.0037 U | 0.004 U | 0.0035 U | | 0.0036 U | 0.0034 U | | | | 0.011 | | 0.0037 U | | 0.004 U | 0.0087 J | 0.75 J | 0.02 J |
| PEST/PCB | ALDRIN | MG/KG | 0.0018 U | 0.0019 U | | 0.002 U | 0.0019 U | | 0.0019 U | 0.0021 U | 0.0018 U | | 0.0019 U | 0.0018 U | | 0.002 U | | 0.0021 U | | 0.0019 U | | 0.0021 U | 0.0018 U | 0.0091 U | 0.0019 U |
| PEST/PCB | ALPHA-BHC | MG/KG | 0.0018 U | 0.0019 U | | 0.002 U | 0.0019 U | | 0.0019 U | 0.0021 U | 0.0018 U | | 0.0019 U | 0.0018 U | | 0.002 U | | 0.0021 U | | 0.0019 U | | 0.0021 U | 0.0018 U | 0.0091 U | 0.0019 U |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | 0.0018 U | 0.0019 U | | 0.002 U | 0.0019 U | | 0.0019 U | 0.0021 U | 0.0018 U | | 0.0019 U | 0.0018 U | | 0.002 U | | 0.0021 U | | 0.0019 U | | 0.0021 U | 0.0018 U | 0.0091 U | 0.0019 U |
| PEST/PCB | AROCLOR-1016 | MG/KG | 0.036 U | 0.037 U | | 0.039 U | 0.036 U | | 0.037 U | 0.04 U | 0.035 U | | 0.036 U | 0.034 U | | 0.038 U | | 0.04 U | | 0.037 U | | 0.04 U | 0.035 U | 0.18 U | 0.038 U |
| PEST/PCB | AROCLOR-1221 | MG/KG | 0.036 U | 0.037 U | | 0.039 U | 0.036 U | | 0.037 U | 0.04 U | 0.035 U | | 0.036 U | 0.034 U | | 0.038 U | | 0.04 U | | 0.037 U | | 0.04 U | 0.035 U | 0.18 U | 0.038 U |
| PEST/PCB | AROCLOR-1232 | MG/KG | 0.036 U | 0.037 U | | 0.039 U | 0.036 U | | 0.037 U | 0.04 U | 0.035 U | | 0.036 U | 0.034 U | | 0.038 U | | 0.04 U | | 0.037 U | | 0.04 U | 0.035 U | 0.18 U | 0.038 U |
| PEST/PCB | AROCLOR-1242 | MG/KG | 0.036 U | 0.037 U | | 0.039 U | 0.036 U | | 0.037 U | 0.04 U | 0.035 U | | 0.036 U | 0.034 U | | 0.038 U | | 0.04 U | | 0.037 U | | 0.04 U | 0.035 U | 0.18 U | 0.038 U |
| PEST/PCB | AROCLOR-1248 | MG/KG | 0.036 U | 0.037 U | | 0.039 U | 0.036 U | | 0.037 U | 0.04 U | 0.035 U | | 0.036 U | 0.034 U | | 0.038 U | | 0.04 U | | 0.037 U | | 0.04 U | 0.035 U | 0.44 | 0.038 U |
| PEST/PCB | AROCLOR-1254 | MG/KG | 0.036 U | 0.036 J | | 0.039 U | 0.036 U | | 0.037 U | 0.04 U | 0.035 U | | 0.036 U | 0.034 U | | 0.17 | | 0.04 U | | 0.037 U | | 0.04 U | 0.035 U | 0.18 U | 0.038 U |
| PEST/PCB | AROCLOR-1260 | MG/KG | 0.036 U | 0.037 U | | 0.039 U | 0.036 U | | 0.037 U | 0.04 U | 0.035 U | | 0.036 U | 0.034 U | | 0.032 J | | 0.04 U | | 0.037 U | | 0.04 U | 0.28 | 23 | 0.77 |
| PEST/PCB | AROCLOR-1262 | MG/KG | 0.036 U | 0.037 U | | 0.039 U | 0.036 U | | 0.037 U | 0.04 U | 0.035 U | | 0.036 U | 0.034 U | | 0.038 U | | 0.04 U | | 0.037 U | | 0.04 U | 0.035 U | 0.18 U | 0.038 U |
| PEST/PCB | AROCLOR-1268 | MG/KG | 0.036 U | 0.037 U | | 0.039 U | 0.036 U | | 0.037 U | 0.04 U | 0.035 U | | 0.036 U | 0.034 U | | 0.038 U | | 0.04 U | | 0.037 U | | 0.04 U | 0.035 U | 0.18 U | 0.038 U |
| PEST/PCB | BETA-BHC | MG/KG | 0.0018 U | 0.0019 U | | 0.002 U | 0.0019 U | | 0.0019 U | 0.0021 U | 0.0018 U | | 0.0019 U | 0.0018 U | | 0.002 U | | 0.0021 U | | 0.0019 U | | 0.0021 U | 0.0018 U | 0.0091 U | 0.0019 U |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | 0.0018 U | 0.001 J | | 0.002 U | 0.0019 U | | 0.0019 U | 0.0021 U | 0.0018 U | | 0.0019 U | 0.0018 U | | 0.002 U | | 0.0021 U | | 0.0019 U | | 0.0021 U | 0.0018 U | 0.0091 U | 0.0019 U |
| PEST/PCB | DIELDRIN | MG/KG | 0.0036 U | 0.0037 U | | 0.0039 U | 0.0036 U | | 0.0037 U | 0.004 U | 0.0035 U | | 0.0036 U | 0.0034 U | | 0.0038 U | | 0.0099 | | 0.0037 U | | 0.004 U | 0.0055 J | | 0.013 J |
| PEST/PCB | ENDOSULFAN I | MG/KG | 0.0018 U | 0.0019 U | | 0.002 U | 0.0019 U | | 0.0019 U | 0.0021 U | 0.0018 U | | 0.0019 U | 0.0018 U | | 0.002 U | | 0.0021 U | | 0.0019 U | | 0.0021 U | 0.0018 U | 0.0091 U | 0.0019 U |
| PEST/PCB | ENDOSULFAN II | MG/KG | 0.0036 U | 0.0037 U | | 0.0039 U | 0.0036 U | | 0.0037 U | 0.004 U | 0.0035 U | | 0.0036 U | 0.0034 U | | 0.0038 U | | 0.004 U | | 0.0037 U | | 0.004 U | 0.0035 U | 0.018 U | 0.0038 U |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | 0.0036 U | 0.0037 U | | 0.0039 U | 0.0036 U | | 0.0037 U | 0.004 U | 0.0035 U | | 0.0036 U | 0.0034 U | | 0.0038 U | | 0.004 U | | 0.0037 U | | 0.004 U | 0.0035 U | | 0.0038 U |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | 0.0036 U | 0.0037 U | | 0.0039 U | 0.0036 U | | 0.0037 U | 0.004 U | 0.0035 U | | 0.0036 U | 0.0034 U | | 0.0038 U | | 0.004 U | | 0.0037 U | | 0.004 U | 0.0035 U | | 0.0038 U |
| PEST/PCB | ENDRIN KETONE | MG/KG | 0.0036 U | 0.0037 U | | 0.0039 U | 0.0036 U | | 0.0037 U | 0.004 U | 0.0035 U | | 0.0036 U | 0.0034 U | | 0.0038 U | | 0.004 U | | 0.0037 U | | 0.004 U | | 0.6 J | |
| PEST/PCB | ENDRIN | MG/KG | 0.0036 U | 0.0037 U | | 0.0039 U | 0.0036 U | | 0.0037 U | 0.004 U | 0.0035 U | | 0.0036 U | 0.0034 U | | 0.0038 U | | 0.004 U | | 0.0037 U | | 0.004 U | 0.0035 U | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | 0.0018 U | 0.0019 U | | 0.002 U | 0.0019 U | | 0.0019 U | 0.0021 U | 0.0018 U | | 0.0019 U | 0.0018 U | | 0.002 U | | 0.0021 U | | 0.0019 U | | 0.0021 U | 0.0018 U | 0.0091 U | 0.0019 U |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | 0.0018 U | 0.0019 U | | 0.002 U | 0.0019 U | | 0.0019 U | 0.0021 U | 0.0018 U | | 0.0019 U | 0.0018 U | | 0.002 U | | 0.0021 U | | 0.0019 U | | 0.0021 U | 0.0018 U | | 0.0019 U |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | 0.0018 U | 0.0019 U | | 0.002 U | 0.0019 U | | 0.0019 U | 0.0021 U | 0.0018 U | | 0.0019 U | 0.0018 U | | 0.002 U | | 0.0021 U | | 0.0019 U | | 0.0021 U | 0.0018 U | | 0.0019 U |
| PEST/PCB | HEPTACHLOR | MG/KG | 0.0018 U | 0.0019 U | | 0.002 U | 0.0019 U | | 0.0019 U | 0.0021 U | 0.0018 U | | 0.0019 U | 0.0018 U | | 0.002 U | | 0.0021 U | | 0.0019 U | | 0.0021 U | 0.0018 U | 0.0091 U | 0.0019 U |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | 0.018 U | 0.019 U | | 0.02 U | 0.019 U | | 0.019 U | 0.021 U | 0.018 U | | 0.019 U | 0.018 U | | 0.02 U | | 0.021 U | | 0.019 U | | 0.021 U | 0.018 U | 0.091 U | 0.019 U |
| PEST/PCB | TOXAPHENE | MG/KG | 0.18 U | 0.19 U | | 0.2 U | 0.19 U | | 0.19 U | 0.21 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.19 U | | 0.21 U | 0.18 U | 0.91 U | 0.19 U |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0010 | MPSB0011 | MPSB0011 | MPSB0011 | MPSB0012 | MPSB0012 | MPSB0012 | MPSB0012 | MPSB0013 | MPSB0013 | MPSB0013 | MPSB0014 | MPSB0014 | MPSB0015 | MPSB0015 | MPSB0016 | MPSB0016 | MPSB0017 | MPSB0017 | MPSB0017 | MPSB0019 | MPSB0019 | MPSB0019 |
| | | Field Sample ID | MPSB0010-SS-AG-AH-0 | MPSB0011-SS-AA-AB-0 | MPSB0011-SS-AD-AE-0 | MPSB0011-SS-AS-AT-0 | MPSB0012-SS-AA-AB-0 | MPSB0012-SS-AD-AE-0 | MPSB0012-SS-AO-AP-0 | MPSB0012-SS-AQ-AR-0 | MPSB0013-SS-AA-AB-0 | MPSB0013-SS-AD-AE-0 | MPSB0013-SS-AN-AO-0 | MPSB0014-SS-AA-AB-0 | MPSB0014-SS-AD-AE-0 | MPSB0015-SS-AA-AB-0 | MPSB0015-SS-AD-AE-0 | MPSB0016-SS-AA-AB-0 | MPSB0016-SS-AD-AE-0 | MPSB0017-SS-AA-AB-0 | MPSB0017-SS-AD-AE-0 | MPSB0017-SS-AS-AT-0 | MPSB0019-SS-AA-AB-0 | MPSB0019-SS-AD-AE-0 | MPSB0019-SS-AL-AM-0 |
| | | Sample Date | 11/30/2009 | 12/1/2009 | 12/1/2009 | 12/1/2009 | 12/1/2009 | 12/1/2009 | 12/1/2009 | 12/1/2009 | 12/2/2009 | 12/2/2009 | 12/2/2009 | 12/2/2009 | 12/2/2009 | 12/3/2009 | 12/3/2009 | 12/7/2009 | 12/7/2009 | 12/7/2009 | 12/7/2009 | 12/7/2009 | 12/8/2009 | 12/8/2009 | 12/8/2009 |
| | | Depth (ft) | 3-3.5 | 0-0.5 | 1.5-2 | 9-9.5 | 0-0.5 | 1.5-2 | 7-7.5 | 8-8.5 | 0-0.5 | 1.5-2 | 6.5-7 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 9-9.5 | 0-0.5 | 1.5-2 | 5.5-6 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 0.051 J | 0.19 U | | 0.13 J | 0.19 U | | 5 | 25 | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.77 | 0.025 J |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 0.37 U | 0.36 U | | 0.37 U | 0.37 U | | 0.38 U | 1 UJ | 0.34 U | | 0.37 U | 0.36 U | | 0.38 UJ | | 0.41 UJ | | 0.36 UJ | | 7.9 UJ | 0.35 UJ | 0.36 UJ | 0.37 UJ |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 UJ | | 0.18 U | | 4.1 UJ | 0.18 UJ | 0.19 UJ | 0.19 UJ |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 1.2 | 0.19 U | | 0.64 | 0.19 U | | 2.9 | 4.1 | 0.18 U | | 0.09 J | 0.12 J | | 0.2 U | | 0.21 U | | 0.18 U | | 6.3 J | 0.18 U | 0.019 J | 0.19 U |
| SVOC | 2-METHYLPHENOL | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | 2-NITROANILINE | MG/KG | 0.37 U | 0.36 U | | 0.37 U | 0.37 U | | 0.38 U | 1 U | 0.34 U | | 0.37 U | 0.36 U | | 0.38 U | | 0.41 U | | 0.36 U | | 7.9 UJ | 0.35 U | 0.36 U | 0.37 U |
| SVOC | 2-NITROPHENOL | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | 3-NITROANILINE | MG/KG | 0.37 U | 0.36 U | | 0.37 U | 0.37 U | | 0.38 U | 1 U | 0.34 U | | 0.37 U | 0.36 U | | 0.38 U | | 0.41 U | | 0.36 U | | 7.9 UJ | 0.35 U | 0.36 U | 0.37 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 0.37 U | 0.36 U | | 0.37 U | 0.37 U | | 0.38 U | 1 U | 0.34 U | | 0.37 U | 0.36 U | | 0.38 U | | 0.41 UJ | | 0.36 U | | 7.9 UJ | 0.35 UJ | 0.36 UJ | 0.37 UJ |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | 4-CHLOROANILINE | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | 4-METHYLPHENOL | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | 4-NITROANILINE | MG/KG | 0.37 U | 0.36 U | | 0.37 U | 0.37 U | | 0.38 U | 1 U | 0.34 U | | 0.37 U | 0.36 U | | 0.38 U | | 0.41 U | | 0.36 U | | 7.9 UJ | 0.35 U | 0.36 U | 0.37 U |
| SVOC | 4-NITROPHENOL | MG/KG | 0.37 U | 0.36 U | | 0.37 U | 0.37 U | | 0.38 U | 1 U | 0.34 U | | 0.37 U | 0.36 U | | 0.38 U | | 0.41 U | | 0.36 U | | 7.9 UJ | 0.35 U | 0.36 U | 0.37 U |
| SVOC | ACENAPHTHENE | MG/KG | 0.51 | 0.19 U | | 0.19 U | 0.19 U | | 0.11 J | 0.13 J | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.056 J | | 0.18 U | | 4.1 UJ | 0.18 U | 0.041 J | 0.19 U |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.083 J | 0.19 U |
| SVOC | ACETOPHENONE | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.07 J | 0.18 U | | 0.064 J | | 0.026 J | | 0.18 U | | 4.1 UJ | 0.18 U | 0.033 J | 0.021 J |
| SVOC | ANTHRACENE | MG/KG | 0.035 J | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.017 J | | 0.19 U | 0.18 U | | 0.2 U | | 0.18 J | | 0.18 U | | 4.1 UJ | 0.18 U | 0.13 J | 0.028 J |
| SVOC | ATRAZINE | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | BENZALDEHYDE | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.81 | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.042 J |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.042 J | 0.071 J | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 | | 0.19 U | 0.18 U | | 0.13 J | | 1.5 | | 0.024 J | | 4.1 UJ | 0.084 J | 1.2 | 0.098 J |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.029 J | 0.081 J | | 0.014 | 0.02 J | | 0.2 U | 0.53 U | 0.19 | | 0.016 | 0.0051 | | 0.16 J | | 1.6 | | 0.029 J | | 4.1 UJ | 0.1 J | 1.3 | 0.11 J |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 0.032 J | 0.1 J | | 0.19 U | 0.026 J | | 0.2 U | 0.53 U | 0.18 | | 0.19 U | 0.18 U | | 0.19 J | | 1.9 | | 0.031 J | | 4.1 UJ | 0.14 J | 1 | 0.12 J |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.19 U | 0.061 J | | 0.19 U | 0.025 J | | 0.2 U | 0.53 U | 0.17 J | | 0.19 U | 0.18 U | | 0.21 | | 1.1 | | 0.041 J | | 4.1 UJ | 0.072 J | 0.42 | 0.064 J |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.026 J | 0.084 J | | 0.19 U | 0.021 J | | 0.2 U | 0.53 U | 0.17 J | | 0.19 U | 0.18 U | | 0.19 J | | 1.6 | | 0.042 J | | 4.1 UJ | 0.11 J | 1.4 | 0.12 J |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.02 J | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.026 J | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | CAPROLACTAM | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.02 J | 0.19 U |
| SVOC | CARBAZOLE | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.17 J | | 0.18 U | | 4.1 UJ | 0.18 U | 0.027 J | 0.19 U |
| SVOC | CHRYSENE | MG/KG | 0.043 J | 0.11 J | | 0.19 U | 0.024 J | | 0.2 U | 0.53 U | 0.22 | | 0.19 U | 0.18 U | | 0.21 | | 2.1 | | 0.05 J | | 4.1 UJ | 0.14 J | 1.4 | 0.15 J |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.19 U | 0.19 U | | 0.00095 J | 0.19 U | | 0.2 U | 0.53 U | 0.057 J | | 0.0024 J | 0.0036 U | | 0.055 J | | 0.3 | | 0.18 U | | 4.1 UJ | 0.18 U | 0.15 J | 0.19 U |
| SVOC | DIBENZOFURAN | MG/KG | 0.54 | 0.19 U | | 0.064 J | 0.19 U | | 0.18 J | 0.22 J | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.04 J | 0.19 U |
| SVOC | DIETHYLPHTHALATE | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 0.19 U | 0.019 J | | 0.19 U | 0.19 U | | 0.02 J | 0.53 U | 0.18 U | | 0.06 J | 0.18 U | | 0.023 J | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.034 J | 0.19 U |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | FLUORANTHENE | MG/KG | 0.12 J | 0.17 J | | 0.037 J | 0.026 J | | 0.2 U | 0.53 U | 0.22 | | 0.019 J | 0.18 U | | 0.25 | | 3.2 | | 0.039 J | | 4.1 UJ | 0.23 | 1.7 | 0.29 |
| SVOC | FLUORENE | MG/KG | 0.29 | 0.19 U | | 0.062 J | 0.19 U | | 0.086 J | 0.1 J | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.044 J | 0.19 U |
| SVOC | HEXACHLOROBENZENE | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | HEXACHLOROETHANE | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.19 U | 0.056 J | | 0.19 U | 0.025 J | | 0.2 U | 0.53 U | 0.17 J | | 0.19 U | 0.18 U | | 0.18 J | | 1.2 | | 0.033 J | | 4.1 UJ | 0.058 J | 0.51 | 0.061 J |
| SVOC | ISOPHORONE | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | NAPHTHALENE | MG/KG | 0.45 | 0.19 U | | 0.24 | 0.19 U | | 6.9 | 12 | 0.18 U | | 0.08 J | 0.51 | | 0.2 U | | 0.21 U | | 0.18 U | | 27 J | 0.18 U | 0.039 J | 0.19 U |
| SVOC | NITROBENZENE | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | 0.37 U | 0.15 J | | 0.37 U | 0.37 U | | 0.38 U | 1 U | 0.34 U | | 0.37 U | 0.36 U | | 0.38 U | | 0.41 U | | 0.36 U | | 7.9 UJ | 0.35 U | 0.36 U | 0.37 U |
| SVOC | PHENANTHRENE | MG/KG | 0.22 | 0.07 J | | 0.087 J | 0.026 J | | 0.072 J | 0.086 J | 0.071 J | | 0.19 U | 0.18 U | | 0.11 J | | 1.7 | | 0.019 J | | 4.1 UJ | 0.11 J | 0.65 | 0.19 J |
| SVOC | PHENOL | MG/KG | 0.19 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.53 U | 0.18 U | | 0.19 U | 0.18 U | | 0.2 U | | 0.21 U | | 0.18 U | | 4.1 UJ | 0.18 U | 0.19 U | 0.19 U |
| SVOC | PYRENE | MG/KG | 0.075 J | 0.12 J | | 0.035 J | 0.025 J | | 0.2 U | 0.53 U | 0.22 | | 0.19 U | 0.18 U | | 0.28 | | 2.8 | | 0.053 J | | 4.1 UJ | 0.16 J | 1.4 | 0.21 |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0010 | MPSB0011 | MPSB0011 | MPSB0011 | MPSB0012 | MPSB0012 | MPSB0012 | MPSB0012 | MPSB0013 | MPSB0013 | MPSB0013 | MPSB0014 | MPSB0014 | MPSB0015 | MPSB0015 | MPSB0016 | MPSB0016 | MPSB0017 | MPSB0017 | MPSB0017 | MPSB0019 | MPSB0019 | MPSB0019 |
| | | Field Sample ID | MPSB0010-SS-AG-AH-0 | MPSB0011-SS-AA-AB-0 | MPSB0011-SS-AD-AE-0 | MPSB0011-SS-AS-AT-0 | MPSB0012-SS-AA-AB-0 | MPSB0012-SS-AD-AE-0 | MPSB0012-SS-AO-AP-0 | MPSB0012-SS-AQ-AR-0 | MPSB0013-SS-AA-AB-0 | MPSB0013-SS-AD-AE-0 | MPSB0013-SS-AN-AO-0 | MPSB0014-SS-AA-AB-0 | MPSB0014-SS-AD-AE-0 | MPSB0015-SS-AA-AB-0 | MPSB0015-SS-AD-AE-0 | MPSB0016-SS-AA-AB-0 | MPSB0016-SS-AD-AE-0 | MPSB0017-SS-AA-AB-0 | MPSB0017-SS-AD-AE-0 | MPSB0017-SS-AS-AT-0 | MPSB0019-SS-AA-AB-0 | MPSB0019-SS-AD-AE-0 | MPSB0019-SS-AL-AM-0 |
| | | Sample Date | 11/30/2009 | 12/1/2009 | 12/1/2009 | 12/1/2009 | 12/1/2009 | 12/1/2009 | 12/1/2009 | 12/1/2009 | 12/2/2009 | 12/2/2009 | 12/2/2009 | 12/2/2009 | 12/2/2009 | 12/3/2009 | 12/3/2009 | 12/7/2009 | 12/7/2009 | 12/7/2009 | 12/7/2009 | 12/7/2009 | 12/8/2009 | 12/8/2009 | 12/8/2009 |
| | | Depth (ft) | 3-3.5 | 0-0.5 | 1.5-2 | 9-9.5 | 0-0.5 | 1.5-2 | 7-7.5 | 8-8.5 | 0-0.5 | 1.5-2 | 6.5-7 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 9-9.5 | 0-0.5 | 1.5-2 | 5.5-6 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | 1,1-DICHLOROETHANE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | 1,1-DICHLOROETHENE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | 1,2-DIBROMOETHANE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | 1,2-DICHLOROETHANE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | 0.58 U | | 0.0094 U | 27 U | | 0.56 U | 27 U | 28 U | | 0.01 U | 23 U | | 26 U | | 0.0088 U | | 0.012 U | | 0.0092 U | 20 U | | 0.011 U | 0.0095 U |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | 0.58 U | | 0.0094 U | 27 U | | 0.56 U | 27 U | 28 U | | 0.01 U | 23 U | | 26 U | | 0.0088 U | | 0.012 U | | 0.0092 U | 20 U | | 0.011 U | 0.0095 U |
| VOC | ACETONE | MG/KG | 0.58 U | | 0.0094 U | 27 U | | 0.56 U | 27 U | 28 U | | 0.023 | 23 U | | 26 U | | 0.0088 U | | 0.063 | | 0.016 | 20 U | | 0.0044 J | 0.0095 U |
| VOC | BENZENE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.011 J | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0035 J | 10 U | | 0.0053 U | 0.0048 U |
| VOC | BROMOCHLOROMETHANE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | BROMODICHLOROMETHANE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | BROMOFORM | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | BROMOMETHANE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | CARBON DISULFIDE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | CARBON TETRACHLORIDE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | CHLOROBENZENE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | CHLOROETHANE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | CHLOROFORM | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | CHLOROMETHANE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | CYCLOHEXANE | MG/KG | 0.29 U | | 0.0059 | 53 | | 0.98 | 29 | 42 | | 0.11 J | 5.1 J | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 15 | | 0.0053 U | 0.0048 U |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | DICHLOROMETHANE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | ETHYLBENZENE | MG/KG | 0.29 U | | 0.0047 U | 33 | | 0.38 | 48 | 66 | | 0.023 J | 770 | | 18 | | 0.0044 U | | 0.0059 U | | 0.0046 U | 28 | | 0.0053 U | 0.0048 U |
| VOC | ISOPROPYLBENZENE | MG/KG | 0.11 J | | 0.0047 U | 6.7 J | | 0.12 J | 9.2 J | 15 | | 0.021 J | 8.8 J | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 29 | | 0.0053 U | 0.0048 U |
| VOC | METHYL ACETATE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | METHYL ETHYL KETONE | MG/KG | 0.58 U | | 0.0094 U | 27 U | | 0.56 U | 27 U | 28 U | | 0.014 | 23 U | | 26 U | | 0.0088 U | | 0.013 | | 0.0053 J | 20 U | | 0.011 U | 0.0095 U |
| VOC | METHYLCYCLOHEXANE | MG/KG | 0.84 | | 0.029 | 360 | | 6.1 | 230 | 260 | | 0.49 | 53 | | 14 | | 0.0044 U | | 0.0042 J | | 0.016 J | 130 | | 0.0053 U | 0.0048 U |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | TETRACHLOROETHENE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | TOLUENE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 2.9 J | | 13 U | | 0.0044 U | | 0.0033 J | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0051 U | 11 U | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | XYLENE, O- | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.28 U | 13 U | 14 U | | 0.0065 J | 1600 | | 13 U | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | XYLENES (TOTAL) | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.079 J | 13 U | 110 | | 0.0845 J | 6600 | | 16 | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |
| VOC | XYLENES, M & P | MG/KG | 0.29 U | | 0.0047 U | 14 U | | 0.079 J | 13 U | 110 | | 0.078 J | 5000 | | 16 | | 0.0044 U | | 0.0059 U | | 0.0046 U | 10 U | | 0.0053 U | 0.0048 U |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0019 | MPSB0020 | MPSB0020 | MPSB0020 | MPSB0021 | MPSB0021 | MPSB0021 | MPSB0021 | MPSB0022 | MPSB0022 | MPSB0022 | MPSB0022 | MPSB0023 | MPSB0023 | MPSB0023 | MPSB0024 | MPSB0024 | MPSB0024 | MPSB0025 | MPSB0025 | MPSB0025 | MPSB0025 | MPSB0028 |
| | | Field Sample ID | MPSB0019-SS-AR-AS-0 | MPSB0020-SS-AA-AB-0 | MPSB0020-SS-AD-AE-0 | MPSB0020-SS-AL-AM-0 | MPSB0021-SS-AA-AB-0 | MPSB0021-SS-AD-AE-0 | MPSB0021-SS-AH-AI-0 | MPSB0021-SS-AL-AM-0 | MPSB0022-SS-AA-AB-0 | MPSB0022-SS-AD-AE-0 | MPSB0022-SS-AL-AM-0 | MPSB0022-SS-AL-AM-1 | MPSB0023-SS-AA-AB-0 | MPSB0023-SS-AD-AE-0 | MPSB0023-SS-AL-AM-0 | MPSB0024-SS-AA-AB-0 | MPSB0024-SS-AD-AE-0 | MPSB0024-SS-AL-AM-0 | MPSB0025-SS-AA-AB-0 | MPSB0025-SS-AD-AE-0 | MPSB0025-SS-AH-AI-0 | MPSB0025-SS-AL-AM-0 | MPSB0028-SS-AA-AB-0 |
| | | Sample Date | 12/8/2009 | 12/8/2009 | 12/8/2009 | 12/8/2009 | 12/9/2009 | 12/9/2009 | 12/9/2009 | 12/9/2009 | 12/9/2009 | 12/9/2009 | 12/9/2009 | 12/9/2009 | 12/10/2009 | 12/10/2009 | 12/10/2009 | 12/10/2009 | 12/10/2009 | 12/10/2009 | 12/15/2009 | 12/15/2009 | 12/15/2009 | 12/15/2009 | 12/17/2009 |
| | | Depth (ft) | 8.5-9 | 0-0.5 | 1.5-2 | 5.5-6 | 0-0.5 | 1.5-2 | 3.5-4 | 5.5-6 | 0-0.5 | 1.5-2 | 5.5-6 | 5.5-6 | 0-0.5 | 1.5-2 | 5.5-6 | 0-0.5 | 1.5-2 | 5.5-6 | 0-0.5 | 1.5-2 | 3.5-4 | 5.5-6 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | 1340 | 5280 | 2890 | 1230 | 1410 | | 2470 | 2820 | 1390 | 2550 | 1240 | 805 | 2150 | | 2700 | 1840 | 2380 | 2590 | 6930 | | 2270 | 2100 | 3050 |
| METALS | ANTIMONY | MG/KG | 0.86 J | 5.1 U | 1.6 J | 5.6 UJ | 4.9 UJ | | 0.91 J | 2.9 J | 5.4 UJ | 1.4 J | 1.2 J | 5.4 UJ | 0.62 J | | 6.2 UJ | 5.4 UJ | 0.63 J | 5.7 UJ | 8.5 UJ | | 0.83 J | 7 UJ | 3.7 U |
| METALS | ARSENIC | MG/KG | 2.1 | 1.2 | 18.5 | 2.9 | 5.9 | | 2.8 | 6.8 | 3.9 | 68.9 | 29.7 | 24.6 | 39.3 | | 4.1 | 16.4 | 23.6 | 6.1 | 7.1 | | 3 | 3.4 | 4.6 |
| METALS | BARIUM | MG/KG | 1410 | 16.4 J | 1110 | 133 | 63.7 | | 846 | 1650 | 49.5 | 424 | 134 | 85.8 | 28.1 | | 25.8 | 93.1 | 730 | 160 | 402 | | 207 | 750 | 24.4 |
| METALS | BERYLLIUM | MG/KG | 0.57 U | 0.34 J | 0.058 J | 0.47 U | 0.47 | | 0.47 U | 0.5 U | 0.16 J | 0.31 J | 0.56 U | 0.45 U | 0.085 J | | 0.52 U | 0.19 J | 0.1 J | 0.062 J | 0.71 U | | 0.51 U | 0.58 U | 0.42 |
| METALS | CADMIUM | MG/KG | 0.57 U | 0.12 J | 0.72 | 0.14 J | 0.25 J | | 0.22 J | 0.5 U | 0.47 | 0.16 J | 0.17 J | 0.18 J | 0.48 U | | 0.52 U | 0.13 J | 0.43 | 0.17 J | 0.37 J | | 0.19 J | 0.58 U | 0.095 J |
| METALS | CALCIUM | MG/KG | 163 J | 36400 | 4410 | 378 J | 105000 | | 1280 | 494 J | 6140 | 1520 | 1330 | 837 | 69600 | | 1540 | 32900 | 8970 | 2400 | 10800 | | 275 J | 1800 | 97700 |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 144 | 19.1 | 153 | 53.3 | 8.4 | | 148 | 581 | 15.1 | 73.9 | | | 16.4 | | 11.8 | 18.6 | 57.7 | 48.2 | 29.8 | | 9.6 | 10 | 9.9 J |
| METALS | COBALT | MG/KG | 0.32 J | 3.9 J | 2.6 J | 0.21 J | 4.2 | | 0.61 J | 1 J | 1.3 J | 2.4 J | 2.2 J | 1.4 J | 1 J | | 0.52 J | 2.1 J | 1.2 J | 1.8 J | 3.2 J | | 2.8 J | 2.4 J | 4.2 J |
| METALS | COPPER | MG/KG | 14.4 | 15.2 | 28.5 | 11.1 | 17.2 | | 34.9 | 8.9 | 13.2 | 55.1 | 14.6 | 8.3 | 177 | | 7.9 | 25.7 | 35.4 | 289 | 157 | | 24.3 | 28.7 | 20.5 J |
| METALS | CYANIDE | MG/KG | 19.8 | 2.6 U | 7.1 | 2 J | 0.53 J | | 5.1 | 12.7 | 2.6 U | 2.3 J | 2.7 J | 1.2 J | 2.7 U | | 2.8 U | 2.7 U | 5 | 3.7 | 0.25 J | | 0.48 J | 0.1 J | 0.67 J |
| METALS | IRON | MG/KG | 2250 | 11400 | 9780 | 3390 | 5530 | | 5080 | 7020 | 4740 | 6180 | 5060 | 3360 | 4730 | | 7940 | 5690 | 5510 | 7490 | 7100 | | 4140 | 3710 | 9750 J |
| METALS | LEAD | MG/KG | 1060 | 7.6 | 829 | 135 | 82.2 | | 525 | 494 | 128 | 723 | | | 193 | | 40.3 | 143 | 603 | 287 | 316 | | 622 | 231 | |
| METALS | MAGNESIUM | MG/KG | 53 J | 25900 | 442 | 65.4 J | 62600 | | 159 J | 107 J | 36100 | 557 | 311 J | 164 J | 40100 | | 653 | 19300 | 3890 | 653 | 1090 | | 84.9 J | 148 J | 56800 |
| METALS | MANGANESE | MG/KG | 9.2 | 263 | 132 | 10.4 | 321 J | | 419 J | 30.9 J | 146 J | 30.9 J | 44.9 J | 26.8 J | 128 | | 15.8 | 107 | 58.2 | 33.7 | 502 J | | 462 J | 84.6 J | 291 J |
| METALS | MERCURY | MG/KG | 0.7 | 0.095 U | 0.33 | 0.12 U | 0.11 | | 0.14 | 0.22 | 0.069 J | 0.21 | 0.034 J | 0.024 J | 0.052 J | | 0.025 J | 0.13 | 0.23 | 0.059 J | 0.081 J | | 0.072 J | 0.022 J | 0.023 J |
| METALS | NICKEL | MG/KG | 0.67 J | 9.7 | 3 J | 0.48 J | 3.6 | | 1.7 J | 3 J | 1.8 J | 9.5 | 6.6 | 3.9 | 2.4 J | | 1.2 J | 2.1 J | 2 J | 3.2 J | 3.9 J | | 2.3 J | 4.7 | 8.1 J |
| METALS | POTASSIUM | MG/KG | 70.2 J | 766 | 186 J | 89.8 J | 177 J | | 210 J | 119 J | 126 J | 215 J | 278 J | 190 J | 477 U | | 519 U | 447 U | 400 U | 471 U | 919 | | 510 U | 582 U | 2370 |
| METALS | SELENIUM | MG/KG | 4 UJ | 3 U | 1.2 J | 3.3 UJ | 2.9 U | | 3.3 U | 0.74 J | 0.6 J | 0.66 J | 0.79 J | 3.2 U | 0.87 J | | 0.59 J | 0.53 J | 0.68 J | 0.59 J | 0.68 J | | 3.6 U | 4.1 U | 2.2 U |
| METALS | SILVER | MG/KG | 1.1 U | 0.84 U | 0.88 U | 0.93 U | 0.82 UJ | | 0.94 UJ | 0.99 UJ | 0.9 UJ | 0.96 UJ | 1.1 UJ | 0.9 UJ | 0.95 U | | 1 U | 0.89 U | 0.8 U | 0.94 U | 1.4 UJ | | 1 UJ | 1.2 UJ | 0.61 U |
| METALS | SODIUM | MG/KG | 12.1 J | 114 J | 96.9 J | 32.2 J | 42.8 J | | 134 J | 99.9 J | 34.1 J | 66.1 J | 357 J | 215 J | 64.3 J | | 207 J | 48.9 J | 87.9 J | 431 J | 277 J | | 15.3 J | 104 J | 447 |
| METALS | THALLIUM | MG/KG | 2.9 U | 2.1 U | 2.2 U | 2.3 U | 0.52 J | | 0.23 J | 0.27 J | 2.2 U | 2.4 U | 2.8 U | 2.3 U | 2.4 U | | 2.6 U | 2.2 U | 2 U | 2.4 U | 0.33 J | | 0.34 J | 2.9 U | 1.5 U |
| METALS | VANADIUM | MG/KG | 4.8 J | 54.6 | 10.4 | 4.3 J | 5.5 | | 7.5 | 8.7 | 5.4 | 11.6 | 15.4 | 5.7 | 10.6 | | 11.3 | 6.8 | 7.3 | 10.3 | 12.8 | | 6.9 | 7.6 | 24.7 |
| METALS | ZINC | MG/KG | 326 | 31.2 | 486 | 150 | 43.7 | | 416 | 189 | 59.1 | 145 | 45.6 | 29.4 | 41.7 | | 20.3 | 70.5 | 202 | 189 | 82.6 | | 126 | 94.5 | 31.3 J |
| PEST/PCB | 4,4'-DDD | MG/KG | | 0.0034 U | 0.018 U | 0.0042 U | 0.007 U | | 0.0036 U | 0.0037 U | 0.007 U | 0.019 | 0.0042 U | 0.0039 U | 0.0034 U | | 0.0037 U | 0.0035 U | | 0.0043 U | 0.0053 U | | 0.0037 U | | 0.0034 U |
| PEST/PCB | 4,4'-DDE | MG/KG | | 0.0034 U | 0.018 U | 0.0042 U | 0.007 U | | 0.0036 U | 0.0037 U | 0.007 U | 0.008 | 0.0042 U | 0.0039 U | 0.0034 U | | 0.0037 U | 0.0035 U | | 0.0043 U | 0.0062 | | 0.0037 U | | 0.0034 U |
| PEST/PCB | 4,4'-DDT | MG/KG | | 0.0039 | 0.48 J | 0.0042 U | | | 0.0036 U | 0.0037 U | | | 0.0042 U | 0.0039 U | | | | | | 0.01 J | 0.0065 J | | 0.0037 U | | 0.0034 U |
| PEST/PCB | ALDRIN | MG/KG | | 0.0018 U | 0.0092 U | 0.0022 U | 0.0036 U | | 0.0018 U | 0.0019 U | 0.0036 U | 0.0019 U | 0.0022 U | 0.002 U | 0.0018 U | | 0.0014 J | 0.001 J | 0.0018 U | 0.0022 U | 0.0027 U | | 0.0019 U | | 0.0017 U |
| PEST/PCB | ALPHA-BHC | MG/KG | | 0.0018 U | 0.0092 U | 0.0022 U | 0.0036 U | | 0.0019 U | 0.0019 U | 0.0036 U | 0.0019 U | 0.0022 U | 0.002 U | 0.0018 U | | 0.0019 U | 0.0018 U | 0.0018 U | 0.0022 U | 0.0027 U | | 0.0019 U | | 0.0017 U |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | 0.0018 U | 0.0092 U | 0.0022 U | 0.0036 U | | 0.0018 U | 0.0019 U | 0.0036 U | 0.001 J | 0.0022 U | 0.002 U | 0.0018 U | | 0.0019 U | 0.0018 U | 0.0018 U | 0.0022 U | 0.0027 J | | 0.0019 U | | 0.0017 U |
| PEST/PCB | AROCLOR-1016 | MG/KG | | 0.034 U | 0.18 U | 0.042 U | 0.07 U | | 0.036 U | 0.037 U | 0.07 U | 0.036 U | 0.042 U | 0.039 U | 0.034 U | | 0.037 U | 0.07 U | 0.035 U | 0.043 U | 0.053 U | | 0.037 U | | 0.034 U |
| PEST/PCB | AROCLOR-1221 | MG/KG | | 0.034 U | 0.18 U | 0.042 U | 0.07 U | | 0.036 U | 0.037 U | 0.07 U | 0.036 U | 0.042 U | 0.039 U | 0.034 U | | 0.037 U | 0.07 U | 0.035 U | 0.043 U | 0.053 U | | 0.037 U | | 0.034 U |
| PEST/PCB | AROCLOR-1232 | MG/KG | | 0.034 U | 0.18 U | 0.042 U | 0.07 U | | 0.036 U | 0.037 U | 0.07 U | 0.036 U | 0.042 U | 0.039 U | 0.034 U | | 0.037 U | 0.07 U | 0.035 U | 0.043 U | 0.053 U | | 0.037 U | | 0.034 U |
| PEST/PCB | AROCLOR-1242 | MG/KG | | 0.034 U | 0.18 U | 0.042 U | 0.07 U | | 0.036 U | 0.037 U | 0.07 U | 0.036 U | 0.042 U | 0.039 U | 0.034 U | | 0.037 U | 0.07 U | 0.035 U | 0.043 U | 0.053 U | | 0.037 U | | 0.034 U |
| PEST/PCB | AROCLOR-1248 | MG/KG | | 0.034 U | 0.12 J | 0.042 U | 0.07 U | | 0.036 U | 0.037 U | 0.13 | 0.038 J | 0.042 U | 0.039 U | 0.034 U | | 0.037 U | 0.072 | 0.042 | 0.043 U | 0.053 U | | 0.037 U | | 0.034 U |
| PEST/PCB | AROCLOR-1254 | MG/KG | | 0.034 U | 0.18 U | 0.042 U | 0.07 U | | 0.036 U | 0.037 U | 0.07 U | 0.078 | 0.042 U | 0.039 U | 0.034 U | | 0.037 U | 0.07 U | 0.035 U | 0.043 U | 0.034 J | | 0.037 U | | 0.034 U |
| PEST/PCB | AROCLOR-1260 | MG/KG | | 0.072 | 15 | 0.042 U | 4.5 | | 0.056 | 0.037 U | 6.3 | 0.16 | 0.055 | 0.046 | 4.2 | | 0.41 | 4.8 | 1.9 | 0.5 | 0.053 U | | 0.037 U | | 0.034 U |
| PEST/PCB | AROCLOR-1262 | MG/KG | | 0.034 U | 0.18 U | 0.042 U | 0.07 U | | 0.036 U | 0.037 U | 0.07 U | 0.036 U | 0.042 U | 0.039 U | 0.034 U | | 0.037 U | 0.07 U | 0.035 U | 0.043 U | 0.053 U | | 0.037 U | | 0.034 U |
| PEST/PCB | AROCLOR-1268 | MG/KG | | 0.034 U | 0.18 U | 0.042 U | 0.07 U | | 0.036 U | 0.037 U | 0.07 U | 0.036 U | 0.042 U | 0.039 U | 0.034 U | | 0.037 U | 0.07 U | 0.035 U | 0.043 U | 0.053 U | | 0.037 U | | 0.034 U |
| PEST/PCB | BETA-BHC | MG/KG | | 0.0018 U | 0.0092 U | 0.0022 U | 0.0036 U | | 0.0018 U | 0.0019 U | 0.0036 U | 0.0011 J | 0.0022 U | 0.002 U | 0.0018 U | | 0.0019 U | 0.0018 U | 0.0018 U | 0.0022 U | 0.0027 U | | 0.0019 U | | 0.0017 U |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | 0.0018 U | 0.0092 U | 0.0022 U | 0.0036 U | | 0.0018 U | 0.0019 U | 0.0036 U | 0.0019 U | 0.0022 U | 0.002 U | 0.0018 U | | 0.0019 U | 0.0018 U | 0.0018 U | 0.0022 U | 0.0027 U | | 0.0019 U | | 0.0017 U |
| PEST/PCB | DIELDRIN | MG/KG | | 0.0034 U | 0.27 J | 0.0042 U | 0.086 J | | 0.0036 U | 0.0037 U | 0.13 J | 0.0044 J | 0.0042 U | 0.0039 U | 0.0034 U | | 0.0037 U | 0.0035 U | 0.0035 U | 0.0043 U | 0.0053 U | | 0.0037 U | | 0.0034 U |
| PEST/PCB | ENDOSULFAN I | MG/KG | | 0.0018 U | 0.0092 U | 0.0022 U | 0.0036 U | | 0.0018 U | 0.0019 U | 0.0036 U | 0.0019 U | 0.0022 U | 0.002 U | 0.0018 U | | 0.0019 U | 0.0018 U | 0.0018 U | 0.0022 U | 0.0027 U | | 0.0019 U | | 0.0017 U |
| PEST/PCB | ENDOSULFAN II | MG/KG | | 0.0034 U | 0.018 U | 0.0042 U | 0.007 U | | 0.0036 U | 0.0037 U | 0.007 U | 0.0036 U | 0.0042 U | 0.0039 U | | | 0.0037 U | | | 0.0043 U | 0.0053 U | | 0.0037 U | | 0.0034 U |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | 0.0034 U | 0.018 U | 0.0042 U | 0.007 U | | 0.0036 U | 0.0037 U | 0.007 U | 0.0036 U | 0.0042 U | 0.0039 U | 0.0034 U | | 0.0037 U | 0.0035 U | 0.0035 U | 0.0043 U | 0.0053 U | | 0.0037 U | | 0.0034 U |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | 0.0034 U | | 0.0042 U | | | 0.0036 U | 0.0037 U | | 0.0036 U | 0.0042 U | 0.0023 J | 0.13 J | | | 0.15 J | 0.053 J | | 0.0053 U | | 0.0037 U | | 0.0034 U |
| PEST/PCB | ENDRIN KETONE | MG/KG | | 0.0035 J | 0.41 J | 0.0042 U | | | 0.0036 U | 0.0037 U | | 0.0091 | 0.0042 U | 0.002 J | 0.0034 U | | 0.0037 U | 0.0035 U | 0.0035 U | 0.0043 U | 0.0053 U | | 0.0037 U | | 0.0034 U |
| PEST/PCB | ENDRIN | MG/KG | | 0.0034 U | | 0.0042 U | | | 0.0036 U | 0.0037 U | | 0.0036 U | 0.0042 U | 0.0039 U | 0.18 J | | 0.027 | 0.28 | 0.099 | 0.04 | 0.0053 U | | 0.0037 U | | 0.0034 U |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | 0.0018 U | 0.0092 U | 0.0022 U | 0.0036 U | | 0.0018 U | 0.0019 U | 0.0036 U | 0.0019 U | 0.0022 U | 0.002 U | 0.0018 U | | 0.0019 U | 0.0018 U | 0.0018 U | 0.0022 U | 0.0027 U | | 0.0019 U | | 0.0017 U |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | 0.0018 U | 0.0092 U | 0.0022 U | 0.0036 U | | 0.0018 U | 0.0019 U | 0.0036 U | | 0.0022 U | 0.002 U | 0.0018 U | | 0.0019 U | 0.0018 U | 0.0018 U | 0.0022 U | 0.0016 J | | 0.0019 U | | 0.0017 U |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | 0.0018 U | | 0.0022 U | | | 0.0018 U | 0.0019 U | | 0.0023 J | 0.0022 U | 0.002 U | | | 0.0019 U | | | 0.0047 J | 0.0027 U | | 0.0019 U | | 0.0017 U |
| PEST/PCB | HEPTACHLOR | MG/KG | | 0.0018 U | 0.0092 U | 0.0022 U | 0.0036 U | | 0.0018 U | 0.0019 U | 0.0036 U | 0.0019 U | 0.0022 U | 0.002 U | 0.0018 U | | 0.0019 U | 0.0018 U | 0.0018 U | 0.0022 U | 0.0027 U | | 0.0019 U | | 0.0017 U |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | 0.018 U | 0.092 U | 0.022 U | 0.036 U | | 0.018 U | 0.019 U | 0.043 J | 0.019 U | 0.022 U | 0.02 U | 0.018 U | | 0.019 U | 0.018 U | 0.018 U | 0.022 U | 0.027 U | | 0.019 U | | 0.017 U |
| PEST/PCB | TOXAPHENE | MG/KG | | 0.18 U | 0.92 U | 0.22 U | 0.36 U | | 0.18 U | 0.19 U | 0.36 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | | 0.17 U |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0019 | MPSB0020 | MPSB0020 | MPSB0020 | MPSB0021 | MPSB0021 | MPSB0021 | MPSB0021 | MPSB0022 | MPSB0022 | MPSB0022 | MPSB0022 | MPSB0023 | MPSB0023 | MPSB0023 | MPSB0024 | MPSB0024 | MPSB0024 | MPSB0025 | MPSB0025 | MPSB0025 | MPSB0025 | MPSB0028 |
| | | Field Sample ID | MPSB0019-SS-AR-AS-0 | MPSB0020-SS-AA-AB-0 | MPSB0020-SS-AD-AE-0 | MPSB0020-SS-AL-AM-0 | MPSB0021-SS-AA-AB-0 | MPSB0021-SS-AD-AE-0 | MPSB0021-SS-AH-AI-0 | MPSB0021-SS-AL-AM-0 | MPSB0022-SS-AA-AB-0 | MPSB0022-SS-AD-AE-0 | MPSB0022-SS-AL-AM-0 | MPSB0022-SS-AL-AM-1 | MPSB0023-SS-AA-AB-0 | MPSB0023-SS-AD-AE-0 | MPSB0023-SS-AL-AM-0 | MPSB0024-SS-AA-AB-0 | MPSB0024-SS-AD-AE-0 | MPSB0024-SS-AL-AM-0 | MPSB0025-SS-AA-AB-0 | MPSB0025-SS-AD-AE-0 | MPSB0025-SS-AH-AI-0 | MPSB0025-SS-AL-AM-0 | MPSB0028-SS-AA-AB-0 |
| | | Sample Date | 12/8/2009 | 12/8/2009 | 12/8/2009 | 12/8/2009 | 12/9/2009 | 12/9/2009 | 12/9/2009 | 12/9/2009 | 12/9/2009 | 12/9/2009 | 12/9/2009 | 12/9/2009 | 12/10/2009 | 12/10/2009 | 12/10/2009 | 12/10/2009 | 12/10/2009 | 12/10/2009 | 12/15/2009 | 12/15/2009 | 12/15/2009 | 12/15/2009 | 12/17/2009 |
| | | Depth (ft) | 8.5-9 | 0-0.5 | 1.5-2 | 5.5-6 | 0-0.5 | 1.5-2 | 3.5-4 | 5.5-6 | 0-0.5 | 1.5-2 | 5.5-6 | 5.5-6 | 0-0.5 | 1.5-2 | 5.5-6 | 0-0.5 | 1.5-2 | 5.5-6 | 0-0.5 | 1.5-2 | 3.5-4 | 5.5-6 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 0.21 U | 0.18 U | 0.057 J | 0.22 U | 0.055 J | | 0.19 U | 0.19 U | 0.18 U | 0.022 J | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.031 J | 0.18 U | 0.22 U | 0.031 J | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 0.42 U | 0.35 UJ | 0.36 UJ | 0.42 UJ | 0.35 UJ | | 0.37 UJ | 0.37 UJ | 0.35 UJ | | 0.42 UJ | 0.4 UJ | 0.35 UJ | | 0.37 UJ | 0.35 UJ | 0.36 UJ | 0.43 UJ | 0.53 UJ | | 0.37 UJ | 0.46 UJ | |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.21 U | 0.18 U | 0.024 J | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.29 | 0.22 U | 0.2 U | 0.08 J | | 0.047 J | 0.18 U | 0.024 J | 0.028 J | 0.064 J | | 0.19 U | 0.24 U | 0.024 J |
| SVOC | 2-METHYLPHENOL | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | 2-NITROANILINE | MG/KG | 0.42 U | 0.35 U | 0.36 U | 0.42 U | 0.35 U | | 0.37 U | 0.37 U | 0.35 U | 0.37 U | 0.42 U | 0.4 U | 0.35 U | | 0.37 U | 0.35 U | 0.36 U | 0.43 U | 0.53 U | | 0.37 U | 0.46 U | 0.34 U |
| SVOC | 2-NITROPHENOL | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | 3-NITROANILINE | MG/KG | 0.42 U | 0.35 U | 0.36 U | 0.42 U | 0.35 U | | 0.37 U | 0.37 U | 0.35 U | 0.37 U | 0.42 U | 0.4 U | 0.35 U | | 0.37 U | 0.35 U | 0.36 U | 0.43 U | 0.53 U | | 0.37 U | 0.46 U | 0.34 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 0.42 U | 0.35 UJ | 0.36 UJ | 0.42 UJ | 0.35 U | | 0.37 U | 0.37 U | 0.35 U | 0.37 UJ | 0.42 UJ | 0.4 UJ | 0.35 UJ | | 0.37 UJ | 0.35 UJ | 0.36 UJ | 0.43 UJ | 0.53 UJ | | 0.37 UJ | 0.46 UJ | 0.34 UJ |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | 4-CHLOROANILINE | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | 4-METHYLPHENOL | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | 4-NITROANILINE | MG/KG | 0.42 U | 0.35 U | 0.36 U | 0.42 U | 0.35 U | | 0.37 U | 0.37 U | 0.35 U | 0.37 U | 0.42 U | 0.4 U | 0.35 U | | 0.37 U | 0.35 U | 0.36 U | 0.43 U | 0.53 U | | 0.37 U | 0.46 U | 0.34 U |
| SVOC | 4-NITROPHENOL | MG/KG | 0.42 U | 0.35 U | 0.36 U | 0.42 U | 0.35 U | | 0.37 U | 0.37 U | 0.35 U | 0.37 U | 0.42 U | 0.4 U | 0.35 U | | 0.37 U | 0.35 U | 0.36 U | 0.43 U | 0.53 U | | 0.37 U | 0.46 U | 0.34 U |
| SVOC | ACENAPHTHENE | MG/KG | 0.21 U | 0.18 U | 0.068 J | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.11 J | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.021 J | 0.034 J | 0.27 U | | 0.19 U | 0.24 U | 0.031 J |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.21 U | 0.18 U | 0.074 J | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.069 J | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.079 J | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | ACETOPHENONE | MG/KG | 0.06 J | 0.18 U | 0.019 J | 0.033 J | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.031 J | | 0.19 U | 0.03 J | 0.18 U | 0.22 U | 0.056 J | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | ANTHRACENE | MG/KG | 0.21 U | 0.18 U | 0.21 | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.091 J | 0.024 J | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.042 J | 0.064 J | | 0.19 U | 0.24 U | 0.049 J |
| SVOC | ATRAZINE | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | BENZALDEHYDE | MG/KG | 0.063 J | 0.18 U | 0.024 J | 0.058 J | 0.18 U | | 0.19 U | 0.024 J | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.046 J | 0.044 J | 0.91 | 0.22 U | 0.04 J | | 0.055 J | 0.027 J | 0.053 J | 0.45 | 0.075 J | 0.048 J | 0.062 J | | 0.069 J | 0.068 J | 0.093 J | 0.18 J | 0.47 | | 0.031 J | 0.24 UJ | 0.26 J |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.058 J | 0.055 J | 0.84 | 0.011 | 0.049 J | | 0.051 J | 0.028 J | 0.069 J | 0.53 | 0.076 J | 0.053 J | 0.082 J | | 0.064 J | 0.069 J | 0.1 J | 0.12 J | 0.43 | | 0.031 J | 0.015 | 0.45 J |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 0.051 J | 0.13 J | 0.78 | 0.22 U | 0.064 J | | 0.046 J | 0.033 J | 0.074 J | 0.63 | 0.083 J | 0.073 J | 0.14 J | | 0.065 J | 0.062 J | 0.1 J | 0.19 J | 0.75 | | 0.045 J | 0.24 U | 0.8 J |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.025 J | 0.05 J | 0.31 | 0.22 U | 0.046 J | | 0.035 J | 0.19 U | 0.029 J | 0.14 J | 0.047 J | 0.038 J | 0.051 J | | 0.04 J | 0.032 J | 0.047 J | 0.042 J | 0.13 J | | 0.19 U | 0.24 UJ | 0.25 J |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.051 J | 0.18 U | 0.89 | 0.22 U | 0.045 J | | 0.039 J | 0.024 J | 0.066 J | 0.68 | 0.086 J | 0.053 J | 0.091 J | | 0.073 J | 0.079 J | 0.1 J | 0.17 J | 0.69 | | 0.03 J | 0.24 U | 0.54 J |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.022 J | 0.22 U | 0.27 U | | 0.021 J | 0.24 U | 0.04 J |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | CAPROLACTAM | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | CARBAZOLE | MG/KG | 0.21 U | 0.18 U | 0.09 J | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.025 J | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.03 J | | 0.19 U | 0.24 U | 0.057 J |
| SVOC | CHRYSENE | MG/KG | 0.059 J | 0.11 J | 1.1 | 0.22 U | 0.055 J | | 0.078 J | 0.033 J | 0.076 J | 0.54 | 0.12 J | 0.077 J | 0.099 J | | 0.091 J | 0.083 J | 0.12 J | 0.29 | 0.68 | | 0.045 J | 0.24 UJ | 0.53 J |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.21 U | 0.18 U | 0.13 J | 0.0011 J | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.067 J | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.042 J | | 0.19 U | 0.0034 J | 0.075 J |
| SVOC | DIBENZOFURAN | MG/KG | 0.21 U | 0.18 U | 0.097 J | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.051 J | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.021 J |
| SVOC | DIETHYLPHTHALATE | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.026 J | 0.22 U | 0.2 U | 0.018 J | | 0.19 U | 0.18 U | 0.021 J | 0.22 U | 0.027 J | | 0.19 U | 0.24 U | 0.023 J |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 UJ | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.21 J | | 0.19 U | 0.24 U | 0.18 UJ |
| SVOC | FLUORANTHENE | MG/KG | 0.075 J | 0.16 J | 1.5 | 0.22 U | 0.053 J | | 0.09 J | 0.054 J | 0.076 J | 0.91 | 0.32 | 0.19 J | 0.14 J | | 0.13 J | 0.09 J | 0.14 J | 0.72 | 0.79 | | 0.043 J | 0.24 UJ | 0.76 J |
| SVOC | FLUORENE | MG/KG | 0.21 U | 0.18 U | 0.098 J | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.12 J | 0.22 U | 0.2 U | 0.042 J | | 0.081 J | 0.18 U | 0.18 U | 0.023 J | 0.27 U | | 0.19 U | 0.24 U | 0.031 J |
| SVOC | HEXACHLOROBENZENE | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 0.21 U | 0.18 UJ | 0.19 UJ | 0.22 UJ | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 UJ | 0.22 U | 0.2 U | 0.18 UJ | | 0.19 UJ | 0.18 UJ | 0.18 UJ | 0.22 UJ | 0.27 UJ | | 0.19 UJ | 0.24 UJ | 0.18 UJ |
| SVOC | HEXACHLOROETHANE | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.026 J | 0.022 J | 0.37 | 0.22 U | 0.042 J | | 0.03 J | 0.19 U | 0.03 J | 0.15 J | 0.041 J | 0.038 J | 0.045 J | | 0.037 J | 0.032 J | 0.047 J | 0.051 J | 0.14 J | | 0.19 U | 0.24 U | 0.23 J |
| SVOC | ISOPHORONE | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | NAPHTHALENE | MG/KG | 0.21 U | 0.18 U | 0.024 J | 0.027 J | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.59 | 0.22 U | 0.2 U | 0.042 J | | 0.19 U | 0.18 U | 0.055 J | 0.27 | 0.11 J | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | NITROBENZENE | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | 0.42 U | 0.35 U | 0.36 U | 0.42 U | 0.35 U | | 0.37 U | 0.37 U | 0.35 U | 0.37 U | 0.42 U | 0.4 U | 0.35 U | | 0.37 U | 0.35 U | 0.36 U | 0.43 U | 0.53 U | | 0.37 U | 0.46 U | 0.34 U |
| SVOC | PHENANTHRENE | MG/KG | 0.05 J | 0.069 J | 1.6 | 0.22 U | 0.022 J | | 0.053 J | 0.027 J | 0.023 J | 0.42 | 0.2 J | 0.085 J | 0.12 J | | 0.24 | 0.056 J | 0.089 J | 0.24 | 0.35 | | 0.032 J | 0.24 U | 0.38 |
| SVOC | PHENOL | MG/KG | 0.21 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.22 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.22 U | 0.27 U | | 0.19 U | 0.24 U | 0.18 U |
| SVOC | PYRENE | MG/KG | 0.068 J | 0.12 J | 1.4 | 0.22 U | 0.066 J | | 0.097 J | 0.049 J | 0.11 J | 0.95 | 0.31 | 0.18 J | 0.17 J | | 0.18 J | 0.087 J | 0.13 J | 0.49 | 0.48 | | 0.035 J | 0.24 UJ | 1.1 J |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0019 | MPSB0020 | MPSB0020 | MPSB0020 | MPSB0021 | MPSB0021 | MPSB0021 | MPSB0021 | MPSB0022 | MPSB0022 | MPSB0022 | MPSB0022 | MPSB0023 | MPSB0023 | MPSB0023 | MPSB0024 | MPSB0024 | MPSB0024 | MPSB0025 | MPSB0025 | MPSB0025 | MPSB0025 | MPSB0028 |
| | | Field Sample ID | MPSB0019-SS-AR-AS-0 | MPSB0020-SS-AA-AB-0 | MPSB0020-SS-AD-AE-0 | MPSB0020-SS-AL-AM-0 | MPSB0021-SS-AA-AB-0 | MPSB0021-SS-AD-AE-0 | MPSB0021-SS-AH-AI-0 | MPSB0021-SS-AL-AM-0 | MPSB0022-SS-AA-AB-0 | MPSB0022-SS-AD-AE-0 | MPSB0022-SS-AL-AM-0 | MPSB0022-SS-AL-AM-1 | MPSB0023-SS-AA-AB-0 | MPSB0023-SS-AD-AE-0 | MPSB0023-SS-AL-AM-0 | MPSB0024-SS-AA-AB-0 | MPSB0024-SS-AD-AE-0 | MPSB0024-SS-AL-AM-0 | MPSB0025-SS-AA-AB-0 | MPSB0025-SS-AD-AE-0 | MPSB0025-SS-AH-AI-0 | MPSB0025-SS-AL-AM-0 | MPSB0028-SS-AA-AB-0 |
| | | Sample Date | 12/8/2009 | 12/8/2009 | 12/8/2009 | 12/8/2009 | 12/9/2009 | 12/9/2009 | 12/9/2009 | 12/9/2009 | 12/9/2009 | 12/9/2009 | 12/9/2009 | 12/9/2009 | 12/10/2009 | 12/10/2009 | 12/10/2009 | 12/10/2009 | 12/10/2009 | 12/10/2009 | 12/15/2009 | 12/15/2009 | 12/15/2009 | 12/15/2009 | 12/17/2009 |
| | | Depth (ft) | 8.5-9 | 0-0.5 | 1.5-2 | 5.5-6 | 0-0.5 | 1.5-2 | 3.5-4 | 5.5-6 | 0-0.5 | 1.5-2 | 5.5-6 | 5.5-6 | 0-0.5 | 1.5-2 | 5.5-6 | 0-0.5 | 1.5-2 | 5.5-6 | 0-0.5 | 1.5-2 | 3.5-4 | 5.5-6 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | | | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | | 0.0074 U | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | | | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | | 0.0074 U | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | | | | 0.15 J | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | | 0.0074 U | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | | | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | | 0.0074 U | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | | | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | | 0.0074 U | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | | | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | | 0.0074 U | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | | | | 0.46 | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | | 0.0074 U | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | 0.66 U | | 0.009 U | 0.59 U | | 0.0095 U | 0.0088 U | 0.011 U | | 2.1 U | 0.013 U | 0.017 U | | 0.6 U | 0.59 U | | 0.53 U | 0.75 U | | 0.011 U | 0.0099 U | 0.015 U | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | 0.66 U | | 0.009 U | 0.59 U | | 0.0095 U | 0.0088 U | 0.011 U | | 2.1 U | 0.013 U | 0.017 U | | 0.6 U | 0.59 U | | 0.53 U | 0.75 U | | 0.011 U | 0.0099 U | 0.015 U | |
| VOC | ACETONE | MG/KG | 0.66 U | | 0.009 U | 0.25 J | | 0.0058 J | 0.026 | 0.015 | | 2.1 U | 0.014 | 0.017 U | | 0.6 U | 0.59 U | | 0.53 U | 0.75 U | | 0.011 U | 0.0099 U | 0.016 | |
| VOC | BENZENE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 0.3 J | 0.0073 J | 0.0084 U | | 0.22 J | 0.29 U | | 0.096 J | 2 | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | BROMOCHLOROMETHANE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | BROMODICHLOROMETHANE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | BROMOFORM | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | | | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | | 0.0074 U | |
| VOC | BROMOMETHANE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.3 UJ | 0.29 UJ | | 0.26 UJ | 0.38 UJ | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | CARBON DISULFIDE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | CARBON TETRACHLORIDE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | CHLOROBENZENE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | CHLOROETHANE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | CHLOROFORM | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | CHLOROMETHANE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0022 J | 0.0044 U | 0.0053 U | | 1.1 U | 0.0061 J | 0.02 | | 0.3 U | 0.29 U | | 0.17 J | 0.24 J | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | CYCLOHEXANE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.3 U | 0.29 U | | 0.1 J | 0.13 J | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | DICHLOROMETHANE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | ETHYLBENZENE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 0.99 J | 0.0032 J | 0.0084 U | | 0.56 | 0.29 U | | 0.18 J | 0.17 J | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | ISOPROPYLBENZENE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | | | | 0.18 J | 0.29 U | | 0.26 U | 0.13 J | | 0.0053 U | | 0.0074 U | |
| VOC | METHYL ACETATE | MG/KG | 0.49 | | 0.0045 U | 0.65 | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.16 J | 0.29 U | | 0.26 U | 0.33 J | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | METHYL ETHYL KETONE | MG/KG | 0.66 U | | 0.009 U | 0.59 U | | 0.0095 U | 0.0043 J | 0.011 U | | 2.1 U | 0.013 U | 0.017 U | | 0.6 U | 0.59 U | | 0.53 U | 0.75 U | | 0.011 U | 0.0099 U | 0.015 U | |
| VOC | METHYLCYCLOHEXANE | MG/KG | 5.7 | | 0.0045 U | 0.59 | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.5 | 0.012 | 0.0084 U | | 0.57 | 0.29 U | | 0.64 | 0.65 | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | TETRACHLOROETHENE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0094 J | | 0.3 U | 0.29 U | | 0.2 J | 0.26 J | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | TOLUENE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.55 | 0.29 U | | 0.062 J | 0.097 J | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.3 U | 0.29 U | | 0.26 U | 0.66 | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0026 J | 0.014 J | | 0.3 U | 0.29 U | | 0.092 J | 0.2 J | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.3 U | 0.29 U | | 0.26 U | 0.38 U | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | XYLENE, O- | MG/KG | 0.33 U | | 0.0045 U | 0.3 U | | 0.0047 U | 0.0044 U | 0.0053 U | | 1.1 U | 0.0064 U | 0.0084 U | | 0.26 J | 0.29 U | | 0.26 U | 0.35 J | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | XYLENES (TOTAL) | MG/KG | 0.087 J | | 0.0045 U | 0.071 J | | 0.0022 J | 0.0044 U | 0.0053 U | | 1.5 | 0.0082 | 0.0084 U | | 1.19 J | 0.29 U | | 0.2 J | 0.79 J | | 0.0053 U | 0.0049 U | 0.0074 U | |
| VOC | XYLENES, M & P | MG/KG | 0.087 J | | 0.0045 U | 0.071 J | | 0.0022 J | 0.0044 U | 0.0053 U | | 1.5 | 0.0082 | 0.0084 U | | 0.93 | 0.29 U | | 0.2 J | 0.44 | | 0.0053 U | 0.0049 U | 0.0074 U | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0028 | MPSB0028 | MPSB0029 | MPSB0029 | MPSB0029 | MPSB0030 | MPSB0030 | MPSB0030 | MPSB0031 | MPSB0031 | MPSB0031 | MPSB0031 | MPSB0031 | MPSB0032 | MPSB0032 | MPSB0032 | MPSB0032 | MPSB0033 | MPSB0033 | MPSB0033 | MPSB0033 | MPSB0033 | MPSB0033 | MPSB0033 |
| | | Field Sample ID | MPSB0028-SS-AD-AE-0 | MPSB0028-SS-AL-AM-0 | MPSB0029-SS-AA-AB-0 | MPSB0029-SS-AD-AE-0 | MPSB0029-SS-AP-AQ-0 | MPSB0030-SS-AA-AB-0 | MPSB0030-SS-AD-AE-0 | MPSB0030-SS-AJ-AK-0 | MPSB0031-SS-AA-AB-0 | MPSB0031-SS-AD-AE-0 | MPSB0031-SS-AH-AI-0 | MPSB0031-SS-AI-AJ-0 | MPSB0031-SS-AL-AM-0 | MPSB0032-SS-AA-AB-0 | MPSB0032-SS-AD-AE-0 | MPSB0032-SS-AI-AJ-0 | MPSB0032-SS-AL-AM-0 | MPSB0033-SS-AA-AB-0 | MPSB0033-SS-AD-AE-0 | MPSB0033-SS-AE-AF-0 | MPSB0033-SS-AH-AI-0 | MPSB0033-SS-AJ-AK-0 | MPSB0033-SS-AL-AM-0 |
| | | Sample Date | 12/17/2009 | 12/17/2009 | 12/17/2009 | 12/17/2009 | 12/17/2009 | 1/4/2010 | 1/4/2010 | 1/4/2010 | 1/4/2010 | 1/4/2010 | 1/4/2010 | 1/4/2010 | 1/4/2010 | 1/5/2010 | 1/5/2010 | 1/5/2010 | 1/5/2010 | 1/5/2010 | 1/5/2010 | 1/5/2010 | 1/5/2010 | 1/5/2010 | 1/5/2010 | 9/26/2012 |
| | | Depth (ft) | 1.5-2 | 5.5-6 | 0-0.5 | 1.5-2 | 7.5-8 | 0-0.5 | 1.5-2 | 4.5-5 | 0-0.5 | 1.5-2 | 3.5-4 | 4-4.5 | 5.5-6 | 0-0.5 | 1.5-2 | 4-4.5 | 5.5-6 | 0-0.5 | 1.5-2 | 2-2.5 | 3.5-4 | 4.5-5 | 5.5-6 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | | 2060 | 2470 | | 984 | 3310 | | 926 | 2880 | | 1060 | 1190 | 2770 | 3790 J | | 1630 J | 2570 J | 12400 J | | 4570 J | 2510 J | 2810 J | 3780 |
| METALS | ANTIMONY | MG/KG | | 2.2 J | 5.6 U | | 6.3 U | 5.4 U | | 6 U | 4.1 U | | 6.2 U | 4.3 U | 5.2 U | 5.2 U | | 5.1 U | 6 U | 5.7 U | | 6.1 U | 0.44 J | 1.4 J | 5 UJ |
| METALS | ARSENIC | MG/KG | | 2.5 | 1.4 | | 0.46 J | 6.7 | | 0.66 J | 6.8 | | 1 U | 0.79 | 2.1 | 29.9 J | | 50.4 J | 5.4 J | 19.7 J | | 3.3 J | 7.9 J | 122 J | 16.2 J |
| METALS | BARIUM | MG/KG | | 25.8 | 27.2 | | 2.9 J | 154 | | 20 U | 18 | | 21 U | 14 U | 17 U | 178 J | | 4.4 J | 5.4 J | 218 J | | 131 J | 189 J | 305 J | 194 J |
| METALS | BERYLLIUM | MG/KG | | 0.41 U | 0.48 U | | 0.53 U | 0.33 J | | 0.5 U | 0.047 J | | 0.1 J | 0.075 J | 0.11 J | 0.59 | | 0.42 U | 1.8 U | 0.87 | | 0.51 U | 0.4 U | 0.47 U | 0.42 U |
| METALS | CADMIUM | MG/KG | | 0.41 U | 0.47 U | | 0.53 U | 0.12 J | | 0.5 U | 0.34 U | | 0.52 U | 0.36 U | 0.43 U | 0.43 U | | 0.42 U | 0.5 U | 0.48 U | | 0.28 J | 0.24 J | 0.47 U | 0.31 J |
| METALS | CALCIUM | MG/KG | | 3950 | 3490 | | 49 J | 2740 | | 502 U | 378 | | 518 U | 356 U | 431 U | 67900 | | 158 J | 162 J | 12100 | | 476 J | 1000 | 1400 | 2190 |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | | 17.1 J | 7.1 J | | 4.9 J | 20.4 | | 4.1 | 5.5 | | 5.5 | 6.8 | 11.6 | 39.7 J | | 5.2 J | 12.1 J | 41 J | | 20.1 J | 15.5 J | 58.2 J | 29.2 |
| METALS | COBALT | MG/KG | | 0.43 J | 0.43 J | | 5.3 U | 3.2 J | | 5 U | 0.2 J | | 5.2 U | 3.6 U | 4.3 U | 4.3 J | | 4.2 U | 5 U | 8 | | 0.43 J | 0.83 J | 0.87 J | 2.2 J |
| METALS | COPPER | MG/KG | | 4.7 J | 3.1 J | | 0.81 J | 17.2 | | 1.1 J | 1.4 J | | 0.73 J | 0.62 J | 1.6 J | 27.3 | | 0.45 J | 1.4 J | 28.3 | | 7.8 | 18.5 | 52.6 | 14.9 |
| METALS | CYANIDE | MG/KG | | 5.4 | 2.7 U | | 3 U | 2.8 U | | 2.9 U | 2.6 U | | 3.1 U | 3.1 U | 3 U | 2.6 UJ | | 2.9 UJ | 3 UJ | 2.6 UJ | | 2.8 UJ | 2.7 UJ | 3.7 J | |
| METALS | IRON | MG/KG | | 4360 J | 4180 J | | 1700 J | 10900 | | 1030 | 3420 | | 1700 | 1850 | 13500 | 12300 J | | 2850 J | 5850 J | 20100 J | | 11700 J | 7080 J | 5950 J | 8190 |
| METALS | LEAD | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | 201 |
| METALS | MAGNESIUM | MG/KG | | 2370 | 2150 | | 19.3 J | 1340 | | 33.5 J | 118 J | | 16.7 J | 18.1 J | 54.7 J | 26800 J | | 29.5 J | 88.9 J | 7840 J | | 131 J | 364 J | 249 J | 1110 |
| METALS | MANGANESE | MG/KG | | 21 J | 23.2 J | | 2.5 J | 70.3 | | 7.4 | 9.6 | | 6.4 | 4.9 | 13 | 342 J | | 5.1 J | 7.4 J | 324 J | | 2010 J | 96.6 J | 31.2 J | 81.6 J |
| METALS | MERCURY | MG/KG | | 0.038 J | 0.021 J | | 0.12 U | 0.14 | | 0.024 J | 0.095 U | | 0.086 U | 0.093 U | 0.054 J | 0.099 | | 0.11 U | 0.084 U | 0.24 | | 0.19 | 0.36 | 0.27 | 0.19 |
| METALS | NICKEL | MG/KG | | 1.8 J | 1.2 J | | 4.2 U | 5.2 | | 4 U | 0.81 J | | 4.1 U | 2.9 U | 3.5 U | 7.1 | | 3.4 U | 4 U | 14.1 | | 0.27 J | 1.4 J | 2.1 J | 4.5 |
| METALS | POTASSIUM | MG/KG | | 226 J | 273 J | | 94 J | 459 | | 50 J | 58.5 J | | 63.5 J | 79.6 J | 181 J | 1110 J | | 48.2 J | 306 J | 3830 J | | 224 J | 142 J | 210 J | 510 |
| METALS | SELENIUM | MG/KG | | 2.9 U | 3.3 U | | 3.7 U | 3.2 U | | 3.5 U | 2.4 U | | 3.6 U | 2.5 U | 3 U | 3 U | | 3 U | 3.5 U | 3.3 U | | 3.5 U | 2.8 U | 0.52 J | 2.9 U |
| METALS | SILVER | MG/KG | | 0.82 U | 0.93 U | | 1.1 U | 0.9 U | | 1 U | 0.69 U | | 1 U | 0.71 U | 0.86 U | 0.86 U | | 0.84 U | 1 U | 0.96 U | | 1 U | 0.8 U | 0.94 U | 0.83 U |
| METALS | SODIUM | MG/KG | | 458 | 115 J | | 20.2 J | 186 J | | 502 U | 48.4 J | | 38.2 J | 35.6 J | 44.5 J | 581 | | 178 J | 287 J | 4140 | | 497 J | 378 J | 366 J | 651 |
| METALS | THALLIUM | MG/KG | | 2 U | 2.3 U | | 2.6 U | 2.3 U | | 2.5 U | 1.7 U | | 2.6 U | 1.8 U | 2.2 U | 2.2 U | | 2.1 U | 2.5 U | 2.4 U | | 2.5 U | 2 U | 2.4 U | 2.1 U |
| METALS | VANADIUM | MG/KG | | 6.9 | 6.7 | | 5.3 | 13.6 | | 2.5 J | 7.4 | | 3.6 J | 4.4 | 9 | 24 J | | 3.9 J | 13.6 J | 39.6 J | | 15.8 J | 8.1 J | 8.8 J | 13.9 |
| METALS | ZINC | MG/KG | | 19.7 J | 20.5 J | | 5.3 U | 89.7 | | 11.7 | 27.4 | | 6.2 U | 4.3 U | 5.2 U | 64.5 J | | 5.1 U | 6 U | 114 J | | 92.4 J | 192 J | 134 J | 125 J |
| PEST/PCB | 4,4'-DDD | MG/KG | | 0.0037 U | 0.0037 U | | 0.004 U | 0.0068 | | 0.0038 U | 0.0033 U | | 0.0041 U | 0.0041 U | | 0.0035 U | | 0.0038 U | | 0.0017 J | | 0.0037 U | 0.0035 J | 0.0052 | |
| PEST/PCB | 4,4'-DDE | MG/KG | | 0.0037 U | 0.0037 U | | 0.004 U | 0.0025 J | | 0.0038 U | 0.0033 U | | 0.0041 U | 0.0041 U | | 0.0035 U | | 0.0038 U | | 0.0034 U | | 0.0037 U | 0.0036 U | 0.0024 J | |
| PEST/PCB | 4,4'-DDT | MG/KG | | 0.0037 U | 0.0037 U | | 0.004 U | 0.0037 U | | 0.0038 U | 0.0033 U | | 0.0041 U | 0.0041 U | | 0.0035 U | | 0.0038 U | | 0.0034 U | | 0.0037 U | 0.0036 U | 0.0036 U | |
| PEST/PCB | ALDRIN | MG/KG | | 0.0019 U | 0.0019 U | | 0.0021 U | 0.0019 U | | 0.002 U | 0.0017 U | | 0.0021 U | 0.0021 U | | 0.0018 U | | 0.0019 U | | 0.025 | | 0.0015 J | 0.14 | 0.17 | |
| PEST/PCB | ALPHA-BHC | MG/KG | | 0.0019 U | 0.0019 U | | 0.0021 U | 0.0019 U | | 0.002 U | 0.0017 U | | 0.0021 U | 0.0021 U | | 0.0018 U | | 0.0019 U | | 0.0018 U | | 0.0019 U | 0.0018 U | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | 0.0019 U | 0.0019 U | | 0.0021 U | 0.0019 U | | 0.002 U | 0.0017 U | | 0.0021 U | 0.0021 U | | 0.0018 U | | 0.0019 U | | 0.018 | | 0.0019 | 0.071 | 0.095 | |
| PEST/PCB | AROCLOR-1016 | MG/KG | | 0.037 U | 0.037 U | | 0.04 U | 0.037 U | | 0.038 U | 0.033 U | | 0.041 U | 0.041 U | | 0.035 U | | 0.038 U | | 0.034 U | | 0.037 U | 0.036 U | 0.036 U | 0.036 U |
| PEST/PCB | AROCLOR-1221 | MG/KG | | 0.037 U | 0.037 U | | 0.04 U | 0.037 U | | 0.038 U | 0.033 U | | 0.041 U | 0.041 U | | 0.035 U | | 0.038 U | | 0.034 U | | 0.037 U | 0.036 U | 0.036 U | 0.036 U |
| PEST/PCB | AROCLOR-1232 | MG/KG | | 0.037 U | 0.037 U | | 0.04 U | 0.037 U | | 0.038 U | 0.033 U | | 0.041 U | 0.041 U | | 0.035 U | | 0.038 U | | 0.034 U | | 0.037 U | 0.036 U | 0.036 U | 0.036 U |
| PEST/PCB | AROCLOR-1242 | MG/KG | | 0.037 U | 0.037 U | | 0.04 U | 0.15 | | 0.038 U | 0.033 U | | 0.041 U | 0.041 U | | 0.035 U | | 0.038 U | | 0.049 J | | 0.037 U | 0.036 U | 0.036 U | 0.022 J |
| PEST/PCB | AROCLOR-1248 | MG/KG | | 0.037 U | 0.037 U | | 0.04 U | 0.037 U | | 0.038 U | 0.033 U | | 0.041 U | 0.041 U | | 0.035 U | | 0.038 U | | 0.034 U | | 0.037 U | 0.036 U | 0.036 U | 0.036 U |
| PEST/PCB | AROCLOR-1254 | MG/KG | | 0.037 U | 0.037 U | | 0.04 U | 0.071 | | 0.038 U | 0.033 U | | 0.041 U | 0.041 U | | 0.084 | | 0.038 U | | 0.053 J | | 0.037 U | | | 0.027 J |
| PEST/PCB | AROCLOR-1260 | MG/KG | | 0.037 U | 0.037 U | | 0.04 U | 0.037 U | | 0.038 U | 0.033 U | | 0.041 U | 0.041 U | | 0.035 U | | 0.038 U | | 0.034 U | | 0.037 U | 0.026 J | 0.026 J | 0.04 |
| PEST/PCB | AROCLOR-1262 | MG/KG | | 0.037 U | 0.037 U | | 0.04 U | 0.037 U | | 0.038 U | 0.033 U | | 0.041 U | 0.041 U | | 0.035 U | | 0.038 U | | 0.034 U | | 0.037 U | 0.036 U | 0.036 U | 0.036 U |
| PEST/PCB | AROCLOR-1268 | MG/KG | | 0.037 U | 0.037 U | | 0.04 U | 0.037 U | | 0.038 U | 0.033 U | | 0.041 U | 0.041 U | | 0.035 U | | 0.038 U | | 0.034 U | | 0.037 U | 0.036 U | 0.036 U | 0.036 U |
| PEST/PCB | BETA-BHC | MG/KG | | 0.0019 U | 0.0019 U | | 0.0021 U | 0.0049 J | | 0.002 U | 0.0017 U | | 0.0021 U | 0.0021 U | | 0.0018 U | | 0.0019 U | | 0.0018 U | | 0.0019 U | 0.0018 U | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | 0.0019 U | 0.0019 U | | 0.0021 U | | | 0.002 U | 0.0017 U | | 0.0021 U | 0.0021 U | | 0.0018 U | | 0.0019 U | | 0.0018 U | | 0.0019 U | 0.0018 U | 0.0018 U | |
| PEST/PCB | DIELDRIN | MG/KG | | 0.0037 U | 0.0037 U | | 0.004 U | 0.0037 U | | 0.0038 U | 0.0033 U | | 0.0041 U | 0.0041 U | | 0.0035 U | | 0.0038 U | | 0.015 | | 0.0037 U | 0.027 | 0.054 | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | 0.0019 U | 0.0019 U | | 0.0021 U | 0.0019 U | | 0.002 U | 0.0017 U | | 0.0021 U | 0.0021 U | | 0.0018 U | | 0.0019 U | | 0.0018 U | | 0.0019 U | 0.0018 U | 0.0018 U | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | 0.0037 U | 0.0037 U | | 0.004 U | 0.0037 U | | 0.0038 U | 0.0033 U | | 0.0041 U | 0.0041 U | | 0.0035 U | | 0.0038 U | | 0.0034 U | | 0.0037 U | 0.0036 U | 0.0018 J | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | 0.0037 U | 0.0037 U | | 0.004 U | 0.0037 U | | 0.0038 U | 0.0033 U | | 0.0041 U | 0.0041 U | | 0.0035 U | | 0.0038 U | | 0.0034 U | | 0.0037 U | 0.0036 U | 0.0036 U | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | 0.0037 U | 0.0037 U | | 0.004 U | 0.0037 U | | 0.0038 U | 0.0033 U | | 0.0041 U | 0.0041 U | | 0.0035 U | | 0.0038 U | | 0.0034 U | | 0.0037 U | 0.0036 U | 0.0036 U | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | 0.0037 U | 0.0037 U | | 0.004 U | 0.002 J | | 0.0038 U | 0.0033 U | | 0.0041 U | 0.0041 U | | 0.0035 U | | 0.0038 U | | 0.0034 U | | 0.0037 U | 0.0036 U | 0.0019 J | |
| PEST/PCB | ENDRIN | MG/KG | | 0.0037 U | 0.0037 U | | 0.004 U | 0.0037 U | | 0.0038 U | 0.0033 U | | 0.0041 U | 0.0041 U | | 0.0035 U | | 0.0038 U | | 0.0034 U | | 0.0037 U | 0.0036 U | 0.0036 U | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | 0.0019 U | 0.0019 U | | 0.0021 U | 0.0019 U | | 0.002 U | 0.0017 U | | 0.0021 U | 0.0021 U | | 0.0018 U | | 0.0019 U | | 0.0018 U | | 0.0019 U | 0.0018 U | 0.0018 U | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | 0.0019 U | 0.0019 U | | 0.0021 U | 0.0019 U | | 0.002 U | 0.0017 U | | 0.0021 U | 0.0021 U | | 0.0018 U | | 0.0019 U | | 0.021 | | 0.0018 J | 0.08 | 0.11 | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | 0.0019 U | 0.0019 U | | 0.0021 U | 0.0019 U | | 0.002 U | 0.0017 U | | 0.0021 U | 0.0021 U | | 0.0018 U | | 0.0019 U | | 0.0018 U | | 0.0019 U | 0.0018 U | 0.0034 J | |
| PEST/PCB | HEPTACHLOR | MG/KG | | 0.0019 U | 0.0019 U | | 0.0021 U | | | 0.002 U | 0.0017 U | | 0.0021 U | 0.0021 U | | 0.0018 U | | 0.0019 U | | 0.0018 U | | 0.0019 U | 0.0018 U | 0.0018 U | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | 0.019 U | 0.019 U | | 0.021 U | 0.019 U | | 0.02 U | 0.017 U | | 0.021 U | 0.021 U | | 0.018 U | | 0.019 U | | 0.018 U | | 0.019 U | 0.018 U | 0.018 U | |
| PEST/PCB | TOXAPHENE | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.2 U | 0.17 U | | 0.21 U | 0.21 U | | 0.18 U | | 0.19 U | | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0028 | MPSB0028 | MPSB0029 | MPSB0029 | MPSB0029 | MPSB0030 | MPSB0030 | MPSB0030 | MPSB0031 | MPSB0031 | MPSB0031 | MPSB0031 | MPSB0031 | MPSB0032 | MPSB0032 | MPSB0032 | MPSB0032 | MPSB0033 | MPSB0033 | MPSB0033 | MPSB0033 | MPSB0033 | MPSB0033 |
| | | Field Sample ID | MPSB0028-SS-AD-AE-0 | MPSB0028-SS-AL-AM-0 | MPSB0029-SS-AA-AB-0 | MPSB0029-SS-AD-AE-0 | MPSB0029-SS-AP-AQ-0 | MPSB0030-SS-AA-AB-0 | MPSB0030-SS-AD-AE-0 | MPSB0030-SS-AJ-AK-0 | MPSB0031-SS-AA-AB-0 | MPSB0031-SS-AD-AE-0 | MPSB0031-SS-AH-AI-0 | MPSB0031-SS-AI-AJ-0 | MPSB0031-SS-AL-AM-0 | MPSB0032-SS-AA-AB-0 | MPSB0032-SS-AD-AE-0 | MPSB0032-SS-AI-AJ-0 | MPSB0032-SS-AL-AM-0 | MPSB0033-SS-AA-AB-0 | MPSB0033-SS-AD-AE-0 | MPSB0033-SS-AE-AF-0 | MPSB0033-SS-AH-AI-0 | MPSB0033-SS-AJ-AK-0 | MPSB0033-SS-AL-AM-0 |
| | | Sample Date | 12/17/2009 | 12/17/2009 | 12/17/2009 | 12/17/2009 | 12/17/2009 | 1/4/2010 | 1/4/2010 | 1/4/2010 | 1/4/2010 | 1/4/2010 | 1/4/2010 | 1/4/2010 | 1/4/2010 | 1/5/2010 | 1/5/2010 | 1/5/2010 | 1/5/2010 | 1/5/2010 | 1/5/2010 | 1/5/2010 | 1/5/2010 | 1/5/2010 | 9/26/2012 |
| | | Depth (ft) | 1.5-2 | 5.5-6 | 0-0.5 | 1.5-2 | 7.5-8 | 0-0.5 | 1.5-2 | 4.5-5 | 0-0.5 | 1.5-2 | 3.5-4 | 4-4.5 | 5.5-6 | 0-0.5 | 1.5-2 | 4-4.5 | 5.5-6 | 0-0.5 | 1.5-2 | 2-2.5 | 3.5-4 | 4.5-5 | 5.5-6 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.085 J | | 0.055 J | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.0097 J |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | | 0.37 UJ | | | | 0.36 U | | 0.38 U | 1.1 UJ | | 0.41 U | 0.41 U | 0.41 U | 0.35 U | | 0.38 U | 0.39 U | 0.34 U | | 0.37 U | 0.35 U | 0.35 U | 0.72 U |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.11 J | | 0.19 U | 1.1 | | 0.55 | 0.061 J | 0.21 U | 0.036 J | | 0.11 J | 0.2 U | 0.044 J | | 0.61 | 0.18 U | 0.02 J | 0.29 J |
| SVOC | 2-METHYLPHENOL | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | 2-NITROANILINE | MG/KG | | 0.37 U | 0.36 U | | 0.4 U | 0.36 U | | 0.38 U | 1.1 U | | 0.41 U | 0.41 U | 0.41 U | 0.35 U | | 0.38 U | 0.39 U | 0.34 U | | 0.37 U | 0.35 U | 0.35 U | 0.72 U |
| SVOC | 2-NITROPHENOL | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | 3-NITROANILINE | MG/KG | | 0.37 U | 0.36 U | | 0.4 U | 0.36 U | | 0.38 U | 1.1 U | | 0.41 U | 0.41 U | 0.41 U | 0.35 U | | 0.38 U | 0.39 U | 0.34 U | | 0.37 U | 0.35 U | 0.35 U | 0.72 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | | 0.37 UJ | 0.36 UJ | | 0.4 UJ | 0.36 U | | 0.38 U | 1.1 UJ | | 0.41 U | 0.41 U | 0.41 U | 0.35 U | | 0.38 U | 0.39 U | 0.34 U | | 0.37 U | 0.35 U | 0.35 U | 0.72 U |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | | 0.19 U | 0.19 UJ | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 UJ |
| SVOC | 4-CHLOROANILINE | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | | 0.19 U | 0.19 UJ | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | 4-METHYLPHENOL | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | 4-NITROANILINE | MG/KG | | 0.37 U | 0.36 U | | 0.4 U | 0.36 U | | 0.38 U | 1.1 U | | 0.41 U | 0.41 U | 0.41 U | 0.35 U | | 0.38 U | 0.39 U | 0.34 U | | 0.37 U | 0.35 U | 0.35 U | 0.72 U |
| SVOC | 4-NITROPHENOL | MG/KG | | 0.37 U | 0.36 U | | 0.4 U | 0.36 U | | 0.38 U | 1.1 U | | 0.41 U | 0.41 U | 0.41 U | 0.35 U | | 0.38 U | 0.39 U | 0.34 U | | 0.37 U | 0.35 U | 0.35 U | 0.72 U |
| SVOC | ACENAPHTHENE | MG/KG | | 0.031 J | 0.19 U | | 0.21 U | 0.043 J | | 0.19 U | 0.075 J | | 0.026 J | 0.21 U | 0.21 U | 0.054 J | | 0.02 J | 0.2 U | 0.028 J | | 0.076 J | 0.02 J | 0.026 J | 0.061 J |
| SVOC | ACENAPHTHYLENE | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.032 J | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.042 J | 0.37 U |
| SVOC | ACETOPHENONE | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | ANTHRACENE | MG/KG | | 0.054 J | 0.19 U | | 0.21 U | 0.032 J | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.052 J | | 0.2 U | 0.2 U | 0.052 J | | 0.033 J | 0.022 J | 0.048 J | 0.038 J |
| SVOC | ATRAZINE | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | BENZALDEHYDE | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.058 J | 0.37 U |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | | 0.2 | 0.19 U | | 0.21 U | 0.15 J | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.15 J | | 0.2 U | 0.2 U | 0.18 | | 0.069 J | 0.074 J | 0.22 | 0.15 J |
| SVOC | BENZO(A)PYRENE | MG/KG | | 0.19 | 0.19 U | | 0.0064 | 0.16 J | | 0.19 U | 0.58 U | | 0.0082 U | 0.0064 | 0.0054 | 0.15 J | | 0.0084 | 0.006 | 0.15 J | | 0.059 J | 0.074 J | 0.22 | 0.13 J |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | | 0.23 | 0.19 U | | 0.21 U | 0.16 J | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.16 J | | 0.2 U | 0.2 U | 0.21 | | 0.058 J | 0.062 J | 0.23 | 0.19 J |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | | 0.05 J | 0.19 UJ | | 0.21 UJ | 0.085 J | | 0.19 U | 0.58 UJ | | 0.21 U | 0.21 U | 0.21 U | 0.065 J | | 0.2 U | 0.2 U | 0.065 J | | 0.042 J | 0.038 J | 0.059 J | 0.097 J |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | | 0.21 | 0.19 U | | 0.21 U | 0.18 J | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.15 J | | 0.2 U | 0.2 U | 0.19 | | 0.066 J | 0.067 J | 0.22 | 0.15 J |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | | 0.024 J | 0.025 J | | 0.028 J | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.033 J | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.037 J | | 0.2 U | 0.2 U | 0.026 J | | 0.046 J | 0.023 J | 0.061 J | 0.37 U |
| SVOC | CAPROLACTAM | MG/KG | | 0.034 J | 0.042 J | | 0.046 J | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | CARBAZOLE | MG/KG | | 0.036 J | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.02 J | | 0.2 U | 0.2 U | 0.03 J | | 0.19 U | 0.18 U | 0.034 J | 0.02 J |
| SVOC | CHRYSENE | MG/KG | | 0.26 | 0.19 U | | 0.21 U | 0.21 | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 | | 0.2 U | 0.2 U | 0.33 | | 0.074 J | 0.085 J | 0.26 | 0.22 J |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | | 0.025 J | 0.19 U | | 0.004 U | 0.036 J | | 0.19 U | 0.58 U | | 0.0082 U | 0.0041 U | 0.0041 U | 0.024 J | | 0.0038 U | 0.0039 U | 0.021 J | | 0.19 U | 0.18 U | 0.025 J | 0.022 J |
| SVOC | DIBENZOFURAN | MG/KG | | 0.019 J | 0.19 U | | 0.21 U | 0.025 J | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.042 J | | 0.2 U | 0.2 U | 0.019 J | | 0.039 J | 0.18 U | 0.025 J | 0.043 J |
| SVOC | DIETHYLPHTHALATE | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | | 0.19 U | 0.019 J | | 0.023 J | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.065 J | | 0.2 U | 0.2 U | 0.018 J | | 0.19 U | 0.18 U | 0.11 J | 0.37 U |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | | 0.19 U | 0.19 UJ | | 0.21 UJ | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | FLUORANTHENE | MG/KG | | 0.55 | 0.022 J | | 0.21 U | 0.25 | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.39 | | 0.2 U | 0.2 U | 0.87 | | 0.23 | 0.17 J | 0.44 | 0.43 |
| SVOC | FLUORENE | MG/KG | | 0.029 J | 0.19 U | | 0.21 U | 0.055 J | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.069 J | | 0.2 U | 0.2 U | 0.18 U | | 0.062 J | 0.18 U | 0.034 J | 0.062 J |
| SVOC | HEXACHLOROBENZENE | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | | 0.19 U | 0.19 UJ | | 0.21 UJ | 0.19 U | | 0.19 U | 0.58 UJ | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | HEXACHLOROETHANE | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | | 0.061 J | 0.19 U | | 0.21 U | 0.1 J | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.082 J | | 0.2 U | 0.2 U | 0.078 J | | 0.042 J | 0.045 J | 0.074 J | 0.082 J |
| SVOC | ISOPHORONE | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | NAPHTHALENE | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.21 | | 0.19 U | 2.5 | | 1.4 | 0.062 J | 0.21 U | 0.085 J | | 0.13 J | 0.2 U | 0.097 J | | 1.3 | 0.067 J | 0.036 J | 0.8 |
| SVOC | NITROBENZENE | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | | 0.37 U | 0.36 U | | 0.4 U | 0.36 U | | 0.38 U | 1.1 U | | 0.41 U | 0.41 U | 0.41 U | 0.35 U | | 0.38 U | 0.39 U | 0.34 U | | 0.37 U | 0.35 U | 0.35 U | 0.72 U |
| SVOC | PHENANTHRENE | MG/KG | | 0.36 | 0.19 U | | 0.21 U | 0.19 | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.22 | | 0.038 J | 0.2 U | 0.37 | | 0.2 | 0.1 J | 0.26 | 0.3 J |
| SVOC | PHENOL | MG/KG | | 0.19 U | 0.19 U | | 0.21 U | 0.19 U | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.18 U | 0.18 U | 0.37 U |
| SVOC | PYRENE | MG/KG | | 0.55 | 0.027 J | | 0.21 U | 0.26 | | 0.19 U | 0.58 U | | 0.21 U | 0.21 U | 0.21 U | 0.28 | | 0.2 U | 0.2 U | 0.54 | | 0.16 J | 0.12 J | 0.3 | 0.25 J |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0028 | MPSB0028 | MPSB0029 | MPSB0029 | MPSB0029 | MPSB0030 | MPSB0030 | MPSB0030 | MPSB0031 | MPSB0031 | MPSB0031 | MPSB0031 | MPSB0031 | MPSB0032 | MPSB0032 | MPSB0032 | MPSB0032 | MPSB0033 | MPSB0033 | MPSB0033 | MPSB0033 | MPSB0033 | MPSB0033 |
| | | Field Sample ID | MPSB0028-SS-AD-AE-0 | MPSB0028-SS-AL-AM-0 | MPSB0029-SS-AA-AB-0 | MPSB0029-SS-AD-AE-0 | MPSB0029-SS-AP-AQ-0 | MPSB0030-SS-AA-AB-0 | MPSB0030-SS-AD-AE-0 | MPSB0030-SS-AJ-AK-0 | MPSB0031-SS-AA-AB-0 | MPSB0031-SS-AD-AE-0 | MPSB0031-SS-AH-AI-0 | MPSB0031-SS-AI-AJ-0 | MPSB0031-SS-AL-AM-0 | MPSB0032-SS-AA-AB-0 | MPSB0032-SS-AD-AE-0 | MPSB0032-SS-AI-AJ-0 | MPSB0032-SS-AL-AM-0 | MPSB0033-SS-AA-AB-0 | MPSB0033-SS-AD-AE-0 | MPSB0033-SS-AE-AF-0 | MPSB0033-SS-AH-AI-0 | MPSB0033-SS-AJ-AK-0 | MPSB0033-SS-AL-AM-0 |
| | | Sample Date | 12/17/2009 | 12/17/2009 | 12/17/2009 | 12/17/2009 | 12/17/2009 | 1/4/2010 | 1/4/2010 | 1/4/2010 | 1/4/2010 | 1/4/2010 | 1/4/2010 | 1/4/2010 | 1/4/2010 | 1/5/2010 | 1/5/2010 | 1/5/2010 | 1/5/2010 | 1/5/2010 | 1/5/2010 | 1/5/2010 | 1/5/2010 | 1/5/2010 | 9/26/2012 |
| | | Depth (ft) | 1.5-2 | 5.5-6 | 0-0.5 | 1.5-2 | 7.5-8 | 0-0.5 | 1.5-2 | 4.5-5 | 0-0.5 | 1.5-2 | 3.5-4 | 4-4.5 | 5.5-6 | 0-0.5 | 1.5-2 | 4-4.5 | 5.5-6 | 0-0.5 | 1.5-2 | 2-2.5 | 3.5-4 | 4.5-5 | 5.5-6 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | 0.0098 U | 0.0095 U | | 0.0098 U | 0.012 U | | 0.0099 U | 0.011 U | | 26 U | 33 U | 3.1 U | 0.011 U | | 0.61 U | 5.1 U | 0.011 U | | 4.7 U | 10 U | 0.56 U | 0.01 U | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | 0.0098 U | 0.0095 U | | 0.0098 U | 0.012 U | | 0.0099 U | 0.011 U | | 26 U | 33 U | 3.1 U | 0.011 U | | 0.61 U | 5.1 U | 0.011 U | | 4.7 U | 10 U | 0.56 U | 0.01 U | |
| VOC | ACETONE | MG/KG | 0.0098 U | 0.011 | | 0.0098 U | 0.012 U | | 0.023 | 0.011 U | | 26 U | 33 U | 3.1 U | 0.032 | | 0.61 U | 5.1 U | 0.025 | | 4.7 U | 10 U | 0.56 U | 0.041 | |
| VOC | BENZENE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0051 J | | 0.16 J | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0049 J | |
| VOC | BROMOCHLOROMETHANE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | BROMODICHLOROMETHANE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | BROMOFORM | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | BROMOMETHANE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | CARBON DISULFIDE | MG/KG | 0.0049 U | 0.0039 J | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0019 J | |
| VOC | CARBON TETRACHLORIDE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | CHLOROBENZENE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | CHLOROETHANE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | CHLOROFORM | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | CHLOROMETHANE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0064 | | 0.058 J | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | CYCLOHEXANE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 15 | 56 | 1.8 | 0.0057 U | | 0.092 J | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | DICHLOROMETHANE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | ETHYLBENZENE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 4.2 J | 23 | 1 J | 0.015 | | 0.35 | 2.5 U | 0.0053 U | | 0.76 J | 5.1 U | 0.28 U | 0.0029 J | |
| VOC | ISOPROPYLBENZENE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 13 J | 0.64 J | 0.0084 | | 0.31 U | 1.1 J | 0.0053 U | | 2.2 J | 2.5 J | 0.086 J | 0.011 | |
| VOC | METHYL ACETATE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | METHYL ETHYL KETONE | MG/KG | 0.0098 U | 0.004 J | | 0.0098 U | 0.012 U | | 0.0063 J | 0.011 U | | 26 U | 33 U | 3.1 U | 0.011 U | | 0.61 U | 5.1 U | 0.011 U | | 4.7 U | 10 U | 0.56 U | 0.011 | |
| VOC | METHYLCYCLOHEXANE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 150 | 380 | 15 | 0.046 | | 0.67 | 4.3 | 0.0036 J | | 3 | 15 | 0.35 | 0.093 | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | TETRACHLOROETHENE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | TOLUENE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.21 J | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0085 | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.31 U | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | XYLENE, O- | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 13 U | 16 U | 1.6 U | 0.0057 U | | 0.088 J | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0051 U | |
| VOC | XYLENES (TOTAL) | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 7 J | 11 J | 1.6 U | 0.0057 U | | 0.758 J | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0018 J | |
| VOC | XYLENES, M & P | MG/KG | 0.0049 U | 0.0048 U | | 0.0049 U | 0.0059 U | | 0.0049 U | 0.0053 U | | 7 J | 11 J | 1.6 U | 0.0057 U | | 0.67 | 2.5 U | 0.0053 U | | 2.4 U | 5.1 U | 0.28 U | 0.0018 J | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0033 | MPSB0034 | MPSB0034 | MPSB0034 | MPSB0035 | MPSB0035 | MPSB0035 | MPSB0035 | MPSB0076 | MPSB0076 | MPSB0076 | MPSB0076 | MPSB0083 | MPSB0083 | MPSB0083 | MPSB0084 | MPSB0084 | MPSB0084 | MPSB0084 | MPSB0084 | MPSB0084 | MPSB0084 | MPSB0085 |
| | | Field Sample ID | MPSB0033-SS-AP-AQ-0 | MPSB0034-SS-AA-AB-0 | MPSB0034-SS-AD-AE-0 | MPSB0034-SS-AH-AI-0 | MPSB0035-SS-AA-AB-0 | MPSB0035-SS-AD-AE-0 | MPSB0035-SS-AH-AI-0 | MPSB0035-SS-AH-AI-1 | MPSB0076-SS-AA-AB-0 | MPSB0076-SS-AD-AE-0 | MPSB0076-SS-AF-AG-0 | MPSB0076-SS-AO-AP-0 | MPSB0083-SS-AA-AB-0 | MPSB0083-SS-AD-AE-0 | MPSB0083-SS-AI-AJ-0 | MPSB0084-SS-AA-AB-0 | MPSB0084-SS-AD-AE-0 | MPSB0084-SS-AH-AI-0 | MPSB0084-SS-AH-AI-1 | MPSB0084-SS-AJ-AK-0 | MPSB0084-SS-AP-AQ-0 | MPSB0084-SS-AT-AU-0 | MPSB0085-SS-AA-AB-0 |
| | | Sample Date | 9/26/2012 | 1/6/2010 | 1/6/2010 | 1/6/2010 | 1/6/2010 | 1/6/2010 | 1/6/2010 | 1/6/2010 | 3/3/2010 | 3/3/2010 | 3/3/2010 | 3/3/2010 | 3/24/2010 | 3/24/2010 | 3/24/2010 | 3/25/2010 | 3/25/2010 | 3/25/2010 | 3/25/2010 | 3/25/2010 | 3/25/2010 | 3/25/2010 | 3/25/2010 |
| | | Depth (ft) | 7.5-8 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 3.5-4 | 0-0.5 | 1.5-2 | 2.5-3 | 7-7.5 | 0-0.5 | 1.5-2 | 4-4.5 | 0-0.5 | 1.5-2 | 3.5-4 | 3.5-4 | 4.5-5 | 7.5-8 | 9.5-10 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | 2370 | 1700 | | 1950 | 1650 | | 725 | 617 | 2510 | | 2480 | 2930 | 5440 | | 2230 | 2480 | | 1080 | 1180 | 3040 | 2140 | 2720 | 3640 |
| METALS | ANTIMONY | MG/KG | 5.2 UJ | 5.2 UJ | | 5.3 UJ | 4.3 UJ | | 6.1 UJ | 5.9 UJ | 5 UJ | | 0.75 J | 6.4 UJ | 5.7 U | | 5.8 U | 5.3 UJ | | 5.4 UJ | 5.8 UJ | 5.8 UJ | 6.7 UJ | 6.3 UJ | 5.5 UJ |
| METALS | ARSENIC | MG/KG | 6.5 J | 1.4 | | 0.98 | 3.8 | | 1 U | 0.98 U | 11.1 J | | 10.6 J | 6.2 J | 2.8 | | 0.95 J | 1.8 J | | 1.8 J | 1.5 J | 1 J | 1.6 J | 1.5 J | 2 J |
| METALS | BARIUM | MG/KG | 19 J | 18.7 J | | 35.4 J | 388 J | | 20 U | 20 U | 290 | | 133 | 6.4 J | 18.3 J | | 9.3 J | 16.7 J | | 20 | 17.9 J | 4.4 J | 4.2 J | 3.7 J | 31.3 |
| METALS | BERYLLIUM | MG/KG | 0.43 U | 0.44 U | | 0.45 U | 0.36 U | | 0.51 U | 0.49 U | 0.27 J | | 0.16 J | 0.13 J | 0.1 J | | 0.074 J | 0.15 J | | 0.23 J | 0.21 J | 0.095 J | 0.1 J | 0.11 J | 0.2 J |
| METALS | CADMIUM | MG/KG | 0.25 J | | | | | | | | 1.1 | | 0.3 J | 0.079 J | 0.47 U | | 0.48 U | 0.45 U | | 0.081 J | 0.48 U | 0.48 U | 0.56 U | 0.53 U | 0.07 J |
| METALS | CALCIUM | MG/KG | 251 J | 155 J | | 164 J | 582 | | 96.3 J | 80.6 J | 46600 | | 8820 | 295 J | 133 J | | 106 J | 591 | | 1130 | 887 | 404 J | 71.6 J | 139 J | 537 |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 7.1 | 6 J | | 5.1 J | 8.3 J | | 3 J | 2.6 J | 14.5 | | 15.1 | 11.6 | 10.3 | | 4.7 | 6 | | 7.8 | 8.9 | 5.1 | 7.7 | 8.5 | 8 |
| METALS | COBALT | MG/KG | 1 J | 0.31 J | | 0.3 J | 6.7 | | 5.1 U | 4.9 U | 1.5 J | | 1.4 J | 5.4 U | 0.65 J | | 0.16 J | 0.27 J | | 0.35 J | 0.38 J | 4.8 U | 5.6 U | 5.3 U | 0.9 J |
| METALS | COPPER | MG/KG | 1.7 J | 1.7 J | | 2.2 J | 62.8 | | 1.7 J | 1.6 J | 8.5 | | 10.8 | 2.6 J | 3.3 | | 0.83 J | 1.3 J | | 1.1 J | 0.82 J | 0.42 J | 0.95 J | 1.7 J | 5.9 |
| METALS | CYANIDE | MG/KG | | 2.8 UJ | | 2.8 UJ | 2.8 J | | 3.3 J | 5.1 J | 4.2 | | 0.81 J | 2.9 U | 0.059 J | | 2.6 U | 2.6 U | | 2.7 U | 2.6 U | 2.7 U | 3 U | 3 U | 2.7 U |
| METALS | IRON | MG/KG | 991 | 3190 | | 3350 | 47400 J | | 831 | 659 | 4990 | | 5510 | 2850 | 10300 | | 2960 | 3130 | | 2670 | 2930 | 3180 | 3150 | 5640 | 5200 |
| METALS | LEAD | MG/KG | 10 | 27.8 | | 26.1 | 178 | | 36.1 | 33.7 | 269 | | 141 | 3.7 | 16.1 | | 4.6 | 7.5 | | 9.6 | 9.1 | 3.8 | 2.9 | 2.9 | 18.3 |
| METALS | MAGNESIUM | MG/KG | 154 J | 146 J | | 143 J | 196 J | | 38 J | 42 J | 26700 | | 887 | 157 J | 53.8 J | | 74.2 J | 280 J | | 341 J | 385 J | 69 J | 30.7 J | 41.3 J | 537 |
| METALS | MANGANESE | MG/KG | 19.6 J | 14.2 | | 17.8 | 21.9 | | 5.9 | 4.6 | 108 | | 32.7 | 9.3 | 16.6 | | 9.6 | 11.3 | | 23.7 | 20.3 | 10.5 | 3.4 | 5.3 | 20.4 |
| METALS | MERCURY | MG/KG | 0.048 J | 0.094 U | | 0.077 U | 0.0076 J | | 0.094 U | 0.09 U | 0.15 | | 0.15 | 0.021 J | 0.034 J | | 0.012 J | 0.069 J | | 0.033 J | 0.03 J | 0.084 U | 0.024 J | 0.06 J | 0.03 J |
| METALS | NICKEL | MG/KG | 0.44 J | 0.65 J | | 0.7 J | 3.7 | | 0.42 J | 0.34 J | 2.6 J | | 3.8 J | 0.29 J | 0.93 J | | 0.46 J | 0.86 J | | 1.3 J | 1.3 J | 0.68 J | 0.27 J | 0.29 J | 2.1 J |
| METALS | POTASSIUM | MG/KG | 290 J | 436 U | | 445 U | 359 U | | 509 U | 491 U | 431 | | 241 J | 438 J | 96.5 J | | 99.2 J | 401 J | | 705 | 858 | 57.6 J | 70.1 J | 136 J | 622 |
| METALS | SELENIUM | MG/KG | 3 U | 3.1 U | | 3.1 U | 2.5 U | | 3.6 U | 3.4 U | 2.9 U | | 3.4 U | 3.8 U | 3.3 U | | 3.4 U | 3.1 UJ | | 3.1 UJ | 3.4 UJ | 3.4 UJ | 3.9 UJ | 3.7 UJ | 3.2 UJ |
| METALS | SILVER | MG/KG | 0.86 U | 0.87 U | | 0.89 U | 0.72 U | | 1 U | 0.98 U | 0.84 UJ | | 0.98 UJ | 0.32 J | 0.95 U | | 0.97 U | 0.89 U | | 0.89 U | 0.97 U | 0.96 U | 1.1 U | 1.1 U | 0.92 U |
| METALS | SODIUM | MG/KG | 543 | 436 U | | 445 U | 1010 | | 509 U | 491 U | 1690 | | 458 J | 499 J | 303 J | | 266 J | 582 | | 355 J | 327 J | 195 J | 66.9 J | 75.7 J | 1210 |
| METALS | THALLIUM | MG/KG | 2.2 U | 2.2 U | | 2.2 U | 0.25 J | | 2.5 U | 2.5 U | 2.1 U | | 2.4 U | 2.7 U | 2.4 U | | 2.4 U | 2.2 UJ | | 2.2 UJ | 2.4 UJ | 2.4 UJ | 2.8 UJ | 2.6 UJ | 2.3 UJ |
| METALS | VANADIUM | MG/KG | 5.5 | 5.8 | | 5.8 | 7.8 | | 5.1 U | 4.9 U | 9.8 | | 10.4 | 9.5 | 13 | | 4.9 | 5.1 | | 3.4 J | 3.6 J | 5.5 | 8.4 | 11.7 | 9.5 |
| METALS | ZINC | MG/KG | 65.6 J | 26.2 | | 28.6 | 90.7 | | 9.7 | 9.2 | 444 J | | 141 J | 6.2 J | 7.1 | | 3.8 J | 6.2 | | 11.4 | 11.1 | 1.5 J | 1.4 J | 1.9 J | 25.7 |
| PEST/PCB | 4,4'-DDD | MG/KG | | 0.0036 U | | 0.0037 U | 0.0036 U | | 0.0038 U | 0.0038 U | 0.0037 U | | 0.0037 U | 0.0041 U | 0.0036 U | | 0.0036 U | 0.0036 U | | 0.0036 U | 0.0036 U | 0.0038 U | | | 0.0037 U |
| PEST/PCB | 4,4'-DDE | MG/KG | | 0.0023 J | | 0.0037 U | 0.0036 U | | 0.0038 U | 0.0038 U | 0.0027 J | | 0.0076 | 0.0041 U | 0.0036 U | | 0.0036 U | 0.0036 U | | 0.0036 U | 0.0036 U | 0.0038 U | | | 0.0037 U |
| PEST/PCB | 4,4'-DDT | MG/KG | | 0.0036 U | | 0.0037 U | 0.0036 U | | 0.0038 U | 0.0038 U | | | | 0.0041 U | 0.0036 U | | 0.0036 U | 0.0036 U | | 0.0036 U | 0.0036 U | 0.0038 U | | | 0.0038 J |
| PEST/PCB | ALDRIN | MG/KG | | 0.0019 U | | 0.0019 U | 0.0018 U | | 0.002 U | 0.002 U | 0.0019 U | | 0.0019 U | 0.0021 U | 0.0019 U | | 0.0018 U | 0.0019 U | | 0.0019 U | 0.0018 U | 0.002 U | | | 0.0019 U |
| PEST/PCB | ALPHA-BHC | MG/KG | | 0.0019 U | | 0.0019 U | 0.0018 U | | 0.002 U | 0.002 U | 0.0019 U | | 0.0019 U | 0.0021 U | 0.0019 U | | 0.0018 U | 0.0019 U | | 0.0019 U | 0.0018 U | 0.002 U | | | 0.0019 U |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | 0.0067 | | 0.0019 U | 0.0018 U | | 0.002 U | 0.002 U | 0.0013 J | | 0.0019 U | 0.0021 U | 0.0019 U | | 0.0018 U | 0.0019 U | | 0.0019 U | 0.0018 U | 0.002 U | | | 0.0019 U |
| PEST/PCB | AROCLOR-1016 | MG/KG | 0.039 U | 0.036 U | | 0.037 U | 0.036 U | | 0.038 U | 0.038 U | 0.037 U | | 0.037 U | 0.041 U | 0.036 U | | 0.036 U | 0.036 U | | 0.036 U | 0.036 U | 0.038 U | | | 0.037 U |
| PEST/PCB | AROCLOR-1221 | MG/KG | 0.039 U | 0.036 U | | 0.037 U | 0.036 U | | 0.038 U | 0.038 U | 0.037 U | | 0.037 U | 0.041 U | 0.036 U | | 0.036 U | 0.036 U | | 0.036 U | 0.036 U | 0.038 U | | | 0.037 U |
| PEST/PCB | AROCLOR-1232 | MG/KG | 0.039 U | 0.036 U | | 0.037 U | 0.036 U | | 0.038 U | 0.038 U | 0.037 U | | 0.037 U | 0.041 U | 0.036 U | | 0.036 U | 0.036 U | | 0.036 U | 0.036 U | 0.038 U | | | 0.037 U |
| PEST/PCB | AROCLOR-1242 | MG/KG | 0.039 U | 0.036 U | | 0.037 U | 0.036 U | | 0.038 U | 0.038 U | 0.037 U | | 0.037 U | 0.041 U | 0.036 U | | 0.036 U | 0.036 U | | 0.036 U | 0.036 U | 0.038 U | | | 0.037 U |
| PEST/PCB | AROCLOR-1248 | MG/KG | 0.039 U | 0.036 U | | 0.037 U | 0.036 U | | 0.038 U | 0.038 U | 0.037 U | | 0.037 U | 0.041 U | 0.036 U | | 0.036 U | 0.036 U | | 0.036 U | 0.036 U | 0.038 U | | | 0.037 U |
| PEST/PCB | AROCLOR-1254 | MG/KG | 0.039 U | 0.036 U | | 0.037 U | 0.036 U | | 0.038 U | 0.038 U | 0.037 U | | 0.26 J | 0.041 U | 0.036 U | | 0.036 U | 0.036 U | | 0.036 U | 0.036 U | 0.038 U | | | 0.037 U |
| PEST/PCB | AROCLOR-1260 | MG/KG | 0.013 J | 0.036 U | | 0.037 U | 0.036 U | | 0.038 U | 0.038 U | 0.33 | | 0.12 J | 0.041 U | 0.036 U | | 0.036 U | 0.036 U | | 0.036 U | 0.036 U | 0.038 U | | | 0.037 U |
| PEST/PCB | AROCLOR-1262 | MG/KG | 0.039 U | 0.036 U | | 0.037 U | 0.036 U | | 0.038 U | 0.038 U | 0.037 U | | 0.037 U | 0.041 U | 0.036 U | | 0.036 U | 0.036 U | | 0.036 U | 0.036 U | 0.038 U | | | 0.037 U |
| PEST/PCB | AROCLOR-1268 | MG/KG | 0.039 U | 0.036 U | | 0.037 U | 0.036 U | | 0.038 U | 0.038 U | 0.037 U | | 0.037 U | 0.041 U | 0.036 U | | 0.036 U | 0.036 U | | 0.036 U | 0.036 U | 0.038 U | | | 0.037 U |
| PEST/PCB | BETA-BHC | MG/KG | | 0.0019 U | | 0.0019 U | 0.0018 U | | 0.002 U | 0.002 U | 0.0019 U | | 0.0019 U | 0.0021 U | 0.0019 U | | 0.0018 U | 0.0019 U | | 0.0019 U | 0.0018 U | 0.002 U | | | 0.0019 U |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | 0.0019 U | | 0.0019 U | 0.0018 U | | 0.002 U | 0.002 U | 0.0019 U | | 0.0019 U | 0.0021 U | 0.0019 U | | 0.0018 U | 0.0019 U | | 0.0019 U | 0.0018 U | 0.002 U | | | 0.0019 U |
| PEST/PCB | DIELDRIN | MG/KG | | 0.012 | | 0.0037 U | 0.0036 U | | 0.0038 U | 0.0038 U | | | 0.0097 J | 0.0041 U | 0.0036 U | | 0.0036 U | 0.0036 U | | 0.0036 U | 0.0036 U | 0.0038 U | | | 0.0037 U |
| PEST/PCB | ENDOSULFAN I | MG/KG | | 0.0019 U | | 0.0019 U | 0.0018 U | | 0.002 U | 0.002 U | 0.0019 U | | 0.0019 U | 0.0021 U | 0.0019 U | | 0.0018 U | 0.0019 U | | 0.0019 U | 0.0018 U | 0.002 U | | | 0.0019 U |
| PEST/PCB | ENDOSULFAN II | MG/KG | | 0.0036 U | | 0.0037 U | 0.0036 U | | 0.0038 U | 0.0038 U | 0.0037 U | | 0.0037 U | 0.0041 U | 0.0036 U | | 0.0036 U | 0.0036 U | | 0.0036 U | 0.0036 U | 0.0038 U | | | 0.0037 U |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | 0.0036 U | | 0.0037 U | 0.0036 U | | 0.0038 U | 0.0038 U | 0.0037 U | | 0.0037 U | 0.0041 U | 0.0036 U | | 0.0036 U | 0.0036 U | | 0.0036 U | 0.0036 U | 0.0038 U | | | 0.0037 U |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | 0.0036 U | | 0.0037 U | 0.0036 U | | 0.0038 U | 0.0038 U | 0.0037 U | | 0.0037 U | 0.0041 U | 0.0036 U | | 0.0036 U | 0.0036 U | | 0.0036 U | 0.0036 U | 0.0038 U | | | 0.005 |
| PEST/PCB | ENDRIN KETONE | MG/KG | | 0.0036 U | | 0.0037 U | 0.0036 U | | 0.0038 U | 0.0038 U | 0.0037 U | | 0.0037 U | 0.0041 U | 0.0036 U | | 0.0036 U | 0.0036 U | | 0.0036 U | 0.0036 U | 0.0038 U | | | 0.0083 |
| PEST/PCB | ENDRIN | MG/KG | | 0.0036 U | | 0.0037 U | 0.0036 U | | 0.0038 U | 0.0038 U | 0.003 J | | 0.0037 U | 0.0041 U | 0.0036 U | | 0.0036 U | 0.0036 U | | 0.0036 U | 0.0036 U | 0.0038 U | | | 0.0037 U |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | 0.0019 U | | 0.0019 U | 0.0018 U | | 0.002 U | 0.002 U | 0.0019 U | | 0.0019 U | 0.0021 U | 0.0019 U | | 0.0018 U | 0.0019 U | | 0.0019 U | 0.0018 U | 0.002 U | | | 0.0019 U |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | 0.0061 | | 0.0019 U | 0.0018 U | | 0.002 U | 0.002 U | 0.0019 U | | 0.0019 U | 0.0021 U | 0.0019 U | | 0.0018 U | 0.0019 U | | 0.0019 U | 0.0018 U | 0.002 U | | | 0.0019 U |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | 0.0019 U | | 0.0019 U | 0.0018 U | | 0.002 U | 0.002 U | 0.0019 U | | | 0.0021 U | 0.0019 U | | 0.0018 U | 0.0019 U | | 0.0019 U | 0.0018 U | 0.002 U | | | 0.0019 U |
| PEST/PCB | HEPTACHLOR | MG/KG | | 0.0019 U | | 0.0019 U | 0.0018 U | | 0.002 U | 0.002 U | 0.0019 U | | 0.0019 U | 0.0021 U | 0.0019 U | | 0.0018 U | 0.0019 U | | 0.0019 U | 0.0018 U | 0.002 U | | | 0.0019 U |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | 0.019 U | | 0.019 U | 0.018 U | | 0.02 U | 0.02 U | 0.019 U | | 0.019 U | 0.021 U | 0.019 U | | 0.018 U | 0.019 U | | 0.019 U | 0.018 U | 0.02 U | | | 0.019 U |
| PEST/PCB | TOXAPHENE | MG/KG | | 0.19 U | | 0.19 U | 0.18 U | | 0.2 U | 0.2 U | 0.19 U | | 0.19 U | 0.21 U | 0.19 U | | 0.18 U | 0.19 U | | 0.19 U | 0.18 U | 0.2 U | | | 0.19 U |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0033 | MPSB0034 | MPSB0034 | MPSB0034 | MPSB0035 | MPSB0035 | MPSB0035 | MPSB0035 | MPSB0076 | MPSB0076 | MPSB0076 | MPSB0076 | MPSB0083 | MPSB0083 | MPSB0083 | MPSB0084 | MPSB0084 | MPSB0084 | MPSB0084 | MPSB0084 | MPSB0084 | MPSB0084 | MPSB0085 |
| | | Field Sample ID | MPSB0033-SS-AP-AQ-0 | MPSB0034-SS-AA-AB-0 | MPSB0034-SS-AD-AE-0 | MPSB0034-SS-AH-AI-0 | MPSB0035-SS-AA-AB-0 | MPSB0035-SS-AD-AE-0 | MPSB0035-SS-AH-AI-0 | MPSB0035-SS-AH-AI-1 | MPSB0076-SS-AA-AB-0 | MPSB0076-SS-AD-AE-0 | MPSB0076-SS-AF-AG-0 | MPSB0076-SS-AO-AP-0 | MPSB0083-SS-AA-AB-0 | MPSB0083-SS-AD-AE-0 | MPSB0083-SS-AI-AJ-0 | MPSB0084-SS-AA-AB-0 | MPSB0084-SS-AD-AE-0 | MPSB0084-SS-AH-AI-0 | MPSB0084-SS-AH-AI-1 | MPSB0084-SS-AJ-AK-0 | MPSB0084-SS-AP-AQ-0 | MPSB0084-SS-AT-AU-0 | MPSB0085-SS-AA-AB-0 |
| | | Sample Date | 9/26/2012 | 1/6/2010 | 1/6/2010 | 1/6/2010 | 1/6/2010 | 1/6/2010 | 1/6/2010 | 1/6/2010 | 3/3/2010 | 3/3/2010 | 3/3/2010 | 3/3/2010 | 3/24/2010 | 3/24/2010 | 3/24/2010 | 3/25/2010 | 3/25/2010 | 3/25/2010 | 3/25/2010 | 3/25/2010 | 3/25/2010 | 3/25/2010 | 3/25/2010 |
| | | Depth (ft) | 7.5-8 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 3.5-4 | 0-0.5 | 1.5-2 | 2.5-3 | 7-7.5 | 0-0.5 | 1.5-2 | 4-4.5 | 0-0.5 | 1.5-2 | 3.5-4 | 3.5-4 | 4.5-5 | 7.5-8 | 9.5-10 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 UJ | | 0.18 UJ | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 0.39 U | 0.37 UJ | | 0.36 UJ | 0.36 UJ | | 0.38 UJ | 0.38 UJ | 0.75 U | | 0.75 U | 0.41 U | 0.36 U | | 0.35 U | 0.36 U | | 0.37 U | 0.36 U | 1.9 U | 8.4 U | 0.42 U | 0.62 U |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.33 J | | 0.24 J | 0.21 U | 0.19 U | | 0.18 U | 0.17 J | | 0.31 | 0.4 | 2 | 7.6 | 0.21 U | 0.32 U |
| SVOC | 2-METHYLPHENOL | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | 2-NITROANILINE | MG/KG | 0.39 U | 0.37 U | | 0.36 U | 0.36 U | | 0.38 U | 0.38 U | 0.75 U | | 0.75 U | 0.41 U | 0.36 U | | 0.35 U | 0.36 U | | 0.37 U | 0.36 U | 1.9 U | 8.4 U | 0.42 U | 0.62 U |
| SVOC | 2-NITROPHENOL | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | 3-NITROANILINE | MG/KG | 0.39 U | 0.37 U | | 0.36 U | 0.36 U | | 0.38 U | 0.38 U | 0.75 U | | 0.75 U | 0.41 U | 0.36 U | | 0.35 U | 0.36 U | | 0.37 U | 0.36 U | 1.9 U | 8.4 U | 0.42 U | 0.62 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 0.39 U | 0.37 UJ | | 0.36 UJ | 0.36 UJ | | 0.38 UJ | 0.38 UJ | 0.75 U | | 0.75 U | 0.41 U | 0.36 U | | 0.35 U | 0.36 U | | 0.37 U | 0.36 U | 1.9 U | 8.4 U | 0.42 U | 0.62 U |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | 4-CHLOROANILINE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | 4-METHYLPHENOL | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | 4-NITROANILINE | MG/KG | 0.39 U | 0.37 U | | 0.36 U | 0.36 U | | 0.38 U | 0.38 U | 0.75 U | | 0.75 U | 0.41 U | 0.36 U | | 0.35 U | 0.36 U | | 0.37 U | 0.36 U | 1.9 U | 8.4 U | 0.42 U | 0.62 U |
| SVOC | 4-NITROPHENOL | MG/KG | 0.39 U | 0.37 U | | 0.36 U | 0.36 U | | 0.38 U | 0.38 U | 0.75 U | | 0.75 U | 0.41 U | 0.36 U | | 0.35 U | 0.36 U | | 0.37 U | 0.36 U | 1.9 U | 8.4 U | 0.42 U | 0.62 U |
| SVOC | ACENAPHTHENE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.086 J | | 0.18 J | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.086 J |
| SVOC | ACETOPHENONE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.11 J |
| SVOC | ANTHRACENE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.047 J | | 0.13 J | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.091 J |
| SVOC | ATRAZINE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | BENZALDEHYDE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.2 U | 0.025 J | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.21 J | | 0.29 J | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 1.2 |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.068 J | 0.025 J | | 0.19 U | 0.19 U | | 0.0052 | 0.2 U | 0.25 J | | 0.25 J | 0.0077 | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 0.019 U | 0.084 U | 0.0074 U | 2.8 |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 0.2 U | 0.022 J | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.25 J | | 0.21 J | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 4.2 J |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.2 U | 0.021 J | | 0.19 UJ | 0.19 UJ | | 0.2 UJ | 0.2 UJ | 0.13 J | | 0.15 J | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.88 |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.2 U | 0.026 J | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.22 J | | 0.24 J | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.078 J | 0.025 J | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | CAPROLACTAM | MG/KG | 0.2 U | 0.019 J | | 0.19 U | 0.19 U | | 0.2 U | 0.031 J | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | CARBAZOLE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.058 J | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | CHRYSENE | MG/KG | 0.2 U | 0.029 J | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.27 J | | 0.34 J | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 1.6 |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.016 | 0.19 U | | 0.19 U | 0.19 U | | 0.0038 U | 0.2 U | 0.39 U | | 0.038 J | 0.0041 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 0.019 U | 0.084 U | 0.0042 U | 0.37 |
| SVOC | DIBENZOFURAN | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.067 J | | 0.12 J | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | DIETHYLPHTHALATE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | FLUORANTHENE | MG/KG | 0.012 J | 0.041 J | | 0.19 U | 0.02 J | | 0.2 U | 0.2 U | 0.52 | | 0.78 | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.77 |
| SVOC | FLUORENE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.044 J | | 0.2 J | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | HEXACHLOROBENZENE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 0.2 U | 0.19 UJ | | 0.19 UJ | 0.19 UJ | | 0.2 UJ | 0.2 UJ | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | HEXACHLOROETHANE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.13 J | | 0.16 J | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.78 |
| SVOC | ISOPHORONE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | NAPHTHALENE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.26 J | | 0.56 | 0.21 U | 0.19 U | | 0.18 U | 0.75 | | 1 | 1.4 | 1.4 | 30 | 0.21 U | 0.04 J |
| SVOC | NITROBENZENE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | 0.39 U | 0.37 U | | 0.36 U | 0.36 U | | 0.38 U | 0.38 U | 0.75 U | | 0.75 U | 0.41 U | 0.36 UJ | | 0.35 UJ | 0.36 U | | 0.37 U | 0.36 U | 1.9 U | 8.4 U | 0.42 U | 0.62 U |
| SVOC | PHENANTHRENE | MG/KG | 0.0055 J | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.29 J | | 0.72 | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.11 J |
| SVOC | PHENOL | MG/KG | 0.2 U | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.2 U | 0.39 U | | 0.38 U | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 0.32 U |
| SVOC | PYRENE | MG/KG | 0.018 J | 0.043 J | | 0.02 J | 0.021 J | | 0.2 U | 0.2 U | 0.27 J | | 0.43 | 0.21 U | 0.19 U | | 0.18 U | 0.18 U | | 0.19 U | 0.19 U | 1 U | 4.3 U | 0.21 U | 1.3 |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0033 | MPSB0034 | MPSB0034 | MPSB0034 | MPSB0035 | MPSB0035 | MPSB0035 | MPSB0035 | MPSB0076 | MPSB0076 | MPSB0076 | MPSB0076 | MPSB0083 | MPSB0083 | MPSB0083 | MPSB0084 | MPSB0084 | MPSB0084 | MPSB0084 | MPSB0084 | MPSB0084 | MPSB0084 | MPSB0085 |
| | | Field Sample ID | MPSB0033-SS-AP-AQ-0 | MPSB0034-SS-AA-AB-0 | MPSB0034-SS-AD-AE-0 | MPSB0034-SS-AH-AI-0 | MPSB0035-SS-AA-AB-0 | MPSB0035-SS-AD-AE-0 | MPSB0035-SS-AH-AI-0 | MPSB0035-SS-AH-AI-1 | MPSB0076-SS-AA-AB-0 | MPSB0076-SS-AD-AE-0 | MPSB0076-SS-AF-AG-0 | MPSB0076-SS-AO-AP-0 | MPSB0083-SS-AA-AB-0 | MPSB0083-SS-AD-AE-0 | MPSB0083-SS-AI-AJ-0 | MPSB0084-SS-AA-AB-0 | MPSB0084-SS-AD-AE-0 | MPSB0084-SS-AH-AI-0 | MPSB0084-SS-AH-AI-1 | MPSB0084-SS-AJ-AK-0 | MPSB0084-SS-AP-AQ-0 | MPSB0084-SS-AT-AU-0 | MPSB0085-SS-AA-AB-0 |
| | | Sample Date | 9/26/2012 | 1/6/2010 | 1/6/2010 | 1/6/2010 | 1/6/2010 | 1/6/2010 | 1/6/2010 | 1/6/2010 | 3/3/2010 | 3/3/2010 | 3/3/2010 | 3/3/2010 | 3/24/2010 | 3/24/2010 | 3/24/2010 | 3/25/2010 | 3/25/2010 | 3/25/2010 | 3/25/2010 | 3/25/2010 | 3/25/2010 | 3/25/2010 | 3/25/2010 |
| | | Depth (ft) | 7.5-8 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 3.5-4 | 0-0.5 | 1.5-2 | 2.5-3 | 7-7.5 | 0-0.5 | 1.5-2 | 4-4.5 | 0-0.5 | 1.5-2 | 3.5-4 | 3.5-4 | 4.5-5 | 7.5-8 | 9.5-10 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 UJ | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 UJ | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 UJ | 0.056 | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 UJ | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 UJ | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | | 0.011 U | 0.01 U | | 0.0099 U | 0.012 U | 0.011 U | | 0.6 U | 0.56 U | 0.011 U | | 0.0094 U | 0.0098 U | | 0.6 U | 25 U | 19 U | 26 U | 27 U | 0.011 U | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | | 0.011 U | 0.01 U | | 0.0099 U | 0.012 U | 0.011 U | | 0.6 U | 0.56 U | 0.011 U | | 0.0094 U | 0.0098 U | | 0.6 U | 25 U | 19 U | 26 U | 27 U | 0.011 U | |
| VOC | ACETONE | MG/KG | | | 0.011 U | 0.0058 J | | 0.0057 J | 0.0065 J | 0.0045 J | | 0.6 U | 0.56 U | 0.0049 J | | 0.0094 U | 0.0098 U | | 0.6 U | 25 U | 19 U | 26 U | 27 U | 0.047 | |
| VOC | BENZENE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 UJ | 0.055 | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | BROMODICHLOROMETHANE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | BROMOFORM | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | BROMOMETHANE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 UJ | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | CARBON DISULFIDE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 UJ | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | CARBON TETRACHLORIDE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | CHLOROBENZENE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.058 | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | CHLOROETHANE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | CHLOROFORM | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | CHLOROMETHANE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | CYCLOHEXANE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.088 J | 18 J | 8.8 J | 4.2 J | 17 | 0.0058 | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | DICHLOROMETHANE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 UJ | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | ETHYLBENZENE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.32 | 0.46 | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | ISOPROPYLBENZENE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.14 J | 0.19 J | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.35 | 27 J | 12 J | 7.3 J | 28 | 0.0088 | |
| VOC | METHYL ACETATE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.089 J | 0.1 J | 0.0054 U | | 0.0047 UJ | 0.0049 U | | 0.18 J | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | METHYL ETHYL KETONE | MG/KG | | | 0.011 U | 0.01 U | | 0.0099 U | 0.012 U | 0.011 U | | 0.6 U | 0.56 U | 0.011 U | | 0.0094 U | 0.0098 U | | 0.6 U | 25 U | 19 U | 26 U | 27 U | 0.011 U | |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.75 | 150 J | 79 J | 38 | 140 | 0.019 | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 UJ | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | TETRACHLOROETHENE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | TOLUENE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.11 J | 0.057 | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 UJ | 0.061 | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 UJ | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.3 U | 0.28 U | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | XYLENE, O- | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.056 J | 0.39 | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.3 U | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | XYLENES (TOTAL) | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.406 J | 3.39 | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.078 J | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |
| VOC | XYLENES, M & P | MG/KG | | | 0.0054 U | 0.0051 U | | 0.0049 U | 0.0058 U | 0.0054 U | | 0.35 | 3 | 0.0054 U | | 0.0047 U | 0.0049 U | | 0.078 J | 12 U | 9.5 U | 13 U | 14 U | 0.0057 U | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0085 | MPSB0085 | MPSB0085 | MPSB0086 | MPSB0086 | MPSB0086 | MPSB0086 | MPSB0105 | MPSB0107 | MPSB0107 | MPSB0108 | MPSB0108 | MPSB0115 | MPSB0116 | MPSB0116 | MPSB0125 | MPSB0130 | MPSB0130 | MPSB0130 | MPSB0131 | MPSB0131 | MPSB0131 | MPSB0132 |
| | | Field Sample ID | MPSB0085-SS-AD-AE-0 | MPSB0085-SS-AQ-AR-0 | MPSB0085-SS-AT-AU-0 | MPSB0086-SS-AA-AB-0 | MPSB0086-SS-AD-AE-0 | MPSB0086-SS-AJ-AK-0 | MPSB0086-SS-AL-AM-0 | MPSB0105-SS-AM-AO-0 | MPSB0107-SS-AM-AN-0 | MPSB0107-SS-AO-AQ-0 | MPSB0108-SS-AG-AH-0 | MPSB0108-SS-AK-AM-0 | MPSB0115-SS-AM-AO-0 | MPSB0116-SS-AL-AN-0 | MPSB0116-SS-AL-AN-1 | MPSB0125-SS-AT-AU-0 | MPSB0130-SS-AA-AB-0 | MPSB0130-SS-AD-AE-0 | MPSB0130-SS-AJ-AK-0 | MPSB0131-SS-AA-AB-0 | MPSB0131-SS-AD-AE-0 | MPSB0131-SS-AH-AI-0 | MPSB0132-SS-AA-AB-0 |
| | | Sample Date | 3/25/2010 | 3/25/2010 | 3/25/2010 | 3/25/2010 | 3/25/2010 | 3/25/2010 | 3/25/2010 | 7/18/2012 | 7/24/2012 | 7/24/2012 | 7/26/2012 | 7/26/2012 | 9/6/2012 | 9/7/2012 | 9/7/2012 | 9/12/2012 | 9/18/2012 | 9/18/2012 | 9/18/2012 | 9/18/2012 | 9/18/2012 | 9/18/2012 | 9/18/2012 |
| | | Depth (ft) | 1.5-2 | 8-8.5 | 9.5-10 | 0-0.5 | 1.5-2 | 4.5-5 | 5.5-6 | 6-7 | 6-6.5 | 7-8 | 3-3.5 | 5-6 | 6-7 | 5.5-6.5 | 5.5-6.5 | 9.5-10 | 0-0.5 | 1.5-2 | 4.5-5 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | | 1810 | 1750 | 4420 | | 4780 | 4250 | | | | | | | | | | | 1770 J | 1840 J | | 2450 J | 780 J | |
| METALS | ANTIMONY | MG/KG | | 5.7 UJ | 6.3 UJ | 5.2 UJ | | 5.9 UJ | 6.4 UJ | | | | | | | | | | | 5.9 UJ | 8.6 UJ | | 5.6 UJ | 8.8 UJ | |
| METALS | ARSENIC | MG/KG | | 1.5 J | 0.98 J | 2.5 J | | 2.1 J | 2.6 J | | | | | | | | | | | 4.1 J | 8.6 J | | 5.5 J | 3.4 J | |
| METALS | BARIUM | MG/KG | | 7.4 J | 20.8 U | 28.9 | | 19.7 U | 21.2 U | | | | | | | | | | | 188 J | 248 J | | 259 J | 47.4 J | |
| METALS | BERYLLIUM | MG/KG | | 0.093 J | 0.11 J | 0.25 J | | 0.12 J | 0.12 J | | | | | | | | | | | 0.12 J | 0.16 J | | 0.13 J | 0.096 J | |
| METALS | CADMIUM | MG/KG | | 0.47 U | 0.52 U | 0.12 J | | 0.49 U | 0.53 U | | | | | | | | | | | 0.23 J | 0.37 J | | 0.28 J | 0.15 J | |
| METALS | CALCIUM | MG/KG | | 234 J | 70.7 J | 37100 | | 249 J | 320 J | | | | | | | | | | | 1080 J | 761 J | | 923 J | 569 J | |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | | 12.5 | 5.1 | 10.4 | | 15.1 | 19.4 | | | | | | | | | | | 12.2 J | 12.8 J | | 11.6 J | 11.5 J | |
| METALS | COBALT | MG/KG | | 0.29 J | 5.2 U | 1.3 J | | 4.9 U | 5.3 U | | | | | | | | | | | 3.9 J | 4.5 J | | 3.4 J | 2.1 J | |
| METALS | COPPER | MG/KG | | 2 J | 0.51 J | 6.1 | | 1.2 J | 1.9 J | | | | | | | | | | | 34.9 J | 37.1 J | | 33.6 J | 36.8 J | |
| METALS | CYANIDE | MG/KG | | 2.9 U | 3.1 U | 2.6 U | | 3 U | 3 U | | | | | | | | | | | | | | | | |
| METALS | IRON | MG/KG | | 3060 | 2280 | 7630 | | 8140 | 12200 | | | | | | | | | | | 4800 J | 5760 J | | 6180 J | 3090 J | |
| METALS | LEAD | MG/KG | | 5.2 | 3.1 | 34.1 | | 2.7 | 3.2 | | | | | | | | | | | 310 D | 281 D | | 249 D | 144 D | |
| METALS | MAGNESIUM | MG/KG | | 66.7 J | 32 J | 20500 | | 88 J | 75 J | | | | | | | | | | | 243 J | 153 J | | 233 J | 86 J | |
| METALS | MANGANESE | MG/KG | | 7.7 | 5.8 | 144 | | 11.8 | 15.5 | | | | | | | | | | | 156 D | 23.8 J | | 104 D | 24.2 J | |
| METALS | MERCURY | MG/KG | | 0.041 J | 0.085 U | 0.083 J | | 0.047 J | 0.062 J | | | | | | | | | | | 0.17 J | 0.17 J | | 0.11 UJ | 0.14 UJ | |
| METALS | NICKEL | MG/KG | | 1.1 J | 0.22 J | 3.7 | | 0.47 J | 0.41 J | | | | | | | | | | | 4.8 J | 10.8 J | | 6.9 J | 7.5 J | |
| METALS | POTASSIUM | MG/KG | | 165 J | 123 J | 556 | | 224 J | 181 J | | | | | | | | | | | 285 J | 155 J | | 281 J | 117 J | |
| METALS | SELENIUM | MG/KG | | 3.3 UJ | 3.6 UJ | 3 UJ | | 3.4 UJ | 3.7 UJ | | | | | | | | | | | 0.44 J | 0.76 J | | 0.63 J | 5.2 UJ | |
| METALS | SILVER | MG/KG | | 0.94 U | 1 U | 0.87 U | | 0.98 U | 1.1 U | | | | | | | | | | | 0.98 UJ | 1.4 UJ | | 0.93 UJ | 1.5 UJ | |
| METALS | SODIUM | MG/KG | | 259 J | 238 J | 905 | | 436 J | 412 J | | | | | | | | | | | 69.8 J | 117 J | | 86.9 J | 90.1 J | |
| METALS | THALLIUM | MG/KG | | 2.4 UJ | 2.6 UJ | 2.2 UJ | | 2.5 UJ | 2.6 UJ | | | | | | | | | | | 2.4 UJ | 3.6 UJ | | 2.3 UJ | 3.7 UJ | |
| METALS | VANADIUM | MG/KG | | 6.4 | 5.3 | 20.7 | | 9.9 | 12.3 | | | | | | | | | | | 8.2 J | 12.4 J | | 10.2 J | 5.6 J | |
| METALS | ZINC | MG/KG | | 4.1 J | 1 J | 16.6 | | 2 J | 2.7 J | | | | | | | | | | | 66.2 J | 190 J | | 110 J | 73.1 J | |
| PEST/PCB | 4,4'-DDD | MG/KG | | 0.0039 U | 0.0042 U | 0.0036 U | | 0.004 U | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | 0.0039 U | 0.0042 U | 0.0036 U | | 0.004 U | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | 0.0039 U | 0.0042 U | 0.0031 J | | 0.004 U | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | 0.002 U | 0.0021 U | 0.0018 U | | 0.0021 U | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | 0.002 U | 0.0021 U | 0.0018 U | | 0.0021 U | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | 0.002 U | 0.0021 U | 0.0018 U | | 0.0021 U | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | | 0.039 U | 0.042 U | 0.036 U | | 0.04 U | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1221 | MG/KG | | 0.039 U | 0.042 U | 0.036 U | | 0.04 U | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1232 | MG/KG | | 0.039 U | 0.042 U | 0.036 U | | 0.04 U | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1242 | MG/KG | | 0.039 U | 0.042 U | 0.036 U | | 0.04 U | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1248 | MG/KG | | 0.039 U | 0.042 U | 0.097 J | | 0.04 U | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1254 | MG/KG | | 0.039 U | 0.042 U | 0.033 J | | 0.04 U | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1260 | MG/KG | | 0.039 U | 0.042 U | 0.036 U | | 0.04 U | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1262 | MG/KG | | 0.039 U | 0.042 U | 0.036 U | | 0.04 U | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | | 0.039 U | 0.042 U | 0.036 U | | 0.04 U | | | | | | | | | | | | | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | | 0.002 U | 0.0021 U | 0.0018 U | | 0.0021 U | | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | 0.002 U | 0.0021 U | 0.0018 U | | 0.0021 U | | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | 0.0039 U | 0.0042 U | 0.0036 U | | 0.004 U | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | 0.002 U | 0.0021 U | 0.0018 U | | 0.0021 U | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | 0.0039 U | 0.0042 U | 0.0036 U | | 0.004 U | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | 0.0039 U | 0.0042 U | 0.0036 U | | 0.004 U | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | 0.0039 U | 0.0042 U | 0.0036 U | | 0.004 U | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | 0.0039 U | 0.0042 U | 0.0058 | | 0.004 U | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | 0.0039 U | 0.0042 U | 0.0036 U | | 0.004 U | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | 0.002 U | 0.0021 U | 0.0018 U | | 0.0021 U | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | 0.002 U | 0.0021 U | 0.005 | | 0.0021 U | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | 0.002 U | 0.0021 U | 0.0018 U | | 0.0021 U | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | 0.002 U | 0.0021 U | 0.0018 U | | 0.0021 U | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | 0.02 U | 0.021 U | 0.018 U | | 0.021 U | | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | 0.2 U | 0.21 U | 0.18 U | | 0.21 U | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0085 | MPSB0085 | MPSB0085 | MPSB0086 | MPSB0086 | MPSB0086 | MPSB0086 | MPSB0105 | MPSB0107 | MPSB0107 | MPSB0108 | MPSB0108 | MPSB0115 | MPSB0116 | MPSB0116 | MPSB0125 | MPSB0130 | MPSB0130 | MPSB0130 | MPSB0131 | MPSB0131 | MPSB0131 | MPSB0132 |
| | | Field Sample ID | MPSB0085-SS-AD-AE-0 | MPSB0085-SS-AQ-AR-0 | MPSB0085-SS-AT-AU-0 | MPSB0086-SS-AA-AB-0 | MPSB0086-SS-AD-AE-0 | MPSB0086-SS-AJ-AK-0 | MPSB0086-SS-AL-AM-0 | MPSB0105-SS-AM-AO-0 | MPSB0107-SS-AM-AN-0 | MPSB0107-SS-AO-AQ-0 | MPSB0108-SS-AG-AH-0 | MPSB0108-SS-AK-AM-0 | MPSB0115-SS-AM-AO-0 | MPSB0116-SS-AL-AN-0 | MPSB0116-SS-AL-AN-1 | MPSB0125-SS-AT-AU-0 | MPSB0130-SS-AA-AB-0 | MPSB0130-SS-AD-AE-0 | MPSB0130-SS-AJ-AK-0 | MPSB0131-SS-AA-AB-0 | MPSB0131-SS-AD-AE-0 | MPSB0131-SS-AH-AI-0 | MPSB0132-SS-AA-AB-0 |
| | | Sample Date | 3/25/2010 | 3/25/2010 | 3/25/2010 | 3/25/2010 | 3/25/2010 | 3/25/2010 | 3/25/2010 | 7/18/2012 | 7/24/2012 | 7/24/2012 | 7/26/2012 | 7/26/2012 | 9/6/2012 | 9/7/2012 | 9/7/2012 | 9/12/2012 | 9/18/2012 | 9/18/2012 | 9/18/2012 | 9/18/2012 | 9/18/2012 | 9/18/2012 | 9/18/2012 |
| | | Depth (ft) | 1.5-2 | 8-8.5 | 9.5-10 | 0-0.5 | 1.5-2 | 4.5-5 | 5.5-6 | 6-7 | 6-6.5 | 7-8 | 3-3.5 | 5-6 | 6-7 | 5.5-6.5 | 5.5-6.5 | 9.5-10 | 0-0.5 | 1.5-2 | 4.5-5 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.032 J | 0.18 J | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 0.24 J | 0.0023 J | | | 0.0075 J | | | 0.018 J |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | | 1.3 U | 4.2 U | 3.5 U | | 0.4 U | 0.4 U | 0.38 U | 4 U | 0.4 U | 3.9 U | 0.44 U | 0.41 U | 0.41 U | 0.4 U | 8.1 U | 0.38 U | | | 0.36 U | | | 0.38 U |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 UJ | 0.21 U | 2 UJ | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | | 2.1 | 7 | 3.3 | | 0.19 J | 0.023 J | 0.35 | 3.8 | 0.21 U | 1.6 J | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 12 | 0.2 U | | | 0.0051 J | | | 0.0083 J |
| SVOC | 2-METHYLPHENOL | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | 2-NITROANILINE | MG/KG | | 1.3 U | 4.2 U | 3.5 U | | 0.4 U | 0.4 U | 0.38 U | 4 U | 0.4 U | 3.9 U | 0.44 U | 0.41 U | 0.41 U | 0.4 U | 8.1 U | 0.38 U | | | 0.36 U | | | 0.38 U |
| SVOC | 2-NITROPHENOL | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | 3-NITROANILINE | MG/KG | | 1.3 U | 4.2 U | 3.5 U | | 0.4 U | 0.4 U | 0.38 U | 4 U | 0.4 U | 3.9 U | 0.44 U | 0.41 U | 0.41 U | 0.4 U | 8.1 U | 0.38 U | | | 0.36 U | | | 0.38 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | | 1.3 U | 4.2 U | 3.5 U | | 0.4 U | 0.4 U | 0.38 U | 4 U | 0.4 U | 3.9 U | 0.44 U | 0.41 U | 0.41 U | 0.4 U | 8.1 U | 0.38 U | | | 0.36 U | | | 0.38 U |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | 4-CHLOROANILINE | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | 4-METHYLPHENOL | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.0057 J | | | 0.2 U |
| SVOC | 4-NITROANILINE | MG/KG | | 1.3 U | 4.2 U | 3.5 U | | 0.4 U | 0.4 U | 0.38 U | 4 U | 0.4 U | 3.9 U | 0.44 U | 0.41 U | 0.41 U | 0.4 U | 8.1 U | 0.38 U | | | 0.36 U | | | 0.38 U |
| SVOC | 4-NITROPHENOL | MG/KG | | 1.3 U | 4.2 U | 3.5 U | | 0.4 U | 0.4 U | 0.38 U | 4 U | 0.4 U | 3.9 U | 0.44 U | 0.41 UJ | 0.41 U | 0.4 U | 8.1 U | 0.38 U | | | 0.36 U | | | 0.38 U |
| SVOC | ACENAPHTHENE | MG/KG | | 0.66 U | 2.1 U | 2.6 | | 0.21 U | 0.21 U | 0.035 J | 0.14 J | 0.21 U | 0.36 J | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.0043 J | | | 0.0043 J | | | 0.021 J |
| SVOC | ACENAPHTHYLENE | MG/KG | | 0.66 U | 2.1 U | 0.82 J | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | ACETOPHENONE | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.23 | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.014 J | | | 0.016 J | | | 0.021 J |
| SVOC | ANTHRACENE | MG/KG | | 0.66 U | 2.1 U | 4.6 | | 0.21 U | 0.21 U | 0.033 J | 2.1 U | 0.21 U | 0.14 J | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.0097 J | | | 0.0097 J | | | 0.03 J |
| SVOC | ATRAZINE | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | BENZALDEHYDE | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.016 J | 0.0074 J | 0.21 U | 4.2 U | 0.036 J | | | 0.027 J | | | 0.047 J |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | | 0.32 J | 2.1 U | 9.8 | | 0.21 U | 0.21 U | 0.22 | 0.012 J | 0.21 U | 0.095 | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 0.0031 J | 0.13 J | | | 0.096 J | | | 0.2 |
| SVOC | BENZO(A)PYRENE | MG/KG | | 0.56 J | 0.042 U | 9.9 | | 0.01 | 0.0067 U | 0.19 J | 0.0075 J | 0.0045 | 0.078 U | 0.0046 | 0.0041 U | 0.00036 J | 0.004 U | 0.081 U | 0.15 J | | | 0.11 J | | | 0.23 J |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | | 0.54 J | 2.1 U | 8.3 | | 0.21 U | 0.21 U | 0.17 J | 0.0066 J | 0.21 U | 0.038 J | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.25 | | | 0.16 J | | | 0.3 J |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | | 0.49 J | 2.1 U | 3.6 | | 0.21 U | 0.21 U | 0.063 J | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.097 J | | | 0.077 J | | | 0.16 J |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | | 0.44 J | 2.1 U | 9.2 | | 0.21 U | 0.21 U | 0.14 J | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.16 J | | | 0.11 J | | | 0.28 J |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.016 J | | | 0.015 J | | | 0.034 J |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | CAPROLACTAM | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.02 J | | | 0.19 U | | | 0.022 J |
| SVOC | CARBAZOLE | MG/KG | | 0.66 U | 2.1 U | 0.54 J | | 0.21 U | 0.21 U | 0.029 J | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.0085 J | | | 0.0062 J | | | 0.014 J |
| SVOC | CHRYSENE | MG/KG | | 0.4 J | 2.1 U | 10 | | 0.21 U | 0.21 U | 0.46 | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.22 | | | 0.14 J | | | 0.28 |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | | 0.13 J | 0.042 U | 1.7 J | | 0.004 U | 0.004 U | 0.021 J | 0.08 U | 0.0002 J | 0.0077 J | 0.0044 U | 0.0041 U | 0.0041 U | 0.004 U | 0.081 U | 0.028 J | | | 0.026 J | | | 0.055 J |
| SVOC | DIBENZOFURAN | MG/KG | | 0.66 U | 2.1 U | 0.8 J | | 0.21 U | 0.21 U | 0.2 U | 0.12 J | 0.21 U | 0.19 J | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.0083 J |
| SVOC | DIETHYLPHTHALATE | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.073 J | | | 0.2 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.028 J | | | 0.0076 J | | | |
| SVOC | FLUORANTHENE | MG/KG | | 0.28 J | 2.1 U | 22 | | 0.21 U | 0.21 U | 0.11 J | 2.1 U | 0.21 UJ | 0.36 J | 0.23 UJ | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.22 | | | 0.15 J | | | 0.35 |
| SVOC | FLUORENE | MG/KG | | 0.66 U | 2.1 U | 3.4 | | 0.21 U | 0.21 U | 0.052 J | 0.086 J | 0.21 U | 0.27 J | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.0047 J | | | 0.19 U | | | 0.011 J |
| SVOC | HEXACHLOROBENZENE | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | HEXACHLOROETHANE | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | | 0.42 J | 2.1 U | 4.1 | | 0.21 U | 0.21 U | 0.027 J | 0.0036 J | 0.21 U | 0.022 J | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 0.081 U | 0.099 J | | | 0.075 J | | | 0.15 J |
| SVOC | ISOPHORONE | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | NAPHTHALENE | MG/KG | | 7.5 | 28 | 3.6 | | 0.4 | 0.055 J | 0.074 J | 11 | 0.0041 J | 2.4 | 0.23 U | 0.011 J | 0.21 U | 0.21 U | 36 | 0.0036 J | | | 0.008 J | | | 0.013 J |
| SVOC | NITROBENZENE | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 UJ | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | | 1.3 U | 4.2 U | 3.5 U | | 0.4 U | 0.4 U | 0.38 U | 0.16 UJ | 0.4 U | 0.16 U | 0.44 U | 0.41 U | 0.41 U | 0.4 U | 0.16 UJ | 0.38 U | | | 0.36 U | | | 0.38 U |
| SVOC | PHENANTHRENE | MG/KG | | 0.66 U | 2.1 U | 18 | | 0.21 U | 0.21 U | 0.31 | 0.085 J | 0.21 U | 0.64 J | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.094 J | | | 0.075 J | | | 0.17 J |
| SVOC | PHENOL | MG/KG | | 0.66 U | 2.1 U | 1.8 U | | 0.21 U | 0.21 U | 0.2 U | 2.1 U | 0.21 U | 2 U | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.2 U | | | 0.19 U | | | 0.2 U |
| SVOC | PYRENE | MG/KG | | 0.43 J | 2.1 U | 20 | | 0.21 U | 0.21 U | 0.38 | 2.1 U | 0.21 U | 0.2 J | 0.23 U | 0.21 U | 0.21 U | 0.21 U | 4.2 U | 0.19 J | | | 0.13 J | | | 0.25 |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0085 | MPSB0085 | MPSB0085 | MPSB0086 | MPSB0086 | MPSB0086 | MPSB0086 | MPSB0105 | MPSB0107 | MPSB0107 | MPSB0108 | MPSB0108 | MPSB0115 | MPSB0116 | MPSB0116 | MPSB0125 | MPSB0130 | MPSB0130 | MPSB0130 | MPSB0131 | MPSB0131 | MPSB0131 | MPSB0132 |
| | | Field Sample ID | MPSB0085-SS-AD-AE-0 | MPSB0085-SS-AQ-AR-0 | MPSB0085-SS-AT-AU-0 | MPSB0086-SS-AA-AB-0 | MPSB0086-SS-AD-AE-0 | MPSB0086-SS-AJ-AK-0 | MPSB0086-SS-AL-AM-0 | MPSB0105-SS-AM-AO-0 | MPSB0107-SS-AM-AN-0 | MPSB0107-SS-AO-AQ-0 | MPSB0108-SS-AG-AH-0 | MPSB0108-SS-AK-AM-0 | MPSB0115-SS-AM-AO-0 | MPSB0116-SS-AL-AN-0 | MPSB0116-SS-AL-AN-1 | MPSB0125-SS-AT-AU-0 | MPSB0130-SS-AA-AB-0 | MPSB0130-SS-AD-AE-0 | MPSB0130-SS-AJ-AK-0 | MPSB0131-SS-AA-AB-0 | MPSB0131-SS-AD-AE-0 | MPSB0131-SS-AH-AI-0 | MPSB0132-SS-AA-AB-0 |
| | | Sample Date | 3/25/2010 | 3/25/2010 | 3/25/2010 | 3/25/2010 | 3/25/2010 | 3/25/2010 | 3/25/2010 | 7/18/2012 | 7/24/2012 | 7/24/2012 | 7/26/2012 | 7/26/2012 | 9/6/2012 | 9/7/2012 | 9/7/2012 | 9/12/2012 | 9/18/2012 | 9/18/2012 | 9/18/2012 | 9/18/2012 | 9/18/2012 | 9/18/2012 | 9/18/2012 |
| | | Depth (ft) | 1.5-2 | 8-8.5 | 9.5-10 | 0-0.5 | 1.5-2 | 4.5-5 | 5.5-6 | 6-7 | 6-6.5 | 7-8 | 3-3.5 | 5-6 | 6-7 | 5.5-6.5 | 5.5-6.5 | 9.5-10 | 0-0.5 | 1.5-2 | 4.5-5 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | 0.01 U | 32 U | 24 U | | 120 U | 0.63 U | 0.74 U | 0.62 U | 27 U | 0.64 U | 30 U | 0.69 U | 0.022 U | 0.011 U | 0.013 U | 87 U | | | | | | | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | 0.01 U | 32 U | 24 U | | 120 U | 0.63 U | 0.74 U | 0.62 U | 27 U | 0.64 U | 30 U | 0.69 U | 0.022 U | 0.011 U | 0.013 U | 87 U | | | | | | | |
| VOC | ACETONE | MG/KG | 0.014 | 32 U | 24 U | | 120 U | 0.63 U | 0.74 U | 0.62 U | 27 U | 0.64 U | 30 U | 0.69 U | 0.022 U | 0.0063 J | 0.0059 J | 87 U | | | | | | | |
| VOC | BENZENE | MG/KG | 0.0052 U | 14 J | 8.6 J | | 59 U | 0.33 | 0.12 J | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 37 J | | | | | | | |
| VOC | BROMOCHLOROMETHANE | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | BROMOFORM | MG/KG | | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | BROMOMETHANE | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | CARBON DISULFIDE | MG/KG | 0.0033 J | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | CARBON TETRACHLORIDE | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | CHLOROBENZENE | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | CHLOROETHANE | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | CHLOROFORM | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | CHLOROMETHANE | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 1.1 J | | | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | CYCLOHEXANE | MG/KG | 0.005 J | 5.1 J | 2.7 J | | 280 | 9.6 J | 0.2 J | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 0.47 J | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 1.6 J | | | | | | | |
| VOC | ETHYLBENZENE | MG/KG | 0.0052 U | 220 | 96 | | 180 | 14 | 0.42 | 0.41 | 5.4 J | 0.28 J | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 250 | | | | | | | |
| VOC | ISOPROPYLBENZENE | MG/KG | 0.0052 U | 14 J | 6.6 J | | 130 | 4 | 0.086 J | 0.31 U | 12 J | 0.092 J | 15 U | 0.092 J | 0.011 U | 0.0012 J | 0.00041 J | 20 J | | | | | | | |
| VOC | METHYL ACETATE | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.069 J | 15 U | 0.036 J | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | 0.01 U | 32 U | 24 U | | 120 U | 0.63 U | 0.74 U | 0.62 U | 27 U | 0.64 U | 30 U | 0.69 U | 0.022 U | 0.011 U | 0.013 U | 87 U | | | | | | | |
| VOC | METHYLCYCLOHEXANE | MG/KG | 0.012 | 53 | 24 | | 2900 | 86 | 2.2 | 0.31 U | 290 | 1.7 | 85 | 1.1 | 0.011 U | 0.0064 J | 0.0065 U | 62 | | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | TETRACHLOROETHENE | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | TOLUENE | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.007 J | 0.0065 U | 0.68 J | | | | | | | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 0.92 J | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | 0.0052 U | 16 U | 12 U | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | XYLENE, O- | MG/KG | 0.0052 U | 120 | 46 | | 59 U | 0.31 U | 0.37 U | 0.31 U | 14 U | 0.32 U | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 44 U | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | 0.0056 | 740 | 506 | | 59 U | 0.31 U | 0.37 U | 0.87 | 2.8 J | 0.026 J | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 1200 | | | | | | | |
| VOC | XYLENES, M & P | MG/KG | 0.0056 | 620 | 460 | | 59 U | 0.31 U | 0.37 U | 0.87 | 2.8 J | 0.026 J | 15 U | 0.35 U | 0.011 U | 0.0054 U | 0.0065 U | 1200 | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0132 | MPSB0132 | MPSB0133 | MPSB0133 | MPSB0133 | MPSB0134 | MPSB0134 | MPSB0135 | MPSB0135 | MPSB0135 | MPSB0135 | MPSB0136 | MPSB0136 | MPSB0136 | MPSB0137 | MPSB0138 | MPSB0138 | MPSB0138 | MPSB0139 | MPSB0139 | MPSB0139 | MPSB0139 | MPSB0140 |
| | | Field Sample ID | MPSB0132-SS-AA-AB-1 | MPSB0132-SS-AH-AI-0 | MPSB0133-SS-AA-AB-0 | MPSB0133-SS-AE-AF-0 | MPSB0133-SS-AE-AF-1 | MPSB0134-SS-AA-AB-0 | MPSB0134-SS-AE-AF-0 | MPSB0135-SS-AA-AB-0 | MPSB0135-SS-AD-AE-0 | MPSB0135-SS-AE-AF-0 | MPSB0135-SS-AH-AI-0 | MPSB0136-SS-AA-AB-0 | MPSB0136-SS-AD-AE-0 | MPSB0136-SS-AH-AI-0 | MPSB0137-SS-AA-AB-0 | MPSB0138-SS-AA-AB-0 | MPSB0138-SS-AD-AE-0 | MPSB0138-SS-AH-AI-0 | MPSB0139-SS-AA-AB-0 | MPSB0139-SS-AD-AE-0 | MPSB0139-SS-AL-AM-0 | MPSB0139-SS-AT-AU-0 | MPSB0140-SS-AA-AB-0 |
| | | Sample Date | 9/18/2012 | 9/18/2012 | 9/18/2012 | 9/18/2012 | 9/18/2012 | 9/18/2012 | 9/18/2012 | 9/19/2012 | 9/19/2012 | 9/19/2012 | 9/19/2012 | 9/19/2012 | 9/19/2012 | 9/19/2012 | 9/19/2012 | 9/19/2012 | 9/19/2012 | 9/19/2012 | 9/24/2012 | 9/24/2012 | 9/24/2012 | 9/24/2012 | 9/24/2012 |
| | | Depth (ft) | 0-0.5 | 3.5-4 | 0-0.5 | 2-2.5 | 2-2.5 | 0-0.5 | 2-2.5 | 0-0.5 | 1.5-2 | 2-2.5 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 5.5-6 | 9.5-10 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | | 1440 J | 2670 J | 1410 J | 1540 J | 1830 J | 1920 J | 648 | 2920 | | 2090 | 3560 | 2930 | 2460 | 1760 | 2280 | 7370 | 1630 | 3600 | 1910 | 22000 | 5740 | 21400 |
| METALS | ANTIMONY | MG/KG | | 10.1 UJ | 5.3 UJ | 5 UJ | 4.8 UJ | 5.2 UJ | 4.7 UJ | 5.7 UJ | 5.6 UJ | | 7 UJ | 5.3 UJ | 5.2 UJ | 4.8 UJ | 5.2 UJ | 5 UJ | 4.6 UJ | 5.3 UJ | 0.68 J | 0.56 J | 8.2 J | 0.34 J | 5.7 UJ |
| METALS | ARSENIC | MG/KG | | 2.9 J | 4 J | 1.4 J | 1.1 J | 3.6 J | 2.2 J | 2.9 | 1.6 | | 1.8 | 14.8 | 1.6 | 1.6 | 2.7 | 3 | 3 | 1.1 | 6.8 J | 10.6 J | 103 J | 2 J | 7.2 J |
| METALS | BARIUM | MG/KG | | 402 J | 127 J | 16.6 UJ | 16.1 UJ | 17.3 UJ | 43.3 J | 7.3 J | 8.7 J | | 7.9 J | 1040 D | 383 | 404 | 521 | 214 | 11 J | 22.2 | 233 J | 211 J | 2600 J | 270 J | 104 J |
| METALS | BERYLLIUM | MG/KG | | 0.085 J | 0.06 J | 0.41 UJ | 0.4 UJ | 0.43 UJ | 0.39 UJ | 0.48 U | 0.47 U | | 0.58 U | 0.11 J | 0.43 U | 0.4 U | 0.44 U | 0.043 J | 0.044 J | 0.44 U | 0.44 U | 0.43 U | 0.45 U | 0.42 U | 0.67 |
| METALS | CADMIUM | MG/KG | | 0.21 J | 0.062 J | 0.41 UJ | 0.4 UJ | 0.43 UJ | 0.083 J | 0.13 J | 0.47 U | | 0.58 U | 0.94 | 0.076 J | 0.031 J | 0.23 J | 0.081 J | 0.028 J | 0.44 U | 0.32 J | 0.23 J | 7.8 | 0.48 | 0.13 J |
| METALS | CALCIUM | MG/KG | | 952 J | 366 J | 185 J | 248 J | 591 J | 596 J | 5580 | 250 J | | 177 J | 1650 | 303 J | 266 J | 764 | 112 J | 137 J | 123 J | 2320 | 492 | 51600 | 7780 | 18600 |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | | 17.4 J | 11.2 J | 10.9 J | 5.1 J | 9.7 J | 8.9 J | 5.1 | 10.5 | | 12.6 | 36.8 D | 10.7 | 10.3 | 15.6 | 11.4 | 16.2 | 4.8 | 19.2 | 20.5 | 302 | 21.4 | 37.9 |
| METALS | COBALT | MG/KG | | 3.2 J | 0.84 J | 0.61 J | 0.5 J | 0.65 J | 1.3 J | 0.79 J | 0.45 J | | 0.46 J | 2.1 J | 0.86 J | 0.97 J | 0.95 J | 0.88 J | 0.76 J | 0.46 J | 2.5 J | 1.5 J | 13.2 J | 5.5 | 12.2 |
| METALS | COPPER | MG/KG | | 25.6 J | 4.7 J | 6.2 J | 6.7 J | 4.2 J | 9.3 J | 1.7 J | 2.5 | | 1.8 J | 21.3 | 2.9 | 4 | 9.4 | 5.4 | 5.4 | 1.1 J | 13.6 | 10.8 | 178 | 12.5 | 28 |
| METALS | CYANIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | IRON | MG/KG | | 4110 J | 7460 J | 3720 J | 3700 J | 7330 J | 7070 J | 1640 | 4460 | | 7770 | 7920 | 5130 | 4810 | 4200 | 4460 | 11500 | 2900 | 7170 | 5000 | 51400 | 11400 | 26700 |
| METALS | LEAD | MG/KG | | 98.3 D | 69.9 D | 43.9 D | 56.2 D | 16.2 J | 196 D | 13.6 J | 3.9 J | | 3.2 J | 995 JD | 64.9 JD | 96.9 JD | 209 JD | 160 JD | 6.2 J | 4.2 J | 220 D | 269 | 7040 | 172 D | 91 D |
| METALS | MAGNESIUM | MG/KG | | 387 J | 272 J | 119 J | 63.7 J | 207 J | 117 J | 3040 | 133 J | | 95.7 J | 814 | 227 J | 216 J | 407 J | 175 J | 176 J | 124 J | 987 | 155 J | 9110 | 5320 | 11200 |
| METALS | MANGANESE | MG/KG | | 45.2 J | 37.2 J | 12 J | 19 J | 16.9 J | 59.2 D | 24.4 | 8.9 | | 9.6 | 72.5 D | 20.6 | 32.6 | 32.6 | 26.8 | 8.3 | 15.1 | 97.1 JD | 49.5 JD | 1170 J | 62.6 J | 750 J |
| METALS | MERCURY | MG/KG | | 0.14 UJ | 0.1 UJ | 0.1 UJ | 0.097 UJ | 0.1 UJ | 0.097 UJ | 0.11 U | 0.12 U | | 0.12 U | 0.18 | 0.096 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.096 U | 0.23 | 0.11 | 0.35 | 0.37 | 0.068 J |
| METALS | NICKEL | MG/KG | | 6.8 J | 3.5 UJ | 3.3 UJ | 3.2 UJ | 3.5 UJ | 3.1 UJ | 0.73 J | 0.77 J | | 0.5 J | 4.8 | 1.8 J | 1.7 J | 1.7 J | 1.9 J | 2.7 J | 0.81 J | 3.5 J | 1.4 J | 28.6 J | 6.6 | 23 |
| METALS | POTASSIUM | MG/KG | | 234 J | 379 J | 44 J | 47 J | 187 J | 83.2 J | 97.7 J | 253 J | | 226 J | 575 | 169 J | 173 J | 211 J | 169 J | 150 J | 80.8 J | 494 J | 140 J | 2960 J | 2980 J | 5740 J |
| METALS | SELENIUM | MG/KG | | 5.9 UJ | 0.65 J | 2.9 UJ | 2.8 UJ | 0.47 J | 0.26 J | 3.3 UJ | 3.3 UJ | | 0.35 J | 0.49 J | 0.26 J | 2.8 UJ | 3.1 UJ | 2.9 UJ | 0.39 J | 3.1 UJ | 0.57 J | 3 UJ | 3.2 UJ | 3 UJ | 3.3 UJ |
| METALS | SILVER | MG/KG | | 1.7 UJ | 0.89 UJ | 0.83 UJ | 0.81 UJ | 0.86 UJ | 0.78 UJ | 0.95 U | 0.93 U | | 1.2 U | 0.88 U | 0.86 U | 0.81 U | 0.87 U | 0.84 U | 0.76 U | 0.89 U | 0.87 U | 0.85 U | 0.9 U | 0.85 U | 0.95 U |
| METALS | SODIUM | MG/KG | | 145 J | 13.6 J | 414 UJ | 2.9 J | 23.1 J | 7.5 J | 170 J | 329 J | | 279 J | 374 J | 154 J | 200 J | 127 J | 17.2 J | 41.6 J | 11.4 J | 664 J | 206 J | 4470 J | 561 J | 9820 J |
| METALS | THALLIUM | MG/KG | | 4.2 UJ | 2.2 UJ | 2.1 UJ | 2 UJ | 2.2 UJ | 2 UJ | 2.4 U | 2.3 U | | 2.9 U | 2.2 U | 2.2 U | 2 U | 2.2 U | 0.13 J | 0.11 J | 2.2 U | 2.2 U | 2.1 U | 2.3 U | 2.1 U | 2.4 U |
| METALS | VANADIUM | MG/KG | | 8.1 J | 10.3 J | 5.5 J | 6 J | 8.9 J | 7.4 J | 3.8 J | 7.9 | | 13.5 | 12.2 | 8.2 | 6.9 | 6.8 | 8 | 20.5 | 5 | 11.1 J | 6.8 J | 82.2 J | 24.6 J | 49.9 J |
| METALS | ZINC | MG/KG | | 115 J | 28.5 J | 13.4 J | 16.4 J | 20.3 J | 39.2 J | 106 J | 5.6 UJ | | 10.2 J | 390 J | 78.9 J | 40.9 J | 110 J | 38.1 J | 12 J | 67.5 J | 149 JD | 90 J | 2710 J | 484 JD | 79.3 J |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | | | | | | | | | | | | | | | | | | | 0.036 U | 0.036 U | 0.036 U | 0.037 U | 0.035 U |
| PEST/PCB | AROCLOR-1221 | MG/KG | | | | | | | | | | | | | | | | | | | 0.036 U | 0.036 U | 0.036 U | 0.037 U | 0.035 U |
| PEST/PCB | AROCLOR-1232 | MG/KG | | | | | | | | | | | | | | | | | | | 0.036 U | 0.036 U | 0.036 U | 0.037 U | 0.035 U |
| PEST/PCB | AROCLOR-1242 | MG/KG | | | | | | | | | | | | | | | | | | | 0.034 J | 0.16 | 0.036 U | 0.14 J | 0.066 |
| PEST/PCB | AROCLOR-1248 | MG/KG | | | | | | | | | | | | | | | | | | | 0.036 U | 0.036 U | 0.036 U | 0.037 U | 0.035 U |
| PEST/PCB | AROCLOR-1254 | MG/KG | | | | | | | | | | | | | | | | | | | 0.024 J | 0.058 J | | | 0.029 J |
| PEST/PCB | AROCLOR-1260 | MG/KG | | | | | | | | | | | | | | | | | | | 0.084 | 0.035 J | 0.072 | 0.0071 J | 0.0072 J |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | | | | | | | | | | | | | | | | | 0.036 U | 0.036 U | 0.036 U | 0.037 U | 0.035 U |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | | | | | | | | | | | | | | | | | 0.036 U | 0.036 U | 0.036 U | 0.037 U | 0.035 U |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0132 | MPSB0132 | MPSB0133 | MPSB0133 | MPSB0133 | MPSB0134 | MPSB0134 | MPSB0135 | MPSB0135 | MPSB0135 | MPSB0135 | MPSB0136 | MPSB0136 | MPSB0136 | MPSB0137 | MPSB0138 | MPSB0138 | MPSB0138 | MPSB0139 | MPSB0139 | MPSB0139 | MPSB0139 | MPSB0140 |
| | | Field Sample ID | MPSB0132-SS-AA-AB-1 | MPSB0132-SS-AH-AI-0 | MPSB0133-SS-AA-AB-0 | MPSB0133-SS-AE-AF-0 | MPSB0133-SS-AE-AF-1 | MPSB0134-SS-AA-AB-0 | MPSB0134-SS-AE-AF-0 | MPSB0135-SS-AA-AB-0 | MPSB0135-SS-AD-AE-0 | MPSB0135-SS-AE-AF-0 | MPSB0135-SS-AH-AI-0 | MPSB0136-SS-AA-AB-0 | MPSB0136-SS-AD-AE-0 | MPSB0136-SS-AH-AI-0 | MPSB0137-SS-AA-AB-0 | MPSB0138-SS-AA-AB-0 | MPSB0138-SS-AD-AE-0 | MPSB0138-SS-AH-AI-0 | MPSB0139-SS-AA-AB-0 | MPSB0139-SS-AD-AE-0 | MPSB0139-SS-AL-AM-0 | MPSB0139-SS-AT-AU-0 | MPSB0140-SS-AA-AB-0 |
| | | Sample Date | 9/18/2012 | 9/18/2012 | 9/18/2012 | 9/18/2012 | 9/18/2012 | 9/18/2012 | 9/18/2012 | 9/19/2012 | 9/19/2012 | 9/19/2012 | 9/19/2012 | 9/19/2012 | 9/19/2012 | 9/19/2012 | 9/19/2012 | 9/19/2012 | 9/19/2012 | 9/19/2012 | 9/24/2012 | 9/24/2012 | 9/24/2012 | 9/24/2012 | 9/24/2012 |
| | | Depth (ft) | 0-0.5 | 3.5-4 | 0-0.5 | 2-2.5 | 2-2.5 | 0-0.5 | 2-2.5 | 0-0.5 | 1.5-2 | 2-2.5 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 5.5-6 | 9.5-10 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 0.0068 J | | | | | | | | | | | | | | | | | | 0.004 J | 0.061 J | 0.016 J | 0.19 U | 0.0084 J |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 0.4 U | | | | | | | | | | | | | | | | | | 0.35 U | 3.6 U | 0.36 U | 0.37 U | 0.34 U |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.031 J | 1.1 J | 0.12 J | 0.19 U | 0.02 J |
| SVOC | 2-METHYLPHENOL | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | 2-NITROANILINE | MG/KG | 0.4 U | | | | | | | | | | | | | | | | | | 0.35 U | 3.6 U | 0.36 U | 0.37 U | 0.34 U |
| SVOC | 2-NITROPHENOL | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | 3-NITROANILINE | MG/KG | 0.4 U | | | | | | | | | | | | | | | | | | 0.35 U | 3.6 U | 0.36 U | 0.37 U | 0.34 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 0.4 U | | | | | | | | | | | | | | | | | | 0.35 U | 3.6 U | 0.36 U | 0.37 U | 0.34 U |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | 4-CHLOROANILINE | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | 4-METHYLPHENOL | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | 4-NITROANILINE | MG/KG | 0.4 U | | | | | | | | | | | | | | | | | | 0.35 U | 3.6 U | 0.36 U | 0.37 U | 0.34 U |
| SVOC | 4-NITROPHENOL | MG/KG | 0.4 U | | | | | | | | | | | | | | | | | | 0.35 U | 3.6 U | 0.36 U | 0.37 U | 0.34 U |
| SVOC | ACENAPHTHENE | MG/KG | 0.0078 J | | | | | | | | | | | | | | | | | | 0.022 J | 0.14 J | 0.09 J | 0.19 U | 0.022 J |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | ACETOPHENONE | MG/KG | 0.021 J | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | ANTHRACENE | MG/KG | 0.036 J | | | | | | | | | | | | | | | | | | 0.03 J | 0.14 J | 0.15 J | 0.0036 J | 0.016 J |
| SVOC | ATRAZINE | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | BENZALDEHYDE | MG/KG | 0.04 J | | | | | | | | | | | | | | | | | | 0.1 J | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.28 | | | | | | | | | | | | | | | | | | 0.13 J | 0.3 J | 0.57 | 0.018 J | 0.057 J |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.27 | | | | | | | | | | | | | | | | | | 0.13 J | 0.23 J | 0.44 | 0.02 J | 0.058 J |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 0.35 | | | | | | | | | | | | | | | | | | 0.14 J | 0.22 J | 0.48 | 0.017 J | 0.071 J |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.2 J | | | | | | | | | | | | | | | | | | 0.1 J | 0.17 J | 0.23 | 0.013 J | 0.039 J |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.33 | | | | | | | | | | | | | | | | | | 0.15 J | 0.3 J | 0.53 | 0.019 J | 0.062 J |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 0.027 J | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 0.4 J | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | CAPROLACTAM | MG/KG | 0.015 J | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | CARBAZOLE | MG/KG | 0.02 J | | | | | | | | | | | | | | | | | | 0.0077 J | 0.031 J | 0.07 J | 0.19 U | 0.0074 J |
| SVOC | CHRYSENE | MG/KG | 0.38 | | | | | | | | | | | | | | | | | | 0.17 J | 0.32 J | 0.63 | 0.023 J | 0.1 J |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.048 J | | | | | | | | | | | | | | | | | | 0.032 J | 0.058 | 0.092 J | 0.19 U | 0.013 J |
| SVOC | DIBENZOFURAN | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.012 J | 0.085 J | 0.059 J | 0.19 U | 0.018 J |
| SVOC | DIETHYLPHTHALATE | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.0069 J |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | FLUORANTHENE | MG/KG | 0.5 | | | | | | | | | | | | | | | | | | 0.26 | 0.79 J | 2 | 0.034 J | 0.21 |
| SVOC | FLUORENE | MG/KG | 0.0077 J | | | | | | | | | | | | | | | | | | 0.022 J | 0.14 J | 0.11 J | 0.0028 J | 0.011 J |
| SVOC | HEXACHLOROBENZENE | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | HEXACHLOROETHANE | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.18 J | | | | | | | | | | | | | | | | | | 0.094 J | 0.16 J | 0.24 | 0.012 J | 0.031 J |
| SVOC | ISOPHORONE | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | NAPHTHALENE | MG/KG | 0.0062 J | | | | | | | | | | | | | | | | | | 0.084 J | 2.7 | 0.21 | 0.0061 J | 0.012 J |
| SVOC | NITROBENZENE | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.18 U | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | 0.4 U | | | | | | | | | | | | | | | | | | 0.35 U | 0.072 UJ | 0.36 U | 0.37 U | 0.34 U |
| SVOC | PHENANTHRENE | MG/KG | 0.21 | | | | | | | | | | | | | | | | | | 0.15 J | 0.73 J | 1.3 | 0.02 J | 0.12 J |
| SVOC | PHENOL | MG/KG | 0.21 U | | | | | | | | | | | | | | | | | | 0.075 J | 1.8 U | 0.19 U | 0.19 U | 0.18 U |
| SVOC | PYRENE | MG/KG | 0.36 | | | | | | | | | | | | | | | | | | 0.22 | 0.7 J | 1.1 | 0.029 J | 0.17 J |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0132 | MPSB0132 | MPSB0133 | MPSB0133 | MPSB0133 | MPSB0134 | MPSB0134 | MPSB0135 | MPSB0135 | MPSB0135 | MPSB0135 | MPSB0136 | MPSB0136 | MPSB0136 | MPSB0137 | MPSB0138 | MPSB0138 | MPSB0138 | MPSB0139 | MPSB0139 | MPSB0139 | MPSB0139 | MPSB0140 |
| | | Field Sample ID | MPSB0132-SS-AA-AB-1 | MPSB0132-SS-AH-AI-0 | MPSB0133-SS-AA-AB-0 | MPSB0133-SS-AE-AF-0 | MPSB0133-SS-AE-AF-1 | MPSB0134-SS-AA-AB-0 | MPSB0134-SS-AE-AF-0 | MPSB0135-SS-AA-AB-0 | MPSB0135-SS-AD-AE-0 | MPSB0135-SS-AE-AF-0 | MPSB0135-SS-AH-AI-0 | MPSB0136-SS-AA-AB-0 | MPSB0136-SS-AD-AE-0 | MPSB0136-SS-AH-AI-0 | MPSB0137-SS-AA-AB-0 | MPSB0138-SS-AA-AB-0 | MPSB0138-SS-AD-AE-0 | MPSB0138-SS-AH-AI-0 | MPSB0139-SS-AA-AB-0 | MPSB0139-SS-AD-AE-0 | MPSB0139-SS-AL-AM-0 | MPSB0139-SS-AT-AU-0 | MPSB0140-SS-AA-AB-0 |
| | | Sample Date | 9/18/2012 | 9/18/2012 | 9/18/2012 | 9/18/2012 | 9/18/2012 | 9/18/2012 | 9/18/2012 | 9/19/2012 | 9/19/2012 | 9/19/2012 | 9/19/2012 | 9/19/2012 | 9/19/2012 | 9/19/2012 | 9/19/2012 | 9/19/2012 | 9/19/2012 | 9/19/2012 | 9/24/2012 | 9/24/2012 | 9/24/2012 | 9/24/2012 | 9/24/2012 |
| | | Depth (ft) | 0-0.5 | 3.5-4 | 0-0.5 | 2-2.5 | 2-2.5 | 0-0.5 | 2-2.5 | 0-0.5 | 1.5-2 | 2-2.5 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 5.5-6 | 9.5-10 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | | | | | | | | | 9.3 U | | | | | | | | | | | | | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | | | | | | | | | 9.3 U | | | | | | | | | | | | | |
| VOC | ACETONE | MG/KG | | | | | | | | | | 9.3 U | | | | | | | | | | | | | |
| VOC | BENZENE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | BROMOFORM | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | BROMOMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CARBON DISULFIDE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | CARBON TETRACHLORIDE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | CHLOROBENZENE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | CHLOROETHANE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | CHLOROFORM | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | CHLOROMETHANE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | CYCLOHEXANE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | ETHYLBENZENE | MG/KG | | | | | | | | | | 14 J | | | | | | | | | | | | | |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | | | | | | 20 J | | | | | | | | | | | | | |
| VOC | METHYL ACETATE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | | | | | | | | | | 9.3 U | | | | | | | | | | | | | |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | | | | | | 170 | | | | | | | | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | TETRACHLOROETHENE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | TOLUENE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | 4.7 U | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0140 | MPSB0140 | MPSB0140 | MPSB0141 | MPSB0141 | MPSB0141 | MPSB0141 | MPSB0142 | MPSB0142 | MPSB0142 | MPSB0142 | MPSB0143 | MPSB0143 | MPSB0143 | MPSB0144 | MPSB0144 | MPSB0144 | MPSB0144 | MPSB0145 | MPSB0145 | MPSB0145 | MPSB0145 | MPSB0145 |
| | | Field Sample ID | MPSB0140-SS-AD-AE-0 | MPSB0140-SS-AJ-AK-0 | MPSB0140-SS-AP-AQ-0 | MPSB0141-SS-AA-AB-0 | MPSB0141-SS-AD-AE-0 | MPSB0141-SS-AL-AM-0 | MPSB0141-SS-AT-AU-0 | MPSB0142-SS-AA-AB-0 | MPSB0142-SS-AD-AE-0 | MPSB0142-SS-AH-AI-0 | MPSB0142-SS-AH-AI-1 | MPSB0143-SS-AA-AB-0 | MPSB0143-SS-AD-AE-0 | MPSB0143-SS-AJ-AK-0 | MPSB0144-SS-AA-AB-0 | MPSB0144-SS-AD-AE-0 | MPSB0144-SS-AL-AM-0 | MPSB0144-SS-AT-AU-0 | MPSB0145-SS-AA-AB-0 | MPSB0145-SS-AD-AE-0 | MPSB0145-SS-AD-AE-1 | MPSB0145-SS-AL-AM-0 | MPSB0145-SS-AT-AU-0 |
| | | Sample Date | 9/24/2012 | 9/24/2012 | 9/24/2012 | 9/24/2012 | 9/24/2012 | 9/24/2012 | 9/24/2012 | 9/25/2012 | 9/25/2012 | 9/25/2012 | 9/25/2012 | 9/25/2012 | 9/25/2012 | 9/25/2012 | 9/25/2012 | 9/25/2012 | 9/25/2012 | 9/25/2012 | 9/26/2012 | 9/26/2012 | 9/26/2012 | 9/26/2012 | 9/26/2012 |
| | | Depth (ft) | 1.5-2 | 4.5-5 | 7.5-8 | 0-0.5 | 1.5-2 | 5.5-6 | 9.5-10 | 0-0.5 | 1.5-2 | 3.5-4 | 3.5-4 | 0-0.5 | 1.5-2 | 4.5-5 | 0-0.5 | 1.5-2 | 5.5-6 | 9.5-10 | 0-0.5 | 1.5-2 | 1.5-2 | 5.5-6 | 9.5-10 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | 2300 | 2120 | 3760 | 6940 | 2030 | 2780 | 2800 | 1480 | 1250 | 2150 J | 748 J | 1450 | 1880 | 2400 | 3270 | 1340 | 766 | 2720 | 2770 | 2240 | 2110 | 3460 | 2320 |
| METALS | ANTIMONY | MG/KG | 0.97 J | 0.64 J | 5.8 UJ | 1.8 J | 0.43 J | 0.68 J | 6.1 UJ | 4.5 UJ | 4.7 UJ | 5.3 UJ | 4.8 UJ | 0.33 J | 4.5 UJ | 5.6 UJ | 0.45 J | 5.5 UJ | 5.1 UJ | 5.4 UJ | 4.9 UJ | 4.8 UJ | 5.2 UJ | 5.6 UJ | 6.2 UJ |
| METALS | ARSENIC | MG/KG | 12.1 J | 8.3 J | 19.7 J | 18 J | 35.7 J | 26.2 J | 4.7 J | 30.2 | 2.4 | 3.5 J | 1.4 J | 2.2 | 2.2 | 4.1 | 32 | 5.6 | 1.1 | 12.2 | 7.2 J | 5.3 J | 5.2 J | 9.4 J | 0.49 J |
| METALS | BARIUM | MG/KG | 289 J | 375 J | 423 J | 1480 J | 24.8 J | 199 J | 2160 J | 117 J | 94 J | 199 J | 7 J | 61.5 J | 52.2 J | 1370 J | 197 J | 425 J | 7.1 J | 1350 J | 403 J | 268 J | 264 J | 583 J | 8 J |
| METALS | BERYLLIUM | MG/KG | 0.41 U | 0.51 U | 0.17 J | 0.13 J | 0.39 U | 0.43 U | 0.51 U | 0.37 U | 0.39 U | 0.45 U | 0.4 U | 0.4 U | 0.035 J | 0.47 U | 0.15 J | 0.46 U | 0.43 U | 0.45 U | 0.41 U | 0.4 U | 0.43 U | 0.47 U | 0.51 U |
| METALS | CADMIUM | MG/KG | 0.25 J | 0.32 J | 0.44 J | 1.5 | 0.15 J | 0.37 J | 0.69 | 0.2 J | 0.24 J | 0.2 J | 0.04 J | 0.14 J | 0.084 J | 0.54 | 0.2 J | 0.51 | 0.044 J | 0.39 J | 0.39 J | 0.34 J | 0.35 J | 4.3 J | 0.047 J |
| METALS | CALCIUM | MG/KG | 625 | 619 | 8980 | 3830 | 630 | 1720 | 2630 | 8500 | 307 J | 802 | 133 J | 9110 | 452 | 590 | 3600 | 1700 | 136 J | 496 | 1460 | 806 | 820 | 3330 | 185 J |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 34.9 | 25.5 | 62.3 | 27.3 | 13.5 | 35.4 D | 52.4 D | 19.6 | 17.1 | 19.2 | 19.5 | 6.6 | 9.9 | 170 | 21.2 | 93.6 | 29.1 | 167 | 22.8 | 18 | 17.6 | 66.3 | 6.4 |
| METALS | COBALT | MG/KG | 1.5 J | 1.6 J | 4.2 J | 4.5 J | 1.5 J | 2 J | 5.9 | 2.9 J | 0.77 J | 1.2 J | 0.27 J | 3.9 J | 1.5 J | 1.3 J | 4.8 | 0.72 J | 0.24 J | 1 J | 2.3 J | 1.6 J | 4 J | 2 J | 1 J |
| METALS | COPPER | MG/KG | 13.5 | 9.9 | 31.4 | 23.8 | 13.8 | 16.5 | 37.7 | 8.5 | 6.6 | 6.1 J | 1.5 J | 12 | 4.4 | 9.6 | 44.1 | 8.9 | 1.8 J | 16.3 | 17.1 | 15.2 | 11.3 | 29.6 | 2.6 U |
| METALS | CYANIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | IRON | MG/KG | 5080 | 5640 | 10500 | 11700 | 4900 | 6630 | 12200 | 5820 | 3230 | 4470 J | 2980 J | 3590 | 5040 | 5420 | 7760 | 3660 | 3090 | 6530 | 6500 | 5110 | 4980 | 5850 | 2180 |
| METALS | LEAD | MG/KG | 355 D | 282 D | 578 | 822 D | 232 | 435 D | 1400 D | 112 | 162 | 110 | 120 | 137 | 59.8 | 1390 | 190 | 1100 | 88.6 | 683 | 292 | 280 | 261 | 1160 | 3.2 |
| METALS | MAGNESIUM | MG/KG | 226 J | 233 J | 2760 | 2660 | 228 J | 551 | 1520 | 4700 | 137 J | 322 J | 48.9 J | 4860 | 149 J | 126 J | 1990 | 146 J | 49.2 J | 103 J | 706 | 245 J | 242 J | 864 | 60.2 J |
| METALS | MANGANESE | MG/KG | 31.1 J | 48.1 J | 411 J | 149 JD | 21.4 J | 45.2 JD | 144 JD | 34.6 J | 15.3 J | 18.5 J | 7.1 J | 50.6 J | 33.3 J | 24.8 J | 40.2 J | 24.8 J | 7.4 J | 17 J | 68.1 J | 100 J | 97.4 J | 85.7 J | 21.3 J |
| METALS | MERCURY | MG/KG | 0.11 | 0.19 | 0.63 | 0.088 J | 0.076 J | 0.25 | 0.86 | 0.1 J | 0.1 | 0.11 U | 0.11 U | 0.62 | 0.12 | 0.47 | 0.21 | 0.93 | 0.098 U | 1.9 | 0.31 | 0.17 | 0.2 | 0.22 | 0.047 J |
| METALS | NICKEL | MG/KG | 1.9 J | 1.8 J | 5 | 7.2 | 1.2 J | 3.6 | 6.3 | 12.5 | 3 J | 2.8 J | 0.3 J | 1.5 J | 1.4 J | 2.4 J | 4.2 | 1.1 J | 0.28 J | 1.9 J | 2.6 J | 2.2 J | 1.7 J | 3.2 J | 0.48 J |
| METALS | POTASSIUM | MG/KG | 202 J | 341 J | 1050 J | 1540 J | 134 J | 302 J | 1460 J | 115 J | 110 J | 199 J | 97.3 J | 128 J | 339 J | 215 J | 397 J | 128 J | 98.9 J | 180 J | 240 J | 192 J | 182 J | 325 J | 152 J |
| METALS | SELENIUM | MG/KG | 2.9 UJ | 3.6 UJ | 3.4 UJ | 3.2 UJ | 0.25 J | 3 UJ | 0.37 J | 2.6 U | 2.7 U | 3.1 U | 2.8 U | 2.8 U | 2.6 U | 3.3 U | 3 U | 3.2 U | 3 U | 0.32 J | 2.9 U | 2.8 U | 3 U | 3.3 U | 3.6 U |
| METALS | SILVER | MG/KG | 0.82 U | 1 U | 0.97 U | 0.9 U | 0.79 U | 0.85 U | 1 U | 0.75 U | 0.78 U | 0.89 U | 0.8 U | 0.8 U | 0.75 U | 0.93 U | 0.85 U | 0.91 U | 0.85 U | 0.91 U | 0.82 U | 0.8 U | 0.86 U | 0.93 U | 1 U |
| METALS | SODIUM | MG/KG | 133 J | 245 J | 579 J | 2500 J | 213 J | 559 J | 317 J | 57.9 J | 49.5 J | 253 J | 21 J | 38.3 J | 43.2 J | 65.4 J | 63.2 J | 31.9 J | 21.3 J | 125 J | 108 J | 95 J | 95.4 J | 284 J | 92.1 J |
| METALS | THALLIUM | MG/KG | 2 U | 2.5 U | 2.4 U | 2.3 U | 2 U | 2.1 U | 2.6 U | 1.9 U | 2 U | 2.2 U | 2 U | 2 U | 1.9 U | 2.3 U | 2.1 U | 2.3 U | 2.1 U | 2.3 U | 2.1 U | 2 U | 2.2 U | 2.3 U | 2.6 U |
| METALS | VANADIUM | MG/KG | 8.8 J | 8.4 J | 14.8 J | 16.5 J | 7.9 J | 11.6 J | 10.9 J | 7.2 | 15.2 | 11 | 4.8 | 5.2 | 6.1 | 8.9 | 11.7 | 5.5 | 5 | 10.5 | 9.8 | 7.7 | 7.4 | 11.2 | 6.3 |
| METALS | ZINC | MG/KG | 76.8 J | 162 J | 153 J | 979 JD | 64.4 J | 101 J | 1170 JD | 93.3 J | 99.6 J | 90.3 J | 94.3 J | 54.6 J | 42.8 J | 220 J | 114 J | 225 J | 2.9 J | 140 J | 158 J | 156 J | 175 J | 881 JD | 2 J |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | 0.035 U | 0.036 U | 0.036 U | 0.036 U | 0.035 U | 0.036 U | 0.036 U | 0.17 U | 0.069 U | 0.037 U | 0.037 U | 0.034 U | 0.035 U | 38 U | 0.35 U | 0.34 U | 0.035 U | 0.043 U | 0.035 U | 0.035 U | 0.036 U | 0.035 U | 0.04 U |
| PEST/PCB | AROCLOR-1221 | MG/KG | 0.035 U | 0.036 U | 0.036 U | 0.036 U | 0.035 U | 0.036 U | 0.036 U | 0.17 U | 0.069 U | 0.037 U | 0.037 U | 0.034 U | 0.035 U | 38 U | 0.35 U | 0.34 U | 0.035 U | 0.043 U | 0.035 U | 0.035 U | 0.036 U | 0.035 U | 0.04 U |
| PEST/PCB | AROCLOR-1232 | MG/KG | 0.035 U | 0.036 U | 0.036 U | 0.036 U | 0.035 U | 0.036 U | 0.036 U | 0.17 U | 0.069 U | 0.037 U | 0.037 U | 0.034 U | 0.035 U | 38 U | 0.35 U | 0.34 U | 0.035 U | 0.043 U | 0.035 U | 0.035 U | 0.036 U | 0.035 U | 0.04 U |
| PEST/PCB | AROCLOR-1242 | MG/KG | 0.035 U | 0.036 U | 0.036 U | 0.036 U | 0.035 U | 0.036 U | 0.036 U | 0.17 U | 0.069 U | 0.037 U | 0.01 J | 0.034 U | 0.035 U | 380 U | 0.35 U | 0.34 U | 0.035 U | 0.043 U | 0.057 | 0.031 J | 0.043 J | | 0.0037 J |
| PEST/PCB | AROCLOR-1248 | MG/KG | 0.035 U | 0.036 U | 0.036 U | 0.036 U | 0.035 U | 0.036 U | 0.036 U | 0.17 U | 0.069 U | 0.037 U | 0.037 U | 0.034 U | 0.035 U | 38 U | 0.35 U | 0.34 U | 0.035 U | 0.043 U | 0.035 U | 0.035 U | 0.036 U | 0.035 U | 0.04 U |
| PEST/PCB | AROCLOR-1254 | MG/KG | 0.025 J | 0.037 J | 0.057 J | 0.01 J | 0.035 U | 0.014 J | 0.036 U | 0.17 U | 0.069 U | 0.037 U | 0.037 U | 0.034 U | 0.035 U | 38 U | 0.35 U | 0.34 U | 0.035 U | 0.043 U | 0.041 J | 0.041 J | 0.034 J | | 0.04 U |
| PEST/PCB | AROCLOR-1260 | MG/KG | 0.022 J | 0.062 | 0.067 | 0.056 | 0.0078 J | 0.013 J | 0.0087 J | 6 | 2.3 | 1.6 | 1.4 | 0.14 | 0.33 | 1200 | 16 | 52 | 0.018 J | 0.025 J | 0.042 | 0.088 | 0.097 | 0.1 J | 0.057 |
| PEST/PCB | AROCLOR-1262 | MG/KG | 0.035 U | 0.036 U | 0.036 U | 0.036 U | 0.035 U | 0.036 U | 0.036 U | 0.17 U | 0.069 U | 0.037 U | 0.037 U | 0.034 U | 0.035 U | 38 U | 0.35 U | 0.34 U | 0.035 U | 0.043 U | 0.035 U | 0.035 U | 0.036 U | 0.035 U | 0.04 U |
| PEST/PCB | AROCLOR-1268 | MG/KG | 0.035 U | 0.036 U | 0.036 U | 0.036 U | 0.035 U | 0.036 U | 0.036 U | 0.17 U | 0.069 U | 0.037 U | 0.037 U | 0.034 U | 0.035 U | 38 U | 0.35 U | 0.34 U | 0.035 U | 0.043 U | 0.035 U | 0.035 U | 0.036 U | 0.035 U | 0.04 U |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0140 | MPSB0140 | MPSB0140 | MPSB0141 | MPSB0141 | MPSB0141 | MPSB0141 | MPSB0142 | MPSB0142 | MPSB0142 | MPSB0142 | MPSB0143 | MPSB0143 | MPSB0143 | MPSB0144 | MPSB0144 | MPSB0144 | MPSB0144 | MPSB0145 | MPSB0145 | MPSB0145 | MPSB0145 | MPSB0145 |
| | | Field Sample ID | MPSB0140-SS-AD-AE-0 | MPSB0140-SS-AJ-AK-0 | MPSB0140-SS-AP-AQ-0 | MPSB0141-SS-AA-AB-0 | MPSB0141-SS-AD-AE-0 | MPSB0141-SS-AL-AM-0 | MPSB0141-SS-AT-AU-0 | MPSB0142-SS-AA-AB-0 | MPSB0142-SS-AD-AE-0 | MPSB0142-SS-AH-AI-0 | MPSB0142-SS-AH-AI-1 | MPSB0143-SS-AA-AB-0 | MPSB0143-SS-AD-AE-0 | MPSB0143-SS-AJ-AK-0 | MPSB0144-SS-AA-AB-0 | MPSB0144-SS-AD-AE-0 | MPSB0144-SS-AL-AM-0 | MPSB0144-SS-AT-AU-0 | MPSB0145-SS-AA-AB-0 | MPSB0145-SS-AD-AE-0 | MPSB0145-SS-AD-AE-1 | MPSB0145-SS-AL-AM-0 | MPSB0145-SS-AT-AU-0 |
| | | Sample Date | 9/24/2012 | 9/24/2012 | 9/24/2012 | 9/24/2012 | 9/24/2012 | 9/24/2012 | 9/24/2012 | 9/25/2012 | 9/25/2012 | 9/25/2012 | 9/25/2012 | 9/25/2012 | 9/25/2012 | 9/25/2012 | 9/25/2012 | 9/25/2012 | 9/25/2012 | 9/25/2012 | 9/26/2012 | 9/26/2012 | 9/26/2012 | 9/26/2012 | 9/26/2012 |
| | | Depth (ft) | 1.5-2 | 4.5-5 | 7.5-8 | 0-0.5 | 1.5-2 | 5.5-6 | 9.5-10 | 0-0.5 | 1.5-2 | 3.5-4 | 3.5-4 | 0-0.5 | 1.5-2 | 4.5-5 | 0-0.5 | 1.5-2 | 5.5-6 | 9.5-10 | 0-0.5 | 1.5-2 | 1.5-2 | 5.5-6 | 9.5-10 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 1.9 U | 0.051 J | 7.4 U | 0.0023 J | 0.17 J | 0.44 J | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.03 J | 0.048 J | 2 U | 0.12 J | 0.18 U | 0.18 U | 0.23 U | 0.0069 J | 0.034 J | 0.014 J | 0.012 J | 0.2 U |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 4.4 | 0.18 U | 0.031 J | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 3.6 U | 3.7 U | 14 U | 0.36 U | 5.9 U | 3.6 U | 0.37 U | 0.34 U | 0.34 U | 0.37 U | 0.37 U | 0.35 U | 0.35 U | 3.8 U | 0.34 U | 0.35 U | 0.35 U | 0.44 U | 0.71 U | 0.71 U | 0.35 U | 0.37 U | 0.39 U |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.91 J | 2.5 | 7.4 U | 0.0079 J | 4.1 | 3.7 | 0.012 J | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.02 J | 0.53 | 0.38 | 0.033 J | 0.2 U |
| SVOC | 2-METHYLPHENOL | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 2-NITROANILINE | MG/KG | 3.6 U | 3.7 U | 14 U | 0.36 U | 5.9 U | 3.6 U | 0.37 U | 0.34 U | 0.34 U | 0.37 U | 0.37 U | 0.35 U | 0.35 U | 3.8 U | 0.34 U | 0.35 U | 0.35 U | 0.44 U | 0.71 U | 0.71 U | 0.35 U | 0.37 U | 0.39 U |
| SVOC | 2-NITROPHENOL | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 3-NITROANILINE | MG/KG | 3.6 U | 3.7 U | 14 U | 0.36 U | 5.9 U | 3.6 U | 0.37 U | 0.34 U | 0.34 U | 0.37 U | 0.37 U | 0.35 U | 0.35 U | 3.8 U | 0.34 U | 0.35 U | 0.35 U | 0.44 U | 0.71 U | 0.71 U | 0.35 U | 0.37 U | 0.39 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 3.6 U | 3.7 U | 14 U | 0.36 U | 5.9 U | 7.1 U | 0.37 U | 0.34 U | 0.34 U | 0.37 U | 0.37 U | 0.35 U | 0.35 U | 3.8 U | 0.34 U | 0.35 U | 0.35 U | 0.44 U | 0.71 U | 0.71 U | 0.35 U | 0.37 U | 0.39 U |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 3.7 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 UJ | 0.18 U | 0.19 UJ | 0.2 U |
| SVOC | 4-CHLOROANILINE | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 4-METHYLPHENOL | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 4-NITROANILINE | MG/KG | 3.6 U | 3.7 U | 14 U | 0.36 U | 5.9 U | 3.6 U | 0.37 U | 0.34 U | 0.34 U | 0.37 U | 0.37 U | 0.35 U | 0.35 U | 3.8 U | 0.34 U | 0.35 U | 0.35 U | 0.44 U | 0.71 U | 0.71 U | 0.35 U | 0.37 U | 0.39 U |
| SVOC | 4-NITROPHENOL | MG/KG | 3.6 U | 3.7 U | 14 U | 0.36 U | 5.9 U | 3.6 U | 0.37 U | 0.34 U | 0.34 U | 0.37 U | 0.37 U | 0.35 U | 0.35 U | 3.8 U | 0.34 U | 0.35 U | 0.35 U | 0.44 U | 0.71 U | 0.71 U | 0.35 U | 0.37 U | 0.39 U |
| SVOC | ACENAPHTHENE | MG/KG | 0.18 J | 0.33 J | 0.016 | 0.005 J | 0.31 J | 2 | 0.0063 J | 0.008 J | 0.18 U | 0.029 J | 0.19 U | 0.0037 J | 0.18 U | 2 U | 0.014 J | 0.18 U | 0.18 U | 0.23 U | 0.072 J | 0.26 J | 0.095 J | 0.085 J | 0.014 J |
| SVOC | ACENAPHTHYLENE | MG/KG | 1.9 U | 1.9 U | 0.0079 J | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.015 J | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | ACETOPHENONE | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.034 J | 0.017 J | 0.18 U | 0.18 U | 2 U | 0.014 J | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | ANTHRACENE | MG/KG | 0.086 J | 0.39 J | 0.021 | 0.0073 J | 0.19 J | 3.7 J | 0.19 U | 0.024 J | 0.0087 J | 0.096 J | 0.0076 J | 0.0099 J | 0.0065 J | 0.052 J | 0.052 J | 0.02 J | 0.18 U | 0.026 J | 0.038 J | 0.35 J | 0.047 J | 0.082 J | 0.2 U |
| SVOC | ATRAZINE | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 3.7 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | BENZALDEHYDE | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.04 J | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.2 J | 1.3 J | 0.12 | 0.068 J | 0.19 J | 4.2 | 0.018 J | 0.24 | 0.052 J | 0.39 J | 0.039 J | 0.09 J | 0.053 J | 0.33 J | 0.26 | 0.12 J | 0.18 U | 0.3 J | 0.22 J | 1 J | 0.28 J | 0.32 | 0.2 U |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.21 J | 1.1 J | 0.17 J | 0.14 J | 0.077 | 3.8 | 0.021 J | 0.24 | 0.059 J | 0.32 J | 0.049 J | 0.097 J | 0.065 J | 0.34 J | 0.28 | 0.11 J | 0.18 U | 0.29 | 0.2 J | 0.84 J | 0.22 J | 0.33 | 0.0011 J |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 0.24 J | 1 J | 0.17 J | 0.2 | 0.079 | 3.5 | 0.021 J | 0.2 | 0.061 J | 0.35 J | 0.04 J | 0.12 J | 0.09 J | 0.3 J | 0.38 | 0.1 J | 0.18 U | 0.31 | 0.26 J | 1.1 J | 0.29 J | 0.39 | 0.2 U |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 1.9 U | 0.61 J | 7.4 U | 0.18 J | 3 U | 2.4 | 0.02 J | 0.16 J | 0.044 J | 0.14 J | 0.033 J | 0.08 J | 0.037 J | 0.15 J | 0.19 | 0.056 J | 0.18 U | 0.15 J | 0.15 J | 0.43 J | 0.12 J | 0.2 | 0.2 U |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.18 J | 1.3 J | 0.14 | 0.18 J | 0.084 | 3 | 0.031 J | 0.28 | 0.062 J | 0.32 J | 0.055 J | 0.14 J | 0.068 J | 0.28 J | 0.27 | 0.12 J | 0.18 U | 0.28 | 0.24 J | 0.89 J | 0.22 J | 0.32 | 0.2 U |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 1.9 U | 1.9 U | 95 | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 1.9 U | 4.9 | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | CAPROLACTAM | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | CARBAZOLE | MG/KG | 1.9 U | 0.11 J | 7.4 U | 0.006 J | 3 U | 1.2 J | 0.19 U | 0.0081 J | 0.0044 J | 0.025 J | 0.19 U | 0.0077 J | 0.18 U | 2 U | 0.026 J | 0.18 U | 0.18 U | 0.01 J | 0.012 J | 0.36 J | 0.021 J | 0.032 J | 0.2 U |
| SVOC | CHRYSENE | MG/KG | 0.27 J | 1.5 J | 0.14 | 0.16 J | 0.24 J | 4.6 | 0.023 J | 0.29 | 0.075 J | 0.43 J | 0.063 J | 0.14 J | 0.085 J | 0.33 J | 0.35 | 0.14 J | 0.18 U | 0.33 J | 0.32 J | 1.2 J | 0.3 J | 0.38 | 0.2 U |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.036 J | 0.21 J | 0.036 | 0.039 J | 0.016 J | 0.46 J | 0.19 U | 0.055 J | 0.018 J | 0.042 J | 0.015 J | 0.019 J | 0.014 J | 0.06 | 0.052 J | 0.018 J | 0.18 U | 0.069 J | 0.04 J | 0.13 J | 0.034 J | 0.051 J | 0.0002 J |
| SVOC | DIBENZOFURAN | MG/KG | 0.083 J | 0.2 J | 7.4 U | 0.0045 J | 0.23 J | 1.4 J | 0.19 U | 0.18 U | 0.18 U | 0.0097 J | 0.19 U | 0.0052 J | 0.18 U | 2 U | 0.0098 J | 0.18 U | 0.18 U | 0.0062 J | 0.023 J | 0.19 J | 0.044 J | 0.047 J | 0.2 U |
| SVOC | DIETHYLPHTHALATE | MG/KG | 0.042 J | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 1.9 U | 1.9 U | 0.21 J | 0.18 U | 3 U | 3.7 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | FLUORANTHENE | MG/KG | 0.56 J | 3.1 | 7.4 U | 0.16 J | 0.46 J | 13 J | 0.023 J | 0.35 | 0.087 J | 0.53 J | 0.056 J | 0.15 J | 0.071 J | 0.46 J | 0.39 | 0.16 J | 0.18 U | 0.41 J | 0.72 | 2.4 J | 0.69 J | 0.8 | 0.2 U |
| SVOC | FLUORENE | MG/KG | 0.13 J | 0.42 J | 7.4 U | 0.0056 J | 0.32 J | 2 | 0.19 U | 0.0058 J | 0.18 U | 0.026 J | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.011 J | 0.18 U | 0.18 U | 0.01 J | 0.06 J | 0.24 J | 0.09 J | 0.06 J | 0.015 J |
| SVOC | HEXACHLOROBENZENE | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 3.7 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | HEXACHLOROETHANE | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.091 | 0.63 J | 0.1 | 0.15 J | 0.047 J | 2.1 | 0.014 J | 0.13 J | 0.037 J | 0.13 J | 0.029 J | 0.064 J | 0.036 J | 0.14 J | 0.17 J | 0.052 J | 0.18 U | 0.15 J | 0.11 J | 0.45 J | 0.12 J | 0.19 | 0.2 U |
| SVOC | ISOPHORONE | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | NAPHTHALENE | MG/KG | 2.6 | 8 | 0.11 | 0.017 J | 9.4 | 8.6 | 0.19 U | 0.18 U | 0.18 U | 0.0091 J | 0.0076 J | 0.0073 J | 0.18 U | 2 U | 0.0077 J | 0.0032 J | 0.18 U | 0.017 J | 0.37 U | 1.2 | 0.65 | 0.034 J | 0.2 U |
| SVOC | NITROBENZENE | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 3.7 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | 0.15 UJ | | 0.0093 J | 0.36 U | 0.12 UJ | 0.15 UJ | 0.37 U | 0.34 U | 0.34 U | 0.37 U | 0.37 U | 0.35 U | 0.35 U | 0.0021 J | 0.34 U | 0.35 U | 0.35 U | 0.44 U | 0.71 U | 0.71 U | 0.35 U | 0.37 U | 0.39 U |
| SVOC | PHENANTHRENE | MG/KG | 0.47 J | 1.8 J | 0.11 | 0.041 J | 1 J | 16 J | 0.012 J | 0.12 J | 0.044 J | 0.32 J | 0.031 J | 0.07 J | 0.03 J | 0.11 J | 0.24 | 0.13 J | 0.18 U | 0.1 J | 0.21 J | 2.3 J | 0.33 J | 0.44 | 0.031 J |
| SVOC | PHENOL | MG/KG | 1.9 U | 1.9 U | 7.4 U | 0.18 U | 3 U | 1.8 U | 0.19 U | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 2 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.37 U | 0.37 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | PYRENE | MG/KG | 0.35 J | 1.7 J | 0.33 J | 0.15 J | 0.43 J | 8.3 | 0.017 J | 0.49 | 0.12 J | 0.64 J | 0.087 J | 0.18 J | 0.1 J | 0.64 J | 0.51 | 0.28 | 0.18 U | 0.61 J | 0.57 | 1.5 J | 0.59 J | 0.5 J | 0.2 U |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0140 | MPSB0140 | MPSB0140 | MPSB0141 | MPSB0141 | MPSB0141 | MPSB0141 | MPSB0142 | MPSB0142 | MPSB0142 | MPSB0142 | MPSB0143 | MPSB0143 | MPSB0143 | MPSB0144 | MPSB0144 | MPSB0144 | MPSB0144 | MPSB0145 | MPSB0145 | MPSB0145 | MPSB0145 | MPSB0145 |
| | | Field Sample ID | MPSB0140-SS-AD-AE-0 | MPSB0140-SS-AJ-AK-0 | MPSB0140-SS-AP-AQ-0 | MPSB0141-SS-AA-AB-0 | MPSB0141-SS-AD-AE-0 | MPSB0141-SS-AL-AM-0 | MPSB0141-SS-AT-AU-0 | MPSB0142-SS-AA-AB-0 | MPSB0142-SS-AD-AE-0 | MPSB0142-SS-AH-AI-0 | MPSB0142-SS-AH-AI-1 | MPSB0143-SS-AA-AB-0 | MPSB0143-SS-AD-AE-0 | MPSB0143-SS-AJ-AK-0 | MPSB0144-SS-AA-AB-0 | MPSB0144-SS-AD-AE-0 | MPSB0144-SS-AL-AM-0 | MPSB0144-SS-AT-AU-0 | MPSB0145-SS-AA-AB-0 | MPSB0145-SS-AD-AE-0 | MPSB0145-SS-AD-AE-1 | MPSB0145-SS-AL-AM-0 | MPSB0145-SS-AT-AU-0 |
| | | Sample Date | 9/24/2012 | 9/24/2012 | 9/24/2012 | 9/24/2012 | 9/24/2012 | 9/24/2012 | 9/24/2012 | 9/25/2012 | 9/25/2012 | 9/25/2012 | 9/25/2012 | 9/25/2012 | 9/25/2012 | 9/25/2012 | 9/25/2012 | 9/25/2012 | 9/25/2012 | 9/25/2012 | 9/26/2012 | 9/26/2012 | 9/26/2012 | 9/26/2012 | 9/26/2012 |
| | | Depth (ft) | 1.5-2 | 4.5-5 | 7.5-8 | 0-0.5 | 1.5-2 | 5.5-6 | 9.5-10 | 0-0.5 | 1.5-2 | 3.5-4 | 3.5-4 | 0-0.5 | 1.5-2 | 4.5-5 | 0-0.5 | 1.5-2 | 5.5-6 | 9.5-10 | 0-0.5 | 1.5-2 | 1.5-2 | 5.5-6 | 9.5-10 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ACETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOFORM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CARBON DISULFIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CARBON TETRACHLORIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROFORM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ETHYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TETRACHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TOLUENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0146 | MPSB0146 | MPSB0146 | MPSB0146 | MPSB0148 | MPSB0148 | MPSB0148 | MPSB0149 | MPSB0149 | MPSB0149 | MPSB0149 | MPSB0150 | MPSB0150 | MPSB0150 | MPSB0150 | MPSB0150 | MPSB0151 | MPSB0151 | MPSB0151 | MPSB0151 | MPSB0151 | MPSB0152 | MPSB0152 |
| | | Field Sample ID | MPSB0146-SS-AA-AB-0 | MPSB0146-SS-AD-AE-0 | MPSB0146-SS-AL-AM-0 | MPSB0146-SS-AT-AU-0 | MPSB0148-SS-AA-AB-0 | MPSB0148-SS-AD-AE-0 | MPSB0148-SS-AH-AI-0 | MPSB0149-SS-AA-AB-0 | MPSB0149-SS-AD-AE-0 | MPSB0149-SS-AL-AM-0 | MPSB0149-SS-AT-AU-0 | MPSB0150-SS-AA-AB-0 | MPSB0150-SS-AD-AE-0 | MPSB0150-SS-AH-AI-0 | MPSB0150-SS-AJ-AK-0 | MPSB0150-SS-AM-AN-0 | MPSB0151-SS-AA-AB-0 | MPSB0151-SS-AD-AE-0 | MPSB0151-SS-AH-AI-0 | MPSB0151-SS-AH-AI-1 | MPSB0151-SS-AJ-AK-0 | MPSB0152-SS-AA-AB-0 | MPSB0152-SS-AD-AE-0 |
| | | Sample Date | 9/26/2012 | 9/26/2012 | 9/26/2012 | 9/26/2012 | 10/1/2012 | 10/1/2012 | 10/1/2012 | 10/1/2012 | 10/1/2012 | 10/1/2012 | 10/1/2012 | 10/1/2012 | 10/1/2012 | 10/1/2012 | 10/1/2012 | 10/1/2012 | 10/2/2012 | 10/2/2012 | 10/2/2012 | 10/2/2012 | 10/2/2012 | 10/2/2012 | 10/2/2012 |
| | | Depth (ft) | 0-0.5 | 1.5-2 | 5.5-6 | 9.5-10 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 5.5-6 | 9.5-10 | 0-0.5 | 1.5-2 | 3.5-4 | 4.5-5 | 6-6.5 | 0-0.5 | 1.5-2 | 3.5-4 | 3.5-4 | 4.5-5 | 0-0.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | 3840 | 2210 | 911 | 2760 | 3300 J | 3290 J | 3090 J | 2860 J | 4210 J | 3220 J | 1020 J | 4550 J | 3800 J | 3190 J | | | 3000 | 3690 | 1870 | 1770 | | 3470 | 1350 |
| METALS | ANTIMONY | MG/KG | 5.2 UJ | 5.6 UJ | 6.1 UJ | 5.7 UJ | 4.6 U | 4.5 U | 0.7 J | 4.5 U | 5 U | 6 U | 6.4 U | 5 U | 5.1 U | 4.8 U | | | 4.9 UJ | 0.81 J | 5.8 UJ | 5.1 UJ | | 4.6 UJ | 5.1 UJ |
| METALS | ARSENIC | MG/KG | 8.2 J | 5.6 J | 5.4 J | 1.1 J | 34.4 J | 53.6 J | 37.8 J | 63 J | 50.5 J | 55.3 J | 3.3 J | 6.7 J | 26.8 J | 7 J | | | 39.9 J | 58.9 J | 0.97 U | 0.99 J | | 2.1 J | 1 J |
| METALS | BARIUM | MG/KG | 80.3 J | 196 J | 187 J | 11.5 J | 491 J | 1810 J | 1350 J | 905 J | 977 J | 2980 J | 25 J | 55.8 J | 120 J | 111 J | | | 546 J | 1060 J | 26.3 J | 24.1 J | | 59.2 J | 20.3 J |
| METALS | BERYLLIUM | MG/KG | 0.094 J | 0.47 U | 0.51 U | 0.48 U | 0.2 J | 0.059 J | 0.05 J | 0.13 J | 0.12 J | 0.061 J | 0.53 U | 0.19 J | 0.031 J | 0.4 U | | | 0.065 J | 0.17 J | 0.49 U | 0.43 U | | 0.39 U | 0.43 U |
| METALS | CADMIUM | MG/KG | 0.16 J | 0.29 J | 0.48 J | 0.063 J | 0.69 | 1.3 | 0.8 | 1 | 1.9 | 2.9 | 0.075 J | 0.58 | 0.3 J | 0.17 J | | | 0.81 | 1.1 | 0.038 J | 0.05 J | | 0.084 J | 0.43 U |
| METALS | CALCIUM | MG/KG | 727 | 889 | 1540 | 186 J | 20800 J | 4100 J | 6070 J | 22000 J | 10100 J | 1600 J | 966 J | 4260 J | 633 J | 409 J | | | 4780 J | 2420 J | 487 J | 442 J | | 1570 J | 427 U |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 22.7 | 17.8 | 8 | 13.7 | 84.5 J | 201 J | 79.4 J | 132 J | 278 J | 281 J | 22.4 J | 17.2 J | 17.9 J | 11.5 J | | | 267 J | 81.1 J | 5.6 J | 5.2 J | | 10.6 J | 5.7 J |
| METALS | COBALT | MG/KG | 1.8 J | 1.1 J | 0.89 J | 1 J | 2.7 J | 2.2 J | 1.4 J | 3.1 J | 3.6 J | 2 J | 1.1 J | 3.8 J | 1.2 J | 0.64 J | | | 2.4 J | 3.3 J | 0.62 J | 0.63 J | | 1.6 J | 0.26 J |
| METALS | COPPER | MG/KG | 10.5 | 16.9 | 11.9 | 2.4 U | 135 J | 20.5 J | 15.2 J | 25.4 J | 23.8 J | 22.1 J | 2.3 J | 20.2 J | 26.3 J | 8.4 J | | | 61.9 | 44.7 J | 0.19 J | 0.16 J | | 6.9 J | 0.65 J |
| METALS | CYANIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | IRON | MG/KG | 6840 | 5270 | 2390 | 4350 | 4660 J | 6890 J | 5600 J | 7070 J | 9070 J | 6490 J | 1560 J | 12200 J | 6290 J | 3710 J | | | 6020 J | 10700 J | 1310 J | 1250 J | | 5490 J | 2270 J |
| METALS | LEAD | MG/KG | 159 | 267 | 216 | 4.6 | 1360 D | 2290 D | 1010 D | 1110 D | 1890 D | 2180 D | 12.8 | 191 | 214 | 151 | | | 2020 D | 1610 D | 3.7 | 3.9 | | 64.9 | 3.2 |
| METALS | MAGNESIUM | MG/KG | 456 | 181 J | 126 J | 201 J | 10100 J | 971 J | 514 J | 12400 J | 1280 J | 383 J | 67.2 J | 2640 J | 196 J | 95.7 J | | | 600 J | 779 J | 485 U | 427 U | | 740 J | 427 U |
| METALS | MANGANESE | MG/KG | 55.2 J | 110 J | 36.7 J | 23.4 J | 171 J | 60 J | 49.2 J | 162 J | 133 J | 250 J | 9.1 J | 63.7 J | 13.9 J | 5.2 J | | | 39.3 J | 89 J | 16.3 J | 16 J | | 44.4 J | 7.1 J |
| METALS | MERCURY | MG/KG | 0.1 J | 0.12 | 0.19 | 0.12 U | 0.39 | 0.25 | 0.41 | 0.38 | 0.32 | 0.48 | 0.12 U | 0.11 | 0.074 J | 0.096 U | | | | | 0.12 U | 0.12 U | | 0.098 U | 0.1 U |
| METALS | NICKEL | MG/KG | 3.3 J | 1.5 J | 1.1 J | 0.45 J | 2.8 J | 3.7 | 2.9 J | 3.9 | 4.6 | 4.7 | 1.2 J | 8.9 | 2.8 J | 1.7 J | | | 5.2 | 9.2 | 0.42 J | 0.38 J | | 3.9 | 0.54 J |
| METALS | POTASSIUM | MG/KG | 401 J | 180 J | 66.1 J | 496 | 279 J | 193 J | 203 J | 285 J | 212 J | 291 J | 73.3 J | 408 J | 202 J | 136 J | | | 404 J | 477 | 485 U | 427 U | | 385 U | 44.8 J |
| METALS | SELENIUM | MG/KG | 3 U | 3.3 U | 3.5 U | 3.3 U | 2.7 U | 2.6 U | 2.8 U | 2.7 U | 2.9 U | 3.5 U | 0.56 J | 2.9 U | 0.75 J | 2.8 U | | | 2.8 U | 3.1 U | 3.4 U | 0.26 J | | 2.7 U | 3 U |
| METALS | SILVER | MG/KG | 0.87 U | 0.94 U | 1 U | 0.96 U | 0.76 U | 0.75 U | 0.79 U | 0.76 U | 0.84 U | 1 U | 1.1 U | 0.83 U | 0.84 U | 0.79 U | | | 0.81 U | 0.87 U | 0.97 U | 0.85 U | | 0.77 U | 0.85 U |
| METALS | SODIUM | MG/KG | 74.4 J | 31.3 J | 30.5 J | 244 J | 150 J | 103 J | 123 J | 246 J | 390 J | 471 J | 128 J | 222 J | 140 J | 59.9 J | | | 392 J | 488 | 552 | 574 | | 207 J | 105 J |
| METALS | THALLIUM | MG/KG | 2.2 U | 2.4 U | 2.5 U | 2.4 U | 1.9 U | 1.9 U | 2 U | 1.9 U | 2.1 U | 2.5 U | 2.7 U | 2.1 U | 0.19 J | 2 U | | | 2 UJ | 2.2 UJ | 2.4 UJ | 2.1 UJ | | 1.9 UJ | 2.1 UJ |
| METALS | VANADIUM | MG/KG | 16.4 | 7.5 | 6.1 | 11.9 | 8.5 J | 10.3 J | 9.9 J | 9.9 J | 12.4 J | 10 J | 4.3 J | 30.9 J | 11.9 J | 8 J | | | 9.6 | 11.5 | 4 J | 3.9 J | | 10.6 | 3.6 J |
| METALS | ZINC | MG/KG | 60.2 J | 134 J | 497 J | 3.2 J | 263 J | 511 J | 423 J | 435 J | 573 J | 980 J | 41.8 J | 172 J | 56.2 J | 68.6 J | | | 165 J | 238 J | 0.92 J | 0.92 J | | 53.3 J | 4.4 J |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | 0.036 U | 0.035 U | 0.036 U | 0.043 U | 1.1 U | 0.036 U | 0.037 U | 0.035 U | 0.036 U | 0.045 U | 0.042 U | 0.033 U | 0.034 U | 0.035 U | | | 0.035 U | 0.037 U | 0.041 U | 0.041 U | | 0.034 U | 0.035 U |
| PEST/PCB | AROCLOR-1221 | MG/KG | 0.036 U | 0.035 U | 0.036 U | 0.043 U | 1.1 U | 0.036 U | 0.037 U | 0.035 U | 0.036 U | 0.045 U | 0.042 U | 0.033 U | 0.034 U | 0.035 U | | | 0.035 U | 0.037 U | 0.041 U | 0.041 U | | 0.034 U | 0.035 U |
| PEST/PCB | AROCLOR-1232 | MG/KG | 0.036 U | 0.035 U | 0.036 U | 0.043 U | 1.1 U | 0.036 U | 0.037 U | 0.035 U | 0.036 U | 0.045 U | 0.042 U | 0.033 U | 0.034 U | 0.035 U | | | 0.035 U | 0.037 U | 0.041 U | 0.041 U | | 0.034 U | 0.035 U |
| PEST/PCB | AROCLOR-1242 | MG/KG | 0.065 | 0.014 J | 0.009 J | 0.0084 J | 0.19 J | 0.07 | 0.037 U | 0.015 J | 0.01 J | 0.045 U | 0.042 U | 0.033 U | 0.034 U | 0.035 U | | | 0.094 | 0.037 U | 0.041 U | 0.041 U | | 0.034 U | 0.035 U |
| PEST/PCB | AROCLOR-1248 | MG/KG | 0.036 U | 0.035 U | 0.036 U | 0.043 U | 1.1 U | 0.036 U | 0.037 U | 0.035 U | 0.036 U | 0.045 U | 0.042 U | 0.033 U | 0.034 U | 0.035 U | | | 0.035 U | 0.037 U | 0.041 U | 0.041 U | | 0.034 U | 0.035 U |
| PEST/PCB | AROCLOR-1254 | MG/KG | 0.046 | 0.034 J | 0.023 J | 0.043 U | 1.1 U | 0.036 U | 0.037 U | 0.035 U | 0.036 U | 0.045 U | 0.042 U | 0.15 | 0.034 U | 0.035 U | | | 0.045 | 0.037 U | 0.041 U | 0.041 U | | 0.034 U | 0.035 U |
| PEST/PCB | AROCLOR-1260 | MG/KG | 0.026 J | 0.019 J | 0.026 J | 0.0029 J | 34 | 2.3 | 0.2 | 3.4 | 0.13 | 0.045 U | 0.042 U | 0.073 | 0.034 U | 0.035 U | | | 0.012 J | 0.037 U | 0.041 U | 0.041 U | | 0.034 U | 0.035 U |
| PEST/PCB | AROCLOR-1262 | MG/KG | 0.036 U | 0.035 U | 0.036 U | 0.043 U | 1.1 U | 0.036 U | 0.037 U | 0.035 U | 0.036 U | 0.045 U | 0.042 U | 0.033 U | 0.034 U | 0.035 U | | | 0.035 U | 0.037 U | 0.041 U | 0.041 U | | 0.034 U | 0.035 U |
| PEST/PCB | AROCLOR-1268 | MG/KG | 0.036 U | 0.035 U | 0.036 U | 0.043 U | 1.1 U | 0.036 U | 0.037 U | 0.035 U | 0.036 U | 0.045 U | 0.042 U | 0.033 U | 0.034 U | 0.035 U | | | 0.035 U | 0.037 U | 0.041 U | 0.041 U | | 0.034 U | 0.035 U |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0146 | MPSB0146 | MPSB0146 | MPSB0146 | MPSB0148 | MPSB0148 | MPSB0148 | MPSB0149 | MPSB0149 | MPSB0149 | MPSB0149 | MPSB0150 | MPSB0150 | MPSB0150 | MPSB0150 | MPSB0150 | MPSB0151 | MPSB0151 | MPSB0151 | MPSB0151 | MPSB0151 | MPSB0152 | MPSB0152 |
| | | Field Sample ID | MPSB0146-SS-AA-AB-0 | MPSB0146-SS-AD-AE-0 | MPSB0146-SS-AL-AM-0 | MPSB0146-SS-AT-AU-0 | MPSB0148-SS-AA-AB-0 | MPSB0148-SS-AD-AE-0 | MPSB0148-SS-AH-AI-0 | MPSB0149-SS-AA-AB-0 | MPSB0149-SS-AD-AE-0 | MPSB0149-SS-AL-AM-0 | MPSB0149-SS-AT-AU-0 | MPSB0150-SS-AA-AB-0 | MPSB0150-SS-AD-AE-0 | MPSB0150-SS-AH-AI-0 | MPSB0150-SS-AJ-AK-0 | MPSB0150-SS-AM-AN-0 | MPSB0151-SS-AA-AB-0 | MPSB0151-SS-AD-AE-0 | MPSB0151-SS-AH-AI-0 | MPSB0151-SS-AH-AI-1 | MPSB0151-SS-AJ-AK-0 | MPSB0152-SS-AA-AB-0 | MPSB0152-SS-AD-AE-0 |
| | | Sample Date | 9/26/2012 | 9/26/2012 | 9/26/2012 | 9/26/2012 | 10/1/2012 | 10/1/2012 | 10/1/2012 | 10/1/2012 | 10/1/2012 | 10/1/2012 | 10/1/2012 | 10/1/2012 | 10/1/2012 | 10/1/2012 | 10/1/2012 | 10/1/2012 | 10/2/2012 | 10/2/2012 | 10/2/2012 | 10/2/2012 | 10/2/2012 | 10/2/2012 | 10/2/2012 |
| | | Depth (ft) | 0-0.5 | 1.5-2 | 5.5-6 | 9.5-10 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 5.5-6 | 9.5-10 | 0-0.5 | 1.5-2 | 3.5-4 | 4.5-5 | 6-6.5 | 0-0.5 | 1.5-2 | 3.5-4 | 3.5-4 | 4.5-5 | 0-0.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 0.0059 J | 0.18 U | 0.0044 J | 0.22 U | 0.032 J | 0.033 J | 0.19 U | 0.011 J | 0.0094 J | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.014 J | 0.4 J | 0.21 U | 0.42 U | | 0.0085 J | 0.18 U |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.011 J | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 0.35 U | 0.36 U | 0.38 U | 0.42 U | 0.35 U | 0.35 U | 0.36 U | 1.4 U | 0.36 U | 0.45 U | 0.42 U | 1.7 U | 0.35 U | 0.35 U | | | 0.36 U | 11 U | 0.4 U | 0.81 U | | 0.35 U | 0.35 U |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.011 J | 0.18 U | 0.011 J | 0.22 U | 0.03 J | 0.072 J | 0.19 U | 0.023 J | 0.041 J | 0.23 U | 0.22 U | 0.85 U | 0.054 J | 0.42 | | | 0.047 J | 2.7 J | 0.24 | 0.25 J | | 0.14 J | 0.13 J |
| SVOC | 2-METHYLPHENOL | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | 2-NITROANILINE | MG/KG | 0.35 U | 0.36 U | 0.38 U | 0.42 U | 0.35 U | 0.35 U | 0.36 U | 1.4 U | 0.36 U | 0.45 U | 0.42 U | 1.7 U | 0.35 U | 0.35 U | | | 0.36 U | 11 U | 0.4 U | 0.81 U | | 0.35 U | 0.35 U |
| SVOC | 2-NITROPHENOL | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | 3-NITROANILINE | MG/KG | 0.35 U | 0.36 U | 0.38 U | 0.42 U | 0.35 U | 0.35 U | 0.36 U | 1.4 U | 0.36 U | 0.45 U | 0.42 U | 1.7 U | 0.35 U | 0.35 U | | | 0.36 U | 11 U | 0.4 U | 0.81 U | | 0.35 U | 0.35 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 0.35 U | 0.36 U | 0.38 U | 0.42 U | 0.35 U | 0.35 U | 0.36 U | 1.4 U | 0.36 U | 0.45 U | 0.42 U | 1.7 U | 0.35 U | 0.35 U | | | 0.36 U | 11 U | 0.4 U | 0.81 U | | 0.35 U | 0.35 U |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 UJ | 0.42 U | | 0.18 UJ | 0.18 UJ |
| SVOC | 4-CHLOROANILINE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | 4-METHYLPHENOL | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | 4-NITROANILINE | MG/KG | 0.35 U | 0.36 U | 0.38 U | 0.42 U | 0.35 U | 0.35 U | 0.36 U | 1.4 U | 0.36 U | 0.45 U | 0.42 U | 1.7 U | 0.35 U | 0.35 U | | | 0.36 U | 11 U | 0.4 U | 0.81 U | | 0.35 U | 0.35 U |
| SVOC | 4-NITROPHENOL | MG/KG | 0.35 U | 0.36 U | 0.38 U | 0.42 U | 0.35 U | 0.35 U | 0.36 U | 1.4 U | 0.36 U | 0.45 U | 0.42 U | 1.7 U | 0.35 U | 0.35 U | | | 0.36 U | 11 U | 0.4 U | 0.81 U | | 0.35 U | 0.35 U |
| SVOC | ACENAPHTHENE | MG/KG | 0.028 J | 0.0094 J | 0.03 J | 0.22 U | 0.045 J | 0.083 J | 0.021 J | 0.025 J | 0.045 J | 0.23 U | 0.22 U | 0.85 U | 0.011 J | 0.043 J | | | 0.11 J | 7.8 | 0.054 J | 0.055 J | | 0.18 U | 0.18 U |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.026 J | 0.087 J | 0.017 J | 0.047 J | 0.051 J | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | ACETOPHENONE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.027 J | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | ANTHRACENE | MG/KG | 0.063 J | 0.01 J | 0.11 J | 0.22 U | 0.13 J | 0.43 | 0.067 J | 0.24 J | 0.39 | 0.025 J | 0.22 U | 0.021 J | 0.011 J | 0.012 J | | | 0.11 J | 18 | 0.036 J | 0.029 J | | 0.011 J | 0.0063 J |
| SVOC | ATRAZINE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | BENZALDEHYDE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.047 J | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.6 | 0.075 J | 0.2 | 0.22 U | 1.1 | 1.7 | 1.1 | 10 | 2.1 | 0.16 J | 0.22 U | 0.14 J | 0.072 J | 0.034 J | | | 0.39 | 34 | 0.012 J | 0.42 U | | 0.046 J | 0.18 U |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.73 | 0.072 J | 0.15 J | 0.00067 J | 1.3 | 1.8 J | 1.3 | 16 | 2.5 J | 0.31 J | 0.0054 | 0.15 J | 0.061 J | 0.029 J | | | 0.39 | 31 | 0.0071 J | 0.007 J | | 0.056 J | 0.18 U |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 1.1 | 0.084 J | 0.23 | 0.22 U | 1.8 | 1.8 J | 1.7 | 16 | 2.5 | 0.33 J | 0.22 U | 0.18 J | 0.095 J | 0.051 J | | | 0.53 | 33 | 0.21 U | 0.42 U | | 0.089 J | 0.18 U |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.47 | 0.048 J | 0.074 J | 0.22 U | 0.76 | 0.88 J | 0.71 | 5.3 J | 1.1 J | 0.18 J | 0.22 U | 0.17 J | 0.036 J | 0.02 J | | | 0.23 | 15 | 0.21 U | 0.42 U | | 0.044 J | 0.18 U |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.87 | 0.081 J | 0.15 J | 0.22 U | 1.2 | 2.1 J | 1.5 | 19 | 2.1 J | 0.39 J | 0.22 U | 0.15 J | 0.1 J | 0.036 J | | | 0.39 | 26 | 0.21 U | 0.42 U | | 0.073 J | 0.18 U |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 J | 0.04 J | 0.85 U | 0.18 U | 0.18 U | | | 0.44 | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | CAPROLACTAM | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | CARBAZOLE | MG/KG | 0.056 J | 0.0047 J | 0.014 J | 0.22 U | 0.11 J | 0.14 J | 0.025 J | 0.044 J | 0.044 J | 0.23 U | 0.22 U | 0.85 U | 0.0062 J | 0.18 U | | | 0.049 J | 3.8 J | 0.048 J | 0.041 J | | 0.0073 J | 0.18 U |
| SVOC | CHRYSENE | MG/KG | 0.93 | 0.094 J | 0.24 | 0.22 U | 1.3 | 1.7 | 1.2 | 11 | 2 | 0.2 J | 0.22 U | 0.18 J | 0.099 J | 0.044 J | | | 0.51 | 35 | 0.012 J | 0.42 U | | 0.097 J | 0.18 U |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.21 | 0.026 J | 0.041 J | 0.0042 U | 0.26 | 0.32 J | 0.41 | 3.1 J | 0.44 J | 0.1 J | 0.002 J | 0.058 J | 0.016 J | 0.18 U | | | 0.11 J | 8.4 | 0.001 J | 0.00092 J | | 0.18 U | 0.18 U |
| SVOC | DIBENZOFURAN | MG/KG | 0.017 J | 0.0069 J | 0.024 J | 0.22 U | 0.054 J | 0.17 J | 0.013 J | 0.028 J | 0.11 J | 0.0073 J | 0.22 U | 0.85 U | 0.0087 J | 0.031 J | | | 0.065 J | 4.7 J | 0.055 J | 0.05 J | | 0.01 J | 0.0095 J |
| SVOC | DIETHYLPHTHALATE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.0075 J | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.016 J | 0.19 U | 0.033 J | 0.19 U | 0.029 J | 0.016 J | 0.038 J | 0.18 U | 0.18 U | | | 0.62 | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | | 0.19 U | | | | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | FLUORANTHENE | MG/KG | 1.6 | 0.13 J | 0.79 | 0.22 U | 2.3 | 2.3 | 1.2 | 11 | 2.2 | 0.19 J | 0.22 U | 0.29 J | 0.1 J | 0.068 J | | | 1.1 | 62 | 0.056 J | 0.051 J | | 0.18 | 0.028 J |
| SVOC | FLUORENE | MG/KG | 0.024 J | 0.18 U | 0.079 J | 0.22 U | 0.042 J | 0.17 J | 0.015 J | 0.73 U | 0.11 J | 0.23 U | 0.22 U | 0.85 U | 0.0096 J | 0.027 J | | | 0.1 J | 8.4 | 0.058 J | 0.054 J | | 0.013 J | 0.012 J |
| SVOC | HEXACHLOROBENZENE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | HEXACHLOROETHANE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.46 | 0.04 J | 0.08 J | 0.22 U | 0.76 | 0.95 J | 0.76 | 5.9 J | 1.3 | 0.21 J | 0.22 U | 0.11 J | 0.044 J | 0.017 J | | | 0.23 | 15 | 0.21 U | 0.42 U | | 0.035 J | 0.18 U |
| SVOC | ISOPHORONE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | NAPHTHALENE | MG/KG | 0.015 J | 0.011 J | 0.026 J | 0.22 U | 0.033 J | 0.1 J | 0.012 J | 0.038 J | 0.033 J | 0.23 U | 0.22 U | 0.013 J | 0.18 U | 0.18 U | | | 0.12 J | 6.1 | 0.53 | 0.55 | | 0.095 J | 0.05 J |
| SVOC | NITROBENZENE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | 0.35 U | 0.36 U | 0.38 U | 0.42 U | 0.35 U | 0.35 U | 0.36 U | 1.4 U | 0.36 U | 0.45 U | 0.42 U | 1.7 U | 0.35 U | 0.35 U | | | 0.36 UJ | 0.77 U | 0.4 U | 0.81 UJ | | 0.35 U | 0.35 U |
| SVOC | PHENANTHRENE | MG/KG | 0.57 | 0.073 J | 0.71 | 0.22 U | 0.9 | 1.7 | 0.3 | 0.8 | 1.2 | 0.088 J | 0.0066 J | 0.13 J | 0.062 J | 0.074 J | | | 0.65 | 58 | 0.17 J | 0.14 J | | 0.093 J | 0.035 J |
| SVOC | PHENOL | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.22 U | 0.18 U | 0.18 U | 0.19 U | 0.73 U | 0.19 U | 0.23 U | 0.22 U | 0.85 U | 0.18 U | 0.18 U | | | 0.18 U | 5.9 U | 0.21 U | 0.42 U | | 0.18 U | 0.18 U |
| SVOC | PYRENE | MG/KG | 0.91 | 0.1 J | 0.51 | 0.22 U | 1.5 | 1.9 | 0.9 | 10 | 1.9 | 0.17 J | 0.22 U | 0.19 J | 0.077 J | 0.046 J | | | 0.73 | 47 | 0.044 J | 0.036 J | | 0.11 J | 0.023 J |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0146 | MPSB0146 | MPSB0146 | MPSB0146 | MPSB0148 | MPSB0148 | MPSB0148 | MPSB0149 | MPSB0149 | MPSB0149 | MPSB0149 | MPSB0150 | MPSB0150 | MPSB0150 | MPSB0150 | MPSB0150 | MPSB0151 | MPSB0151 | MPSB0151 | MPSB0151 | MPSB0151 | MPSB0151 | MPSB0152 | MPSB0152 |
| | | Field Sample ID | MPSB0146-SS-AA-AB-0 | MPSB0146-SS-AD-AE-0 | MPSB0146-SS-AL-AM-0 | MPSB0146-SS-AT-AU-0 | MPSB0148-SS-AA-AB-0 | MPSB0148-SS-AD-AE-0 | MPSB0148-SS-AH-AI-0 | MPSB0149-SS-AA-AB-0 | MPSB0149-SS-AD-AE-0 | MPSB0149-SS-AL-AM-0 | MPSB0149-SS-AT-AU-0 | MPSB0150-SS-AA-AB-0 | MPSB0150-SS-AD-AE-0 | MPSB0150-SS-AH-AI-0 | MPSB0150-SS-AJ-AK-0 | MPSB0150-SS-AM-AN-0 | MPSB0151-SS-AA-AB-0 | MPSB0151-SS-AD-AE-0 | MPSB0151-SS-AH-AI-0 | MPSB0151-SS-AH-AI-1 | MPSB0151-SS-AJ-AK-0 | MPSB0152-SS-AA-AB-0 | MPSB0152-SS-AD-AE-0 |
| | | Sample Date | 9/26/2012 | 9/26/2012 | 9/26/2012 | 9/26/2012 | 10/1/2012 | 10/1/2012 | 10/1/2012 | 10/1/2012 | 10/1/2012 | 10/1/2012 | 10/1/2012 | 10/1/2012 | 10/1/2012 | 10/1/2012 | 10/1/2012 | 10/1/2012 | 10/2/2012 | 10/2/2012 | 10/2/2012 | 10/2/2012 | 10/2/2012 | 10/2/2012 | 10/2/2012 |
| | | Depth (ft) | 0-0.5 | 1.5-2 | 5.5-6 | 9.5-10 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 5.5-6 | 9.5-10 | 0-0.5 | 1.5-2 | 3.5-4 | 4.5-5 | 6-6.5 | 0-0.5 | 1.5-2 | 3.5-4 | 3.5-4 | 4.5-5 | 0-0.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.0023 J | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.0055 J | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | | | | | | | | | | | | | 5 U | 19 U | 0.67 U | | 860 | 0.72 U | 1.4 U | 0.75 U | | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | | | | | | | | | | | | | 5 U | 19 U | 0.67 U | | 49 U | 0.72 U | 1.4 U | 0.75 U | | |
| VOC | ACETONE | MG/KG | | | | | | | | | | | | | | 5 U | 19 U | 0.67 U | | 49 U | 0.72 U | 1.4 U | 0.75 U | | |
| VOC | BENZENE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | BROMOFORM | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | BROMOMETHANE | MG/KG | | | | | | | | | | | | | | 2.5 U | 1.5 J | 0.098 J | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | CARBON DISULFIDE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.0045 J | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | CARBON TETRACHLORIDE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | CHLOROBENZENE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | CHLOROETHANE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | CHLOROFORM | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | CHLOROMETHANE | MG/KG | | | | | | | | | | | | | | 0.12 J | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | CYCLOHEXANE | MG/KG | | | | | | | | | | | | | | 2.5 U | 17 | 0.33 U | | 66 | 0.36 U | 0.56 J | 0.37 U | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | DICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | ETHYLBENZENE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.0069 J | 0.023 J | 0.0095 J | | |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | | | | | | | | | | 0.056 J | 16 | 0.031 J | | 20 J | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | METHYL ACETATE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | METHYL ETHYL KETONE | MG/KG | | | | | | | | | | | | | | 5 U | 19 U | 0.67 U | | 49 U | 0.72 U | 1.4 U | 0.75 U | | |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | | | | | | | | | | 12 | 310 | 0.54 | | 580 | 0.19 J | 4.8 J | 0.29 J | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | TETRACHLOROETHENE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | TOLUENE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | 0.064 J | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | XYLENES (TOTAL) | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | 2.5 U | 9.3 U | 0.33 U | | 25 U | 0.36 U | 0.69 U | 0.37 U | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0152 | MPSB0153 | MPSB0153 | MPSB0153 | MPSB0153 | MPSB0154 | MPSB0154 | MPSB0154 | MPSB0154 | MPSB0155 | MPSB0155 | MPSB0155 | MPSB0155 | MPSB0156 | MPSB0156 | MPSB0156 | MPSB0156 | MPSB0157 | MPSB0157 | MPSB0157 | MPSB0157 | MPSB0157 | MPSB0180 |
| | | Field Sample ID | MPSB0152-SS-AH-AI-0 | MPSB0153-SS-AA-AB-0 | MPSB0153-SS-AD-AE-0 | MPSB0153-SS-AL-AM-0 | MPSB0153-SS-AT-AU-0 | MPSB0154-SS-AA-AB-0 | MPSB0154-SS-AD-AE-0 | MPSB0154-SS-AL-AM-0 | MPSB0154-SS-AT-AU-0 | MPSB0155-SS-AA-AB-0 | MPSB0155-SS-AD-AE-0 | MPSB0155-SS-AL-AM-0 | MPSB0155-SS-AT-AU-0 | MPSB0156-SS-AA-AB-0 | MPSB0156-SS-AH-AI-0 | MPSB0156-SS-AH-AI-1 | MPSB0156-SS-AN-AO-0 | MPSB0157-SS-AA-AB-0 | MPSB0157-SS-AA-AB-1 | MPSB0157-SS-AD-AE-0 | MPSB0157-SS-AJ-AK-0 | MPSB0157-SS-AN-AO-0 | MPSB0180-AP-AQ-0 |
| | | Sample Date | 10/2/2012 | 10/2/2012 | 10/2/2012 | 10/2/2012 | 10/2/2012 | 10/3/2012 | 10/3/2012 | 10/3/2012 | 10/3/2012 | 10/3/2012 | 10/3/2012 | 10/3/2012 | 10/3/2012 | 10/22/2012 | 10/22/2012 | 10/22/2012 | 10/22/2012 | 10/22/2012 | 10/22/2012 | 10/22/2012 | 10/22/2012 | 10/22/2012 | 3/20/2013 |
| | | Depth (ft) | 3.5-4 | 0-0.5 | 1.5-2 | 5.5-6 | 9.5-10 | 0-0.5 | 1.5-2 | 5.5-6 | 9.5-10 | 0-0.5 | 1.5-2 | 5.5-6 | 9.5-10 | 0-0.5 | 3.5-4 | 3.5-4 | 6.5-7 | 0-0.5 | 0-0.5 | 1.5-2 | 4.5-5 | 6.5-7 | 7.5-8 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | 1960 | 2950 | 3170 | 3950 | 2960 | 2440 | 1670 | 1560 | 2250 | 5050 | 2970 | 2090 | 2150 | | 1360 | 971 | 72.4 | | | 2070 | 359 | 253 | |
| METALS | ANTIMONY | MG/KG | 5.8 UJ | 4.7 UJ | 4.7 UJ | 5.7 UJ | 6 UJ | 4.5 U | 5.3 U | 5 U | 6.7 U | 4.7 U | 5.1 U | 6.3 U | 6.1 U | | 5 U | 6.4 U | 5.3 U | | | 4.4 U | 8.6 U | 5.5 U | |
| METALS | ARSENIC | MG/KG | 1.1 J | 3.6 J | 38.4 J | 8.9 J | 1.2 J | 23.5 | 24.4 | 4.3 | 2.6 | 6.7 | 72.6 | 1.4 | 2.1 | | 2.9 J | 2.6 J | 0.88 UJ | | | 2.9 J | 1.9 J | 0.58 J | |
| METALS | BARIUM | MG/KG | 13.4 J | 61.9 J | 621 J | 25.9 J | 9.4 J | 59.1 | 344 | 46.9 | 5.8 J | 72.1 | 537 | 14.6 J | 6.9 J | | 403 J | 228 J | 16.1 J | | | 117 | 107 | 48.1 | |
| METALS | BERYLLIUM | MG/KG | 0.49 U | 0.049 J | 0.39 U | 0.47 U | 0.5 U | 0.045 J | 0.44 U | 0.42 U | 0.56 U | 0.22 J | 0.42 U | 0.53 U | 0.51 U | | 0.42 U | 0.53 U | 0.44 U | | | 0.37 U | 0.71 U | 0.46 U | |
| METALS | CADMIUM | MG/KG | 0.054 J | 0.21 J | 1.2 | 0.096 J | 0.043 J | 0.37 U | 0.44 U | 0.42 U | 0.56 U | 0.39 U | 1.3 | 0.53 U | 0.51 U | | 0.46 | 0.53 U | 0.44 U | | | 0.45 | 0.71 U | 0.46 U | |
| METALS | CALCIUM | MG/KG | 487 U | 1330 J | 1680 J | 417 U | 504 U | 1960 | 619 | 998 | 192 J | 6050 | 1370 | 522 J | 132 J | | 617 | 333 J | 71.6 J | | | 468 | 156 J | 140 J | |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 9.5 J | 20.8 J | 125 J | 31.4 J | 9.8 J | 19.4 | 176 | 15.9 | 11.3 | 52.1 | 175 | 8.1 | 14 | | 19.3 J | 11 J | 1.4 | | | 13.1 | 4.3 | 4.4 | |
| METALS | COBALT | MG/KG | 0.82 J | 1.5 J | 2.2 J | 0.7 J | 0.7 J | 1.6 J | 0.78 J | 1.4 J | 0.42 J | 4.2 | 1.6 J | 1.2 J | 0.74 J | | 3.9 J | 4 J | 4.4 U | | | 6.5 | 7.1 U | 4.6 U | |
| METALS | COPPER | MG/KG | 0.49 J | 12.9 J | 55.9 J | 5.8 J | 1.7 J | 35.9 | 15.1 | 7.5 | 2.2 J | 15.7 | 86.1 | 1.8 J | 2 J | | 20.5 | 15.1 | 0.35 J | | | 71.4 | 9.8 | 6 | |
| METALS | CYANIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | IRON | MG/KG | 3930 J | 8730 J | 6170 J | 7320 J | 2820 J | 6510 | 3340 | 4010 | 6180 | 13000 | 5640 | 1180 | 5070 | | 6170 J | 4110 J | 543 | | | 4850 | 1950 | 938 | |
| METALS | LEAD | MG/KG | 3.2 | 251 | 1160 D | 6.3 | 4.3 | 141 | 878 | 288 | 3.6 | 243 | 1620 | 9.8 | 4.1 | | 376 J | 218 J | 4.4 J | | | 350 J | 220 J | 63.7 J | |
| METALS | MAGNESIUM | MG/KG | 487 U | 752 J | 336 J | 417 U | 504 U | 1110 | 185 J | 566 | 109 J | 3870 | 299 J | 159 J | 125 J | | 417 U | 530 U | 442 U | | | 368 U | 714 U | 460 U | |
| METALS | MANGANESE | MG/KG | 15.5 J | 41.9 J | 28.7 J | 13.2 J | 15.2 J | 34.7 | 11.6 | 31.3 | 10.7 | 194 | 29.1 | 24.9 | 15.4 | | 709 | 630 | 26.9 | | | 75.7 | 5.1 | 22.8 | |
| METALS | MERCURY | MG/KG | 0.11 U | 0.11 U | | | 0.13 U | 0.11 U | 0.11 U | 0.11 U | 0.12 U | 0.11 U | | 0.11 U | 0.12 U | | 0.071 J | 0.046 J | 0.11 U | | | 0.11 | 0.15 U | 0.11 U | |
| METALS | NICKEL | MG/KG | 0.53 J | 3 J | 3.4 | 0.61 J | 0.47 J | 2.8 J | 3.5 U | 3.3 U | 4.4 U | 8.6 | 3 J | 4.2 U | 4 U | | 9.5 | 9.1 | 3.5 U | | | 3.7 | 5.7 U | 2.5 J | |
| METALS | POTASSIUM | MG/KG | 487 U | 395 U | 391 U | 475 | 504 U | 362 J | 180 J | 207 J | 307 J | 1120 | 217 J | 226 J | 365 J | | 417 U | 530 U | 442 U | | | 368 U | 714 U | 460 U | |
| METALS | SELENIUM | MG/KG | 3.4 U | 2.8 U | 2.7 U | 1.1 J | 0.27 J | 2.6 U | 3.1 U | 2.9 U | 3.9 U | 2.7 U | 3 U | 3.7 U | 3.5 U | | 2.9 UJ | 3.7 UJ | 3.1 UJ | | | 2.6 UJ | 5 UJ | 3.2 UJ | |
| METALS | SILVER | MG/KG | 0.97 U | 0.79 U | 0.78 U | 0.87 J | 1 U | 0.75 U | 0.88 U | 0.83 U | 1.1 U | 0.78 U | 0.85 U | 1.1 U | 1 U | | 0.83 UJ | 1.1 UJ | 0.88 UJ | | | 0.74 UJ | 1.4 UJ | 0.92 UJ | |
| METALS | SODIUM | MG/KG | 162 J | 471 | 287 J | 781 | 42.2 J | 439 | 106 J | 864 | 211 J | 941 | 291 J | 473 J | 161 J | | 61.3 J | 48.7 J | 10.7 J | | | 20.9 J | 31.7 J | 15.1 J | |
| METALS | THALLIUM | MG/KG | 2.4 UJ | 2 UJ | 2 UJ | 2.4 UJ | 2.5 UJ | 1.9 U | 2.2 U | 2.1 U | 2.8 U | 1.9 U | 2.1 U | 2.6 U | 2.5 U | | 2.1 UJ | 2.7 UJ | 2.2 UJ | | | 1.8 UJ | 3.6 UJ | 2.3 UJ | |
| METALS | VANADIUM | MG/KG | 7.6 | 8.7 | 8.9 | 42.1 | 11.3 | 9.4 | 5.8 | 7.9 | 9.1 | 19.9 | 9 | 6 | 15.4 | | 6.4 | 8.1 | 2.3 J | | | 8.2 | 4.5 J | 2.2 J | |
| METALS | ZINC | MG/KG | 1.9 J | 68.5 J | 232 J | 2.7 J | 2.4 J | 43.8 | 60 | 18.9 | 2 J | 50.7 | 167 | 2.7 J | 2.7 J | | 147 J | 87.2 J | 4.4 J | | | 112 | 49.2 | 49.4 | |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | 0.041 U | 0.036 U | 0.036 U | 0.04 U | 0.043 U | 0.035 U | 0.036 U | 0.039 U | 0.044 U | 0.036 U | 0.036 U | 0.04 U | 0.042 U | | | | | | | | | | |
| PEST/PCB | AROCLOR-1221 | MG/KG | 0.041 U | 0.036 U | 0.036 U | 0.04 U | 0.043 U | 0.035 U | 0.036 U | 0.039 U | 0.044 U | 0.036 U | 0.036 U | 0.04 U | 0.042 U | | | | | | | | | | |
| PEST/PCB | AROCLOR-1232 | MG/KG | 0.041 U | 0.036 U | 0.036 U | 0.04 U | 0.043 U | 0.035 U | 0.036 U | 0.039 U | 0.044 U | 0.036 U | 0.036 U | 0.04 U | 0.042 U | | | | | | | | | | |
| PEST/PCB | AROCLOR-1242 | MG/KG | 0.041 U | 0.036 U | 0.023 J | 0.04 U | 0.043 U | 0.035 U | 0.036 U | 0.039 U | 0.044 U | 0.036 U | 0.036 U | 0.04 U | 0.042 U | | | | | | | | | | |
| PEST/PCB | AROCLOR-1248 | MG/KG | 0.041 U | 0.036 U | 0.036 U | 0.04 U | 0.043 U | 0.035 U | 0.036 U | 0.039 U | 0.044 U | 0.036 U | 0.036 U | 0.04 U | 0.042 U | | | | | | | | | | |
| PEST/PCB | AROCLOR-1254 | MG/KG | 0.041 U | 0.036 U | 0.11 | 0.04 U | 0.043 U | 0.035 U | 0.049 | 0.015 J | 0.044 U | 0.011 J | 0.1 | 0.04 U | 0.042 U | | | | | | | | | | |
| PEST/PCB | AROCLOR-1260 | MG/KG | 0.041 U | 0.036 U | 0.019 J | 0.04 U | 0.043 U | 0.011 J | 0.01 J | 0.0063 J | 0.044 U | 0.036 U | 0.028 J | 0.04 U | 0.042 U | | | | | | | | | | |
| PEST/PCB | AROCLOR-1262 | MG/KG | 0.041 U | 0.036 U | 0.036 U | 0.04 U | 0.043 U | 0.035 U | 0.036 U | 0.039 U | 0.044 U | 0.036 U | 0.036 U | 0.04 U | 0.042 U | | | | | | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | 0.041 U | 0.036 U | 0.036 U | 0.04 U | 0.043 U | 0.035 U | 0.036 U | 0.039 U | 0.044 U | 0.036 U | 0.036 U | 0.04 U | 0.042 U | | | | | | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0152 | MPSB0153 | MPSB0153 | MPSB0153 | MPSB0153 | MPSB0154 | MPSB0154 | MPSB0154 | MPSB0154 | MPSB0155 | MPSB0155 | MPSB0155 | MPSB0155 | MPSB0156 | MPSB0156 | MPSB0156 | MPSB0156 | MPSB0157 | MPSB0157 | MPSB0157 | MPSB0157 | MPSB0157 | MPSB0157 | MPSB0180 |
| | | Field Sample ID | MPSB0152-SS-AH-AI-0 | MPSB0153-SS-AA-AB-0 | MPSB0153-SS-AD-AE-0 | MPSB0153-SS-AL-AM-0 | MPSB0153-SS-AT-AU-0 | MPSB0154-SS-AA-AB-0 | MPSB0154-SS-AD-AE-0 | MPSB0154-SS-AL-AM-0 | MPSB0154-SS-AT-AU-0 | MPSB0155-SS-AA-AB-0 | MPSB0155-SS-AD-AE-0 | MPSB0155-SS-AL-AM-0 | MPSB0155-SS-AT-AU-0 | MPSB0156-SS-AA-AB-0 | MPSB0156-SS-AH-AI-0 | MPSB0156-SS-AH-AI-1 | MPSB0156-SS-AN-AO-0 | MPSB0157-SS-AA-AB-0 | MPSB0157-SS-AA-AB-1 | MPSB0157-SS-AD-AE-0 | MPSB0157-SS-AJ-AK-0 | MPSB0157-SS-AN-AO-0 | MPSB0180-AP-AQ-0 |
| | | Sample Date | 10/2/2012 | 10/2/2012 | 10/2/2012 | 10/2/2012 | 10/2/2012 | 10/3/2012 | 10/3/2012 | 10/3/2012 | 10/3/2012 | 10/3/2012 | 10/3/2012 | 10/3/2012 | 10/3/2012 | 10/22/2012 | 10/22/2012 | 10/22/2012 | 10/22/2012 | 10/22/2012 | 10/22/2012 | 10/22/2012 | 10/22/2012 | 10/22/2012 | 10/22/2012 | 3/20/2013 |
| | | Depth (ft) | 3.5-4 | 0-0.5 | 1.5-2 | 5.5-6 | 9.5-10 | 0-0.5 | 1.5-2 | 5.5-6 | 9.5-10 | 0-0.5 | 1.5-2 | 5.5-6 | 9.5-10 | 0-0.5 | 3.5-4 | 3.5-4 | 6.5-7 | 0-0.5 | 0-0.5 | 1.5-2 | 4.5-5 | 6.5-7 | 7.5-8 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 0.21 U | 0.017 J | 0.0099 J | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.0034 J | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 UJ | 0.19 UJ | 0.2 UJ | 0.22 U | 0.37 UJ | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 0.4 U | 0.49 U | 0.36 U | 0.4 U | 0.44 U | 0.36 U | 0.37 U | 0.39 U | 0.44 U | 0.73 U | 0.71 U | 0.4 U | 0.43 U | 0.54 U | | | | 0.49 U | 0.49 U | | | | |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | 2-CHLOROPHENOL | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 UJ | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.21 U | 0.033 J | 0.045 J | 0.2 U | 0.23 U | 0.19 U | 0.0056 J | 0.014 J | 0.22 U | 0.06 J | 0.04 J | 0.21 U | 0.22 U | 0.28 U | | | | 0.0066 J | 0.25 U | | | | |
| SVOC | 2-METHYLPHENOL | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 UJ | 0.19 UJ | 0.2 UJ | 0.22 U | 0.37 UJ | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | 2-NITROANILINE | MG/KG | 0.4 U | 0.49 U | 0.36 U | 0.4 U | 0.44 U | 0.36 U | 0.37 U | 0.39 U | 0.44 U | 0.73 U | 0.71 U | 0.4 U | 0.43 U | 0.54 U | | | | 0.49 U | 0.49 U | | | | |
| SVOC | 2-NITROPHENOL | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 UJ | 0.25 UJ | | | | |
| SVOC | 3-NITROANILINE | MG/KG | 0.4 U | 0.49 U | 0.36 U | 0.4 U | 0.44 U | 0.36 U | 0.37 U | 0.39 U | 0.44 U | 0.73 U | 0.71 U | 0.4 U | 0.43 U | 0.54 U | | | | 0.49 U | 0.49 U | | | | |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 0.4 U | 0.49 U | 0.36 U | 0.4 U | 0.44 U | 0.36 U | 0.37 U | 0.39 U | 0.44 U | 0.73 U | 0.71 U | 0.4 U | 0.43 U | 0.54 U | | | | 0.49 U | 0.49 U | | | | |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 0.21 U | 0.25 U | 0.18 UJ | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | 4-CHLOROANILINE | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 UJ | 0.25 UJ | | | | |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | 4-METHYLPHENOL | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 UJ | 0.19 UJ | 0.2 UJ | 0.22 U | 0.37 UJ | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | 4-NITROANILINE | MG/KG | 0.4 U | 0.49 U | 0.36 U | 0.4 U | 0.44 U | 0.36 U | 0.37 U | 0.39 U | 0.44 U | 0.73 U | 0.71 U | 0.4 U | 0.43 U | 0.54 U | | | | 0.49 U | 0.49 U | | | | |
| SVOC | 4-NITROPHENOL | MG/KG | 0.4 U | 0.49 U | 0.36 U | 0.4 U | 0.44 U | 0.36 U | 0.37 U | 0.39 U | 0.44 U | 0.73 U | 0.71 U | 0.4 U | 0.43 U | 0.54 U | | | | 0.49 U | 0.49 U | | | | |
| SVOC | ACENAPHTHENE | MG/KG | 0.21 U | 0.091 J | 0.075 J | 0.01 J | 0.23 U | 0.0075 J | 0.016 J | 0.023 J | 0.22 U | 0.04 J | 0.086 J | 0.21 U | 0.22 U | 0.014 J | | | | 0.009 J | 0.01 J | | | | |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.0045 J | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.014 J | | | | 0.0069 J | 0.25 U | | | | |
| SVOC | ACETOPHENONE | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.011 J | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.011 J | 0.021 J | | | | 0.013 J | 0.25 U | | | | |
| SVOC | ANTHRACENE | MG/KG | 0.21 U | 0.42 | 0.092 J | 0.0044 J | 0.23 U | 0.012 J | 0.015 J | 0.032 J | 0.22 U | 0.03 J | 0.058 J | 0.21 U | 0.22 U | 0.057 J | | | | 0.034 J | 0.32 | | | | |
| SVOC | ATRAZINE | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | BENZALDEHYDE | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.14 J | | | | 0.12 J | 0.25 J | | | | |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.21 U | 1.5 | 0.31 | 0.2 U | 0.23 U | 0.085 J | 0.23 | 0.12 J | 0.22 U | 0.14 J | 0.2 J | 0.21 U | 0.22 U | 1.4 | | | | 0.53 | 1.2 | | | | |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.004 U | 1.2 | 0.3 | 0.0035 J | 0.00066 J | 0.087 J | 0.27 | 0.056 J | 0.0044 U | 0.13 J | 0.18 J | 0.0065 | 0.00067 J | 1.1 | | | | 0.57 J | 0.95 J | | | | |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 0.21 U | 1.4 | 0.41 | 0.2 U | 0.23 U | 0.12 J | 0.41 | 0.096 J | 0.22 U | 0.21 J | 0.3 J | 0.21 U | 0.22 U | 1.7 | | | | 1.1 J | 1.5 J | | | | |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.21 U | 0.66 | 0.2 | 0.2 U | 0.23 U | 0.069 J | 0.18 J | 0.034 J | 0.22 U | 0.091 J | 0.13 J | 0.21 U | 0.22 U | 0.65 | | | | 0.37 J | 0.47 J | | | | |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.21 U | 1.6 | 0.32 | 0.2 U | 0.23 U | 0.12 J | 0.46 | 0.086 J | 0.22 U | 0.24 J | 0.22 J | 0.21 U | 0.22 U | 1.7 | | | | 0.81 J | 1.4 J | | | | |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 6.5 | | | | 0.63 | 0.25 U | | | | |
| SVOC | CAPROLACTAM | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.089 J | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | CARBAZOLE | MG/KG | 0.21 U | 0.095 J | 0.048 J | 0.2 U | 0.23 U | 0.0074 J | 0.0084 J | 0.011 J | 0.22 U | 0.03 J | 0.028 J | 0.21 U | 0.22 U | 0.032 J | | | | 0.021 J | 0.036 J | | | | |
| SVOC | CHRYSENE | MG/KG | 0.21 U | 1.5 | 0.37 | 0.2 U | 0.23 U | 0.12 J | 0.34 | 0.13 J | 0.22 U | 0.24 J | 0.27 J | 0.21 U | 0.22 U | 1.7 | | | | 0.91 | 1.6 | | | | |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.004 U | 0.25 | 0.067 J | 0.00054 J | 0.00021 J | 0.039 J | 0.047 J | 0.0093 | 0.0044 U | 0.039 | 0.031 J | 0.00075 J | 0.00012 J | 0.22 J | | | | 0.088 J | 0.18 J | | | | |
| SVOC | DIBENZOFURAN | MG/KG | 0.21 U | 0.1 J | 0.045 J | 0.2 U | 0.23 U | 0.19 U | 0.0074 J | 0.017 J | 0.22 U | 0.021 J | 0.034 J | 0.21 U | 0.22 U | 0.011 J | | | | 0.0096 J | 0.0094 J | | | | |
| SVOC | DIETHYLPHTHALATE | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.0048 J | 0.0067 J | 0.2 U | 0.0068 J | 0.37 U | 0.0082 J | 0.0047 J | 0.0091 J | 0.029 J | | | | 0.0098 J | 0.25 U | | | | |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | | | | | | |
| SVOC | FLUORANTHENE | MG/KG | 0.21 U | 3.2 | 0.85 | 0.2 U | 0.23 U | 0.18 J | 0.25 | 0.34 | 0.22 U | 0.48 | 0.45 | 0.015 J | 0.22 U | 2.1 | | | | 0.74 J | 1.7 J | | | | |
| SVOC | FLUORENE | MG/KG | 0.21 U | 0.17 J | 0.076 J | 0.2 U | 0.23 U | 0.19 U | 0.013 J | 0.2 U | 0.22 U | 0.028 J | 0.059 J | 0.21 U | 0.22 U | 0.022 J | | | | 0.25 U | 0.012 J | | | | |
| SVOC | HEXACHLOROBENZENE | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 UJ | 0.25 UJ | | | | |
| SVOC | HEXACHLOROETHANE | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.21 U | 0.7 | 0.19 | 0.2 U | 0.23 U | 0.067 J | 0.19 J | 0.035 J | 0.22 U | 0.091 J | 0.1 J | 0.21 U | 0.22 U | 0.65 | | | | 0.34 J | 0.48 J | | | | |
| SVOC | ISOPHORONE | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | NAPHTHALENE | MG/KG | 0.21 U | 0.025 J | 0.091 J | 0.2 U | 0.23 U | 0.0047 J | 0.011 J | 0.0061 J | 0.22 U | 0.16 J | 0.12 J | 0.0077 J | 0.22 U | 0.28 U | | | | 0.0064 J | 0.25 U | | | | |
| SVOC | NITROBENZENE | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | PENTACHLOROPHENOL | MG/KG | 0.4 UJ | 0.49 UJ | 0.36 U | 0.4 U | 0.44 U | 0.36 U | 0.37 U | 0.39 U | 0.44 UJ | 0.73 UJ | 0.71 UJ | 0.4 U | 0.43 U | 0.54 U | | | | 0.49 UJ | 0.49 UJ | | | | |
| SVOC | PHENANTHRENE | MG/KG | 0.21 U | 2.1 | 0.49 | 0.016 J | 0.23 U | 0.09 J | 0.082 J | 0.23 | 0.22 U | 0.26 J | 0.31 J | 0.011 J | 0.22 U | 0.27 J | | | | 0.13 J | 0.16 J | | | | |
| SVOC | PHENOL | MG/KG | 0.21 U | 0.25 U | 0.18 U | 0.2 U | 0.23 U | 0.19 U | 0.19 U | 0.2 U | 0.22 U | 0.37 U | 0.37 U | 0.21 U | 0.22 U | 0.28 U | | | | 0.25 U | 0.25 U | | | | |
| SVOC | PYRENE | MG/KG | 0.21 UJ | 1.8 | 0.53 J | 0.2 U | 0.23 U | 0.14 J | 0.24 | 0.22 | 0.22 UJ | 0.26 J | 0.28 J | 0.016 J | 0.22 U | 1.4 | | | | 0.5 | 1.2 | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0152 | MPSB0153 | MPSB0153 | MPSB0153 | MPSB0153 | MPSB0154 | MPSB0154 | MPSB0154 | MPSB0154 | MPSB0155 | MPSB0155 | MPSB0155 | MPSB0155 | MPSB0156 | MPSB0156 | MPSB0156 | MPSB0156 | MPSB0157 | MPSB0157 | MPSB0157 | MPSB0157 | MPSB0157 | MPSB0180 |
| | | Field Sample ID | MPSB0152-SS-AH-AI-0 | MPSB0153-SS-AA-AB-0 | MPSB0153-SS-AD-AE-0 | MPSB0153-SS-AL-AM-0 | MPSB0153-SS-AT-AU-0 | MPSB0154-SS-AA-AB-0 | MPSB0154-SS-AD-AE-0 | MPSB0154-SS-AL-AM-0 | MPSB0154-SS-AT-AU-0 | MPSB0155-SS-AA-AB-0 | MPSB0155-SS-AD-AE-0 | MPSB0155-SS-AL-AM-0 | MPSB0155-SS-AT-AU-0 | MPSB0156-SS-AA-AB-0 | MPSB0156-SS-AH-AI-0 | MPSB0156-SS-AH-AI-1 | MPSB0156-SS-AN-AO-0 | MPSB0157-SS-AA-AB-0 | MPSB0157-SS-AA-AB-1 | MPSB0157-SS-AD-AE-0 | MPSB0157-SS-AJ-AK-0 | MPSB0157-SS-AN-AO-0 | MPSB0180-AP-AQ-0 |
| | | Sample Date | 10/2/2012 | 10/2/2012 | 10/2/2012 | 10/2/2012 | 10/2/2012 | 10/3/2012 | 10/3/2012 | 10/3/2012 | 10/3/2012 | 10/3/2012 | 10/3/2012 | 10/3/2012 | 10/3/2012 | 10/22/2012 | 10/22/2012 | 10/22/2012 | 10/22/2012 | 10/22/2012 | 10/22/2012 | 10/22/2012 | 10/22/2012 | 10/22/2012 | 3/20/2013 |
| | | Depth (ft) | 3.5-4 | 0-0.5 | 1.5-2 | 5.5-6 | 9.5-10 | 0-0.5 | 1.5-2 | 5.5-6 | 9.5-10 | 0-0.5 | 1.5-2 | 5.5-6 | 9.5-10 | 0-0.5 | 3.5-4 | 3.5-4 | 6.5-7 | 0-0.5 | 0-0.5 | 1.5-2 | 4.5-5 | 6.5-7 | 7.5-8 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 3.6 U |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 3.6 U |
| VOC | ACETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 3.6 U |
| VOC | BENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | BROMODICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | BROMOFORM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | BROMOMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | CARBON DISULFIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | CARBON TETRACHLORIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | CHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | CHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | CHLOROFORM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | CHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 0.05 J |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | CYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 3.1 |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | DICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 0.061 J |
| VOC | ETHYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 12 |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 0.46 J |
| VOC | METHYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | METHYL ETHYL KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 3.6 U |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 20 |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | TETRACHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | TOLUENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.3 J |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 1.8 U |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 21 |
| VOC | XYLENES (TOTAL) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 75 |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 54 |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0180 | MPSB0183 | MPSB0189 | MPSB0189 | MPSB0189 | MPSB0190 | MPSB0190 | MPSB0190 | MPSB0191 | MPSB0191 | MPSB0191 | MPSB0192 | MPSB0192 | MPSB0192 | MPSB0192 | MPSB0193 | MPSB0193 | MPSB0193 | MPSB0194 | MPSB0194 | MPSB0194 | MPSB0194 | MPSB0195 |
| | | Field Sample ID | MPSB0180-AP-AQ-1 | MPSB0183-SS-AP-AQ-0 | MPSB0189-SS-AA-AE-0 | MPSB0189-SS-AJ-AK-0 | MPSB0189-SS-AK-AL-0 | MPSB0190-SS-AA-AB-0 | MPSB0190-SS-AD-AE-0 | MPSB0190-SS-AH-AI-0 | MPSB0191-SS-AA-AE-0 | MPSB0191-SS-AJ-AK-0 | MPSB0191-SS-AK-AL-0 | MPSB0192-SS-AA-AE-0 | MPSB0192-SS-AA-AE-1 | MPSB0192-SS-AJ-AK-0 | MPSB0192-SS-AS-AT-0 | MPSB0193-SS-AA-AE-0 | MPSB0193-SS-AI-AJ-0 | MPSB0193-SS-AK-AL-0 | MPSB0194-SS-AA-AE-0 | MPSB0194-SS-AH-AI-0 | MPSB0194-SS-AK-AL-0 | MPSB0194-SS-AT-AU-0 | MPSB0195-SS-AA-AE-0 |
| | | Sample Date | 3/20/2013 | 4/9/2013 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/18/2014 | 6/18/2014 | 6/18/2014 | 6/18/2014 | 6/18/2014 |
| | | Depth (ft) | 7.5-8 | 7.5-8 | 0-2 | 4.5-5 | 5-5.5 | 0-0.5 | 1.5-2 | 3.5-4 | 0-2 | 4.5-5 | 5-5.5 | 0-2 | 0-2 | 4.5-5 | 9-9.5 | 0-2 | 4-4.5 | 5-5.5 | 0-2 | 3.5-4 | 5-5.5 | 9.5-10 | 0-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | 2.3 U | 2.4 U | | 2.3 U | 2.5 U | | 2.4 U | 2.4 U | | 7 J | 7.9 J | 2.4 U | | 2.4 U | 2.4 U | | 2.2 U | | 2.4 U | | 2.1 U |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | 2.3 U | 2.4 U | | 2.3 U | 2.5 U | | 2.4 U | 2.4 U | | 5.5 J | 5.6 J | 2.4 U | | 2.4 U | 2.4 U | | 2.2 U | | 2.4 U | | 2.1 U |
| EPH | C12-C16 AROMATICS | MG/KG | | | 2.3 U | 2.4 U | | 2.3 U | 2.5 U | | 2.4 U | 2.4 U | | 4.5 J | 5.4 J | 2.4 U | | 2.4 U | 2.4 U | | 2.2 U | | 2.4 U | | 2.1 U |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | 2.3 U | 2.4 U | | 2.3 U | 2.5 U | | 2.4 U | 2.4 U | | 5.6 J | 7.4 J | 2.4 U | | 2.4 U | 2.4 U | | 2.2 U | | 2.4 U | | 2.1 U |
| EPH | C16-C21 AROMATICS | MG/KG | | | 2.3 U | 2.4 U | | 2.3 U | 2.5 U | | 2.4 U | 2.4 U | | 3.6 J | 5.3 J | 2.4 U | | 2.4 U | 2.4 U | | 2.2 U | | 2.4 U | | 2.1 U |
| EPH | C21-C36 AROMATICS | MG/KG | | | 2.3 U | 2.4 U | | 2.3 U | 2.5 U | | 2.4 U | 2.4 U | | 39 J | 66 J | 2.4 U | | 2.4 U | 2.4 U | | 2.2 U | | 2.4 U | | 2.1 U |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | 2.3 U | 2.4 U | | 2.3 U | 2.5 U | | 2.4 U | 2.4 U | | 100 J | 150 J | 2.4 U | | 2.4 U | 2.4 U | | 2.2 U | | 2.4 U | | 2.1 U |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | 2.3 U | 2.4 U | | 2.3 U | 2.5 U | | 2.4 U | 2.4 U | | 14 J | 15 J | 2.4 U | | 2.4 U | 2.4 U | | 2.2 U | | 2.4 U | | 2.1 U |
| METALS | ALUMINUM | MG/KG | | | 2580 | 1510 | 1820 | 2320 | 1910 | 4300 | 1070 | 2420 | 2030 | 843 | 949 | 3670 | 2260 | 1980 | 2190 | 1890 | 2820 | 1150 | 2410 | 7150 | 6300 |
| METALS | ANTIMONY | MG/KG | | | 5.1 U | 4.9 U | 5.5 U | 4.9 U | 5.1 U | 5.6 U | 6.6 U | 6.8 U | 5.8 U | 4.8 U | 4.6 J | 4.7 U | 5.8 U | 5.8 U | 5.5 U | 5.9 U | 5.5 J | 2.2 J | 2.5 J | 0.73 J | 5.2 U |
| METALS | ARSENIC | MG/KG | | | 1.7 | 1.1 | 1.2 | 3.2 | 1 | 3 | 1.1 U | 1.7 | 1.4 | 530 | 863 | 13.4 | 1.9 | 8.4 | 1.1 | 1.7 | 19.5 | 40.2 | 26.8 | 171 | 2 |
| METALS | BARIUM | MG/KG | | | 17 U | 16.3 U | 18.3 U | 184 | 17.1 U | 18.7 U | 22 U | 22.5 U | 19.4 U | 2070 | 2160 | 15.8 U | 19.3 U | 140 | 18.3 U | 22.6 | 280 | 17.9 U | 150 | 18.8 U | 17.2 U |
| METALS | BERYLLIUM | MG/KG | | | 0.43 U | 0.41 U | 0.46 U | 0.41 U | 0.43 U | 0.47 U | 0.55 U | 0.56 U | 0.49 U | 0.4 U | 0.38 U | 0.39 U | 0.48 U | 0.48 U | 0.46 U | 0.49 U | 0.48 U | 0.45 U | 0.4 U | 0.47 U | 0.43 U |
| METALS | CADMIUM | MG/KG | | | 0.065 J | 0.088 J | 0.092 J | 0.13 J | 0.063 J | 0.078 J | 0.076 J | 0.073 J | 0.78 J | 0.67 | 0.93 J | 0.14 J | 0.12 J | 0.12 J | 0.097 J | 0.1 J | 0.2 J | 0.19 J | 0.18 J | 0.39 J | 0.03 J |
| METALS | CALCIUM | MG/KG | | | 2840 | 407 U | 457 U | 782 | 428 U | 417 J | 523 J | 186 J | 486 U | 336 J | 554 | 395 U | 482 U | 3030 | 458 U | 492 U | 562 | 145 J | 551 | 631 | 580 |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | | | 11.4 | 8.6 | 12 | 14.9 | 9.6 | 18.4 | 7.2 | 11 | 16.9 | 50.8 J | 98.8 J | 39.6 | 17.5 | 11.2 | 10.7 | 14.2 | 26.5 | 17.1 | 21 | 35.4 | 9.2 |
| METALS | COBALT | MG/KG | | | 2.9 J | 0.056 J | 0.16 J | 0.57 J | 0.042 J | 0.11 J | 0.89 J | 5.6 U | 0.14 J | 1.8 J | 2.1 J | 0.054 J | 4.8 U | 0.59 J | 0.16 J | 0.18 J | 0.86 J | 0.17 J | 0.39 J | 1 J | 1.2 J |
| METALS | COPPER | MG/KG | | | 5.7 | 1.3 J | 1.7 J | 3.9 | 1.4 J | 2.8 | 2.2 J | 1.6 J | 2.1 J | 256 J | 503 J | 2.8 | 1.6 J | 16.9 | 1.5 J | 2.3 J | 15.1 | 80.9 | 40.5 | 68.9 | 3.8 |
| METALS | CYANIDE | MG/KG | | | 0.56 U | 0.76 | 0.86 | 6.8 | 0.86 | 1.7 | 0.6 U | 0.55 U | 0.64 U | 146 | 192 | 2.2 | 1.1 | 3.7 | 0.49 U | 0.65 | 11.8 | 11 | 9.8 | 2.9 | 1.4 |
| METALS | IRON | MG/KG | | | 6800 | 4330 | 5260 | 4140 | 4950 | 12100 | 2830 | 7670 | 7510 | 6500 J | 11500 J | 10000 | 5190 | 3920 | 4620 | 4730 | 5230 | 2640 | 5240 | 21000 | 5430 |
| METALS | LEAD | MG/KG | | | 6.1 | 3.3 | 3.2 | 81.3 | 2.3 | 4.3 | 11.3 | 3.1 | 2.8 | 1460 | 2050 | 3.8 | 4.1 | 64 | 3 | 12.4 | 221 | 4.5 | 122 | 6.2 | 6.8 |
| METALS | MAGNESIUM | MG/KG | | | 151 J | 40.6 J | 51 J | 243 J | 40.8 J | 153 J | 61.9 J | 84 J | 43.5 J | 69.6 J | 86.5 J | 101 J | 99.5 J | 246 J | 60.3 J | 72.3 J | 178 J | 51.5 J | 144 J | 364 J | 248 J |
| METALS | MANGANESE | MG/KG | | | 19.8 | 18.1 | 21.9 | 21.9 | 10.2 | 10.5 | 18.8 | 13.1 | 12.2 | 18 | 23.6 J | 11.5 | 16.6 | 21.6 | 14.4 | 19.9 | 23.7 | 14.2 | 17.8 | 12 | 6.2 |
| METALS | MERCURY | MG/KG | | | 0.053 J | 0.12 U | 0.12 U | 0.038 J | 0.12 U | 0.12 U | 0.11 U | 0.11 U | 0.13 U | 2.1 | 2 J | 0.11 U | 0.12 U | 0.056 J | 0.12 U | 0.12 U | 0.14 | 0.12 U | 0.15 | 0.14 U | 0.11 U |
| METALS | NICKEL | MG/KG | | | 3.4 U | 3.3 U | 3.7 U | 3.3 U | 3.4 U | 3.7 U | 4.4 U | 4.5 U | 3.9 U | 3.2 U | 3 UJ | 3.2 U | 3.9 U | 3.8 U | 3.7 U | 3.9 U | 1.3 J | 2.7 J | 2.4 J | 28.4 | 1.6 J |
| METALS | POTASSIUM | MG/KG | | | 252 J | 159 J | 175 J | 577 | 159 J | 263 J | 134 J | 265 J | 159 J | 231 J | 293 J | 289 J | 275 J | 277 J | 219 J | 217 J | 219 J | 120 J | 198 J | 873 | 189 J |
| METALS | SELENIUM | MG/KG | | | 3 U | 2.8 U | 3.2 U | 2.9 U | 3 U | 3.3 U | 3.9 U | 3.9 U | 3.4 U | 2.8 U | 2.7 U | 2.8 U | 3.4 U | 3.4 U | 3.2 U | 3.4 U | 3.4 U | 3.1 U | 2.8 U | 1.9 J | 3 U |
| METALS | SILVER | MG/KG | | | 0.85 U | 0.81 U | 0.91 U | 0.82 U | 0.86 U | 0.94 U | 1.1 U | 1.1 U | 0.97 U | 0.8 U | 0.76 U | 0.79 U | 0.96 U | 0.96 U | 0.92 U | 0.98 U | 0.96 U | 0.89 U | 0.79 U | 0.94 U | 0.86 U |
| METALS | SODIUM | MG/KG | | | 87.4 J | 144 J | 127 J | 75.7 J | 39.7 J | 92.9 J | 19.9 J | 60.9 J | 22.5 J | 131 J | 150 J | 82 J | 138 J | 15.6 J | 32.6 J | 37.2 J | 33.4 J | 73.1 J | 94.1 J | 1280 | 34.5 J |
| METALS | THALLIUM | MG/KG | | | 2.1 U | 2 U | 2.3 U | 2.1 U | 2.1 U | 2.3 U | 2.8 U | 2.8 U | 2.4 U | 2 U | 1.9 U | 2 U | 2.4 U | 2.4 U | 2.3 U | 2.5 U | 2.4 U | 2.2 U | 2 U | 2.3 U | 2.2 U |
| METALS | VANADIUM | MG/KG | | | 9.5 | 8.2 | 8.2 | 6.9 | 8.3 | 19.9 | 5.8 | 11.6 | 8.8 | 4.8 | 5.4 | 14 | 10.8 | 6.5 | 7.6 | 7.4 | 8.4 | 4.4 J | 7 | 44.3 | 10.3 |
| METALS | ZINC | MG/KG | | | 5.3 | 4.9 U | 5.3 U | 57.9 | 5.1 U | 5.6 U | 7.3 | 6.8 U | 17.5 | 123 | 156 J | 5.6 | 5.8 U | 31.1 | 10.3 | 13.5 | 109 | 51.1 | 90.6 | 18.3 | 5 J |
| PEST/PCB | 4,4'-DDD | MG/KG | | | 0.0039 U | 0.004 U | | 0.0037 U | 0.0041 U | | 0.0039 U | 0.004 U | | 0.0035 U | 0.0035 U | 0.0039 U | | 0.0039 U | 0.0038 U | | 0.0036 U | | 0.00099 J | | 0.0035 U |
| PEST/PCB | 4,4'-DDE | MG/KG | | | 0.0039 U | 0.004 U | | 0.0037 U | 0.0041 U | | 0.0039 U | 0.004 U | | 0.0035 U | 0.0035 U | 0.00012 J | | 0.0039 U | 0.0038 U | | 0.0036 U | | 0.0012 J | | 0.00017 J |
| PEST/PCB | 4,4'-DDT | MG/KG | | | 0.0039 U | 0.004 U | | 0.0037 U | 0.000083 J | | 0.0039 U | 0.004 U | | 0.0035 U | 0.0035 U | 0.00022 J | | 0.0039 U | 0.0038 U | | 0.00055 J | | 0.0039 | | 0.00026 J |
| PEST/PCB | ALDRIN | MG/KG | | | 0.002 U | 0.002 U | | 0.0019 U | 0.0021 U | | 0.002 U | 0.0021 U | | 0.0018 U | 0.0018 U | 0.002 U | | 0.002 U | 0.002 U | | 0.0019 U | | 0.002 U | | 0.0018 U |
| PEST/PCB | ALPHA-BHC | MG/KG | | | 0.002 U | 0.002 U | | 0.0019 U | 0.0021 U | | 0.002 U | 0.0021 U | | 0.0018 U | 0.0018 U | 0.002 U | | 0.002 U | 0.000056 J | | 0.0019 U | | 0.002 U | | 0.0018 U |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | 0.002 U | 0.002 U | | 0.0019 U | 0.0021 U | | 0.002 U | 0.0021 U | | 0.0018 U | 0.0018 U | 0.002 U | | 0.002 U | 0.002 U | | 0.000045 J | | 0.002 U | | 0.0018 U |
| PEST/PCB | AROCLOR-1016 | MG/KG | | | 0.039 U | 0.04 U | | 0.037 U | 0.041 U | | 0.039 U | 0.04 U | | 0.035 U | 0.035 U | 0.039 U | | 0.039 U | 0.038 U | | 0.036 U | | 0.038 U | | 0.035 U |
| PEST/PCB | AROCLOR-1221 | MG/KG | | | 0.039 U | 0.04 U | | 0.037 U | 0.041 U | | 0.039 U | 0.04 U | | 0.035 U | 0.035 U | 0.039 U | | 0.039 U | 0.038 U | | 0.036 U | | 0.038 U | | 0.035 U |
| PEST/PCB | AROCLOR-1232 | MG/KG | | | 0.039 U | 0.04 U | | 0.037 U | 0.041 U | | 0.039 U | 0.04 U | | 0.035 U | 0.035 U | 0.039 U | | 0.039 U | 0.038 U | | 0.036 U | | 0.038 U | | 0.035 U |
| PEST/PCB | AROCLOR-1242 | MG/KG | | | 0.039 U | 0.04 U | | 0.037 U | 0.041 U | | 0.039 U | 0.04 U | | 0.035 U | 0.035 U | 0.039 U | | 0.039 U | 0.038 U | | 0.036 U | | 0.038 U | | 0.035 U |
| PEST/PCB | AROCLOR-1248 | MG/KG | | | 0.039 U | 0.04 U | | 0.037 U | 0.041 U | | 0.039 U | 0.04 U | | 0.035 U | 0.035 U | 0.039 U | | 0.039 U | 0.038 U | | 0.036 U | | 0.038 U | | 0.035 U |
| PEST/PCB | AROCLOR-1254 | MG/KG | | | 0.039 U | 0.04 U | | 0.037 U | 0.041 U | | 0.039 U | 0.04 U | | 0.13 | 0.3 | 0.039 U | | 0.039 U | 0.038 U | | 0.036 U | | 0.03 J | | 0.035 U |
| PEST/PCB | AROCLOR-1260 | MG/KG | | | 0.039 U | 0.04 U | | 0.037 U | 0.041 U | | 0.039 U | 0.04 U | | 0.035 U | 0.035 U | 0.039 U | | 0.039 U | 0.038 U | | 0.036 U | | 0.038 U | | 0.035 U |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | 0.039 U | 0.04 U | | 0.037 U | 0.041 U | | 0.039 U | 0.04 U | | 0.035 U | 0.035 U | 0.039 U | | 0.039 U | 0.038 U | | 0.036 U | | 0.038 U | | 0.035 U |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | 0.039 U | 0.04 U | | 0.037 U | 0.041 U | | 0.039 U | 0.04 U | | 0.035 U | 0.035 U | 0.039 U | | 0.039 U | 0.038 U | | 0.036 U | | 0.038 U | | 0.035 U |
| PEST/PCB | BETA-BHC | MG/KG | | | 0.002 U | 0.002 U | | 0.00032 J | 0.0021 U | | 0.002 U | 0.0021 U | | 0.0018 U | 0.0018 U | 0.002 U | | 0.002 U | 0.002 U | | 0.0019 U | | 0.002 U | | 0.0018 U |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | 0.002 U | 0.002 U | | 0.0019 U | 0.0021 U | | 0.002 U | 0.0021 U | | 0.000043 J | 0.0018 UJ | 0.002 U | | 0.002 U | 0.002 U | | 0.0019 U | | 0.002 U | | 0.0018 U |
| PEST/PCB | DIELDRIN | MG/KG | | | 0.0039 U | 0.004 U | | 0.0037 U | 0.0041 U | | 0.0039 U | 0.004 U | | 0.0035 U | 0.0035 U | 0.0039 U | | 0.0039 U | 0.0038 U | | 0.000096 J | | 0.0038 U | | 0.0035 U |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | 0.000047 J | 0.002 U | | 0.0019 U | 0.0021 U | | 0.002 U | 0.0021 U | | 0.0018 U | 0.0018 U | 0.002 U | | 0.002 U | 0.002 U | | 0.0019 U | | 0.002 U | | 0.0018 U |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | 0.0039 U | 0.004 U | | 0.0037 U | 0.000054 J | | 0.0039 U | 0.004 U | | 0.0035 U | 0.0035 U | 0.0039 U | | 0.0039 U | 0.0038 U | | 0.0036 U | | 0.0038 U | | 0.0035 U |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | 0.0039 U | 0.004 U | | 0.0037 U | 0.0041 U | | 0.0039 U | 0.004 U | | 0.0035 U | 0.0035 U | 0.0039 U | | 0.0039 U | 0.0038 U | | 0.0036 U | | 0.00025 J | | 0.0035 U |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | 0.0039 U | 0.004 U | | 0.000053 J | 0.0041 U | | 0.0039 U | 0.004 U | | 0.0035 U | 0.0035 U | 0.00017 J | | 0.0039 U | 0.0038 U | | 0.0036 U | | 0.0038 U | | 0.00005 J |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | 0.0039 U | 0.004 U | | 0.0037 U | 0.0041 U | | 0.0039 U | 0.004 U | | 0.0035 U | 0.0035 U | 0.00034 J | | 0.0039 U | 0.0038 U | | 0.00094 J | | 0.00027 J | | 0.0035 U |
| PEST/PCB | ENDRIN | MG/KG | | | 0.0039 U | 0.004 U | | 0.0037 U | 0.0041 U | | 0.0039 U | 0.004 U | | 0.0035 U | 0.0035 U | 0.000073 J | | 0.0039 U | 0.0038 U | | 0.0036 U | | 0.00011 J | | 0.0035 U |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | 0.002 U | 0.002 U | | 0.0019 U | 0.0021 U | | 0.002 U | 0.0021 U | | 0.0018 U | 0.0018 U | 0.002 U | | 0.002 U | 0.002 U | | 0.0019 U | | 0.002 U | | 0.0018 U |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | 0.002 U | 0.0001 J | | 0.0019 U | 0.0021 U | | 0.002 U | 0.0021 U | | 0.0018 U | 0.0018 U | 0.002 U | | 0.002 U | 0.00012 J | | 0.0019 U | | 0.002 U | | 0.0018 U |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | 0.002 U | 0.002 U | | 0.0019 U | 0.0021 U | | 0.002 U | 0.0021 U | | 0.0018 U | 0.0018 U | 0.002 U | | 0.002 U | 0.002 U | | 0.0019 U | | 0.002 U | | 0.0018 U |
| PEST/PCB | HEPTACHLOR | MG/KG | | | 0.002 U | 0.002 U | | 0.000094 J | 0.0021 U | | 0.002 U | 0.00021 J | | 0.0018 U | 0.0018 U | 0.002 U | | 0.002 U | 0.000068 J | | 0.0019 U | | 0.002 U | | 0.0018 U |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | 0.02 U | 0.02 U | | 0.019 U | 0.000052 J | | 0.02 U | 0.021 U | | 0.018 U | 0.018 U | 0.02 U | | 0.02 U | 0.02 U | | 0.019 U | | 0.02 U | | 0.018 U |
| PEST/PCB | TOXAPHENE | MG/KG | | | 0.2 U | 0.2 U | | 0.19 U | 0.21 U | | 0.2 U | 0.21 U | | 0.18 U | 0.18 U | 0.2 U | | 0.2 U | 0.2 U | | 0.19 U | | 0.2 U | | 0.18 U |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0180 | MPSB0183 | MPSB0189 | MPSB0189 | MPSB0189 | MPSB0190 | MPSB0190 | MPSB0190 | MPSB0191 | MPSB0191 | MPSB0191 | MPSB0192 | MPSB0192 | MPSB0192 | MPSB0192 | MPSB0193 | MPSB0193 | MPSB0193 | MPSB0194 | MPSB0194 | MPSB0194 | MPSB0194 | MPSB0195 |
| | | Field Sample ID | MPSB0180-AP-AQ-1 | MPSB0183-SS-AP-AQ-0 | MPSB0189-SS-AA-AE-0 | MPSB0189-SS-AJ-AK-0 | MPSB0189-SS-AK-AL-0 | MPSB0190-SS-AA-AB-0 | MPSB0190-SS-AD-AE-0 | MPSB0190-SS-AH-AI-0 | MPSB0191-SS-AA-AE-0 | MPSB0191-SS-AJ-AK-0 | MPSB0191-SS-AK-AL-0 | MPSB0192-SS-AA-AE-0 | MPSB0192-SS-AA-AE-1 | MPSB0192-SS-AJ-AK-0 | MPSB0192-SS-AS-AT-0 | MPSB0193-SS-AA-AE-0 | MPSB0193-SS-AI-AJ-0 | MPSB0193-SS-AK-AL-0 | MPSB0194-SS-AA-AE-0 | MPSB0194-SS-AH-AI-0 | MPSB0194-SS-AK-AL-0 | MPSB0194-SS-AT-AU-0 | MPSB0195-SS-AA-AE-0 |
| | | Sample Date | 3/20/2013 | 4/9/2013 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/18/2014 | 6/18/2014 | 6/18/2014 | 6/18/2014 | 6/18/2014 |
| | | Depth (ft) | 7.5-8 | 7.5-8 | 0-2 | 4.5-5 | 5-5.5 | 0-0.5 | 1.5-2 | 3.5-4 | 0-2 | 4.5-5 | 5-5.5 | 0-2 | 0-2 | 4.5-5 | 9-9.5 | 0-2 | 4-4.5 | 5-5.5 | 0-2 | 3.5-4 | 5-5.5 | 9.5-10 | 0-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 U | 0.19 U | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 UJ | 0.2 U | 0.24 U | 0.18 U |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 U | 0.19 U | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 UJ | 0.19 UJ | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 U | 0.19 U | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 U | 0.19 U | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 U | 0.19 U | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 UJ | 0.19 UJ | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 UJ | 0.19 UJ | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | | | 0.39 U | 0.4 U | 0.43 U | 0.38 U | 0.41 U | 0.41 U | 0.4 U | 0.4 U | 0.43 U | 0.35 U | 0.37 U | 0.39 U | 0.4 U | 0.39 U | 0.38 U | 0.41 U | 0.37 U | 0.41 U | 0.39 U | 0.46 U | 0.35 U |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 U | 0.19 U | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 U | 0.19 U | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 U | 0.19 U | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 UJ | 0.19 UJ | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 UJ | 0.19 UJ | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | 2-METHYLPHENOL | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 UJ | 0.19 UJ | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | 2-NITROANILINE | MG/KG | | | 0.39 U | 0.4 U | 0.43 U | 0.38 U | 0.41 U | 0.41 U | 0.4 U | 0.4 U | 0.43 U | 0.35 U | 0.37 U | 0.39 U | 0.4 U | 0.39 U | 0.38 U | 0.41 U | 0.37 U | 0.41 U | 0.39 U | 0.46 U | 0.35 U |
| SVOC | 2-NITROPHENOL | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 UJ | 0.19 UJ | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 U | 0.19 U | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | 3-NITROANILINE | MG/KG | | | 0.39 U | 0.4 U | 0.43 U | 0.38 U | 0.41 U | 0.41 U | 0.4 U | 0.4 U | 0.43 U | 0.35 U | 0.37 U | 0.39 U | 0.4 U | 0.39 U | 0.38 U | 0.41 U | 0.37 U | 0.41 U | 0.39 U | 0.46 U | 0.35 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | | | 0.39 U | 0.4 U | 0.43 U | 0.38 U | 0.41 U | 0.41 U | 0.4 U | 0.4 U | 0.43 U | 0.35 U | 0.37 U | 0.39 U | 0.4 U | 0.39 U | 0.38 U | 0.41 U | 0.37 U | 0.41 U | 0.39 U | 0.46 U | 0.35 U |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 U | 0.19 U | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 UJ | 0.2 U | 0.24 U | 0.18 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 UJ | 0.19 UJ | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | 4-CHLOROANILINE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 UJ | 0.19 UJ | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 U | 0.19 U | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 UJ | 0.2 U | 0.24 U | 0.18 U |
| SVOC | 4-METHYLPHENOL | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 UJ | 0.19 UJ | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | 4-NITROANILINE | MG/KG | | | 0.39 U | 0.4 U | 0.43 U | 0.38 U | 0.41 U | 0.41 U | 0.4 U | 0.4 U | 0.43 U | 0.35 U | 0.37 U | 0.39 U | 0.4 U | 0.39 U | 0.38 U | 0.41 U | 0.37 U | 0.41 U | 0.39 U | 0.46 U | 0.35 U |
| SVOC | 4-NITROPHENOL | MG/KG | | | 0.39 U | 0.4 U | 0.43 U | 0.38 U | 0.41 U | 0.41 U | 0.4 U | 0.4 U | 0.43 U | 0.35 U | 0.37 U | 0.39 U | 0.4 U | 0.39 U | 0.38 U | 0.41 U | 0.37 U | 0.41 U | 0.39 U | 0.46 U | 0.35 U |
| SVOC | ACENAPHTHENE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.0055 J | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.027 J | 0.19 UJ | 0.2 U | 0.21 U | 0.015 J | 0.2 U | 0.0068 J | 0.0056 J | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | ACENAPHTHYLENE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.0022 J | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 U | 0.19 U | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | ACETOPHENONE | MG/KG | | | 0.2 U | 0.011 J | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 UJ | 0.19 UJ | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | ANTHRACENE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.022 J | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.05 J | 0.0045 J | 0.2 U | 0.21 U | 0.04 J | 0.2 U | 0.02 J | 0.018 J | 0.21 U | 0.0086 J | 0.24 U | 0.18 U |
| SVOC | ATRAZINE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 U | 0.19 U | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | BENZALDEHYDE | MG/KG | | | 0.069 J | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.0085 J | 0.19 UJ | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.041 J | 0.24 U | 0.18 U |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | | | 0.2 U | 0.2 U | 0.22 UJ | 0.14 J | 0.21 U | 0.21 UJ | 0.012 J | 0.21 UJ | 0.22 U | 0.13 J | 0.028 J | 0.2 U | 0.21 UJ | 0.16 J | 0.2 U | 0.072 J | 0.12 J | 0.21 UJ | 0.058 J | 0.24 U | 0.18 U |
| SVOC | BENZO(A)PYRENE | MG/KG | | | 0.0023 J | 0.004 U | 0.0043 U | 0.14 J | 0.0041 U | 0.0041 U | 0.014 | 0.004 U | 0.0043 U | 0.11 J | 0.03 J | 0.0039 U | 0.004 U | 0.15 J | 0.0038 U | 0.071 J | 0.13 J | 0.0041 U | 0.065 J | 0.0046 U | 0.0035 U |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.12 J | 0.21 U | 0.21 U | 0.0094 J | 0.21 U | 0.22 U | 0.14 J | 0.034 J | 0.2 U | 0.21 U | 0.12 J | 0.2 U | 0.056 J | 0.12 J | 0.21 U | 0.057 J | 0.24 U | 0.18 U |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.083 J | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.08 J | 0.023 J | 0.2 U | 0.21 U | 0.088 J | 0.2 U | 0.042 J | 0.083 J | 0.21 U | 0.045 J | 0.24 U | 0.18 U |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.15 J | 0.21 U | 0.21 U | 0.0097 J | 0.21 U | 0.22 U | 0.096 J | 0.025 J | 0.2 U | 0.21 U | 0.17 J | 0.2 U | 0.077 J | 0.14 J | 0.21 U | 0.063 J | 0.24 U | 0.18 U |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 U | 0.19 U | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 UJ | 0.19 UJ | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 UJ | 0.19 UJ | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 U | 0.19 U | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 UJ | 0.2 U | 0.24 U | 0.18 U |
| SVOC | CAPROLACTAM | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 UJ | 0.19 UJ | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 UJ | 0.2 U | 0.24 U | 0.18 U |
| SVOC | CARBAZOLE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.014 J | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.033 J | 0.19 UJ | 0.2 U | 0.21 U | 0.022 J | 0.2 U | 0.011 J | 0.01 J | 0.21 UJ | 0.2 U | 0.24 U | 0.18 U |
| SVOC | CHRYSENE | MG/KG | | | 0.2 U | 0.2 U | 0.22 UJ | 0.16 J | 0.21 U | 0.21 UJ | 0.012 J | 0.21 UJ | 0.22 U | 0.14 J | 0.036 J | 0.2 U | 0.21 UJ | 0.19 J | 0.2 U | 0.073 J | 0.15 J | 0.21 UJ | 0.07 J | 0.24 U | 0.18 U |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | | | 0.0003 J | 0.004 U | 0.00018 J | 0.03 J | 0.0041 U | 0.0041 U | 0.003 J | 0.004 U | 0.0043 U | 0.023 J | 0.007 J | 0.00011 J | 0.004 U | 0.028 J | 0.0038 U | 0.016 J | 0.028 J | 0.0041 U | 0.012 J | 0.0046 U | 0.0002 J |
| SVOC | DIBENZOFURAN | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.005 J | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.019 J | 0.19 UJ | 0.2 U | 0.21 U | 0.0087 J | 0.2 U | 0.0076 J | 0.19 U | 0.21 UJ | 0.2 U | 0.24 U | 0.18 U |
| SVOC | DIETHYLPHTHALATE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.002 J | 0.21 U | 0.0094 J | 0.21 U | 0.21 U | 0.22 U | 0.18 U | 0.19 U | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 UJ | 0.2 U | 0.24 U | 0.18 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 U | 0.19 U | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 UJ | 0.2 U | 0.24 U | 0.18 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | | | 0.0057 J | 0.2 U | 0.0067 J | 0.0065 J | 0.21 U | 0.013 J | 0.012 J | 0.012 J | 0.012 J | 0.012 J | 0.0089 J | 0.012 J | 0.0089 J | 0.0084 J | 0.0067 J | 0.009 J | 0.19 U | 0.21 UJ | 0.2 U | 0.24 U | 0.18 U |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 U | 0.19 U | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 UJ | 0.2 U | 0.24 U | 0.18 U |
| SVOC | FLUORANTHENE | MG/KG | | | 0.0032 J | 0.2 U | 0.22 UJ | 0.28 | 0.21 U | 0.21 UJ | 0.021 J | 0.21 UJ | 0.22 U | 0.25 J | 0.04 J | 0.2 U | 0.21 UJ | 0.33 | 0.2 U | 0.13 J | 0.23 | 0.21 UJ | 0.093 J | 0.24 U | 0.18 U |
| SVOC | FLUORENE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.0084 J | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.018 J | 0.19 UJ | 0.2 U | 0.21 U | 0.016 J | 0.2 U | 0.011 J | 0.0066 J | 0.21 UJ | 0.2 U | 0.24 U | 0.18 U |
| SVOC | HEXACHLOROBENZENE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 U | 0.19 U | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 UJ | 0.19 UJ | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 U | 0.19 U | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | HEXACHLOROETHANE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 UJ | 0.19 UJ | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.084 J | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.067 J | 0.019 J | 0.2 U | 0.21 U | 0.076 J | 0.2 U | 0.044 J | 0.081 J | 0.21 U | 0.039 J | 0.24 U | 0.18 U |
| SVOC | ISOPHORONE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 UJ | 0.19 UJ | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | NAPHTHALENE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.0037 J | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.021 J | 0.19 UJ | 0.2 U | 0.21 U | 0.0056 J | 0.2 U | 0.011 J | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | NITROBENZENE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 UJ | 0.19 UJ | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 UJ | 0.19 UJ | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 U | 0.19 U | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | | | 0.39 U | 0.4 U | 0.43 U | 0.38 U | 0.41 U | 0.41 U | 0.4 U | 0.4 U | 0.43 U | 0.35 UJ | 0.37 UJ | 0.39 U | 0.4 U | 0.39 U | 0.38 U | 0.41 UJ | 0.37 U | 0.41 U | 0.39 U | 0.46 U | 0.35 U |
| SVOC | PHENANTHRENE | MG/KG | | | 0.2 U | 0.2 U | 0.22 U | 0.12 J | 0.21 U | 0.21 U | 0.011 J | 0.21 U | 0.22 U | 0.22 J | 0.021 J | 0.2 U | 0.21 U | 0.22 | 0.2 U | 0.095 J | 0.1 J | 0.21 U | 0.044 J | 0.24 U | 0.0021 J |
| SVOC | PHENOL | MG/KG | | | 0.014 J | 0.2 U | 0.22 U | 0.2 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.22 U | 0.18 UJ | 0.19 UJ | 0.2 U | 0.21 U | 0.2 U | 0.2 U | 0.21 U | 0.19 U | 0.21 U | 0.2 U | 0.24 U | 0.18 U |
| SVOC | PYRENE | MG/KG | | | 0.0029 J | 0.2 U | 0.22 UJ | 0.22 | 0.21 U | 0.21 UJ | 0.015 J | 0.21 UJ | 0.22 U | 0.27 J | 0.04 J | 0.2 U | 0.21 UJ | 0.24 | 0.2 U | 0.12 J | 0.21 | 0.21 UJ | 0.1 J | 0.24 U | 0.18 U |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0180 | MPSB0183 | MPSB0189 | MPSB0189 | MPSB0189 | MPSB0190 | MPSB0190 | MPSB0190 | MPSB0191 | MPSB0191 | MPSB0191 | MPSB0192 | MPSB0192 | MPSB0192 | MPSB0192 | MPSB0193 | MPSB0193 | MPSB0193 | MPSB0194 | MPSB0194 | MPSB0194 | MPSB0194 | MPSB0195 |
| | | Field Sample ID | MPSB0180-AP-AQ-1 | MPSB0183-SS-AP-AQ-0 | MPSB0189-SS-AA-AE-0 | MPSB0189-SS-AJ-AK-0 | MPSB0189-SS-AK-AL-0 | MPSB0190-SS-AA-AB-0 | MPSB0190-SS-AD-AE-0 | MPSB0190-SS-AH-AI-0 | MPSB0191-SS-AA-AE-0 | MPSB0191-SS-AJ-AK-0 | MPSB0191-SS-AK-AL-0 | MPSB0192-SS-AA-AE-0 | MPSB0192-SS-AA-AE-1 | MPSB0192-SS-AJ-AK-0 | MPSB0192-SS-AS-AT-0 | MPSB0193-SS-AA-AE-0 | MPSB0193-SS-AI-AJ-0 | MPSB0193-SS-AK-AL-0 | MPSB0194-SS-AA-AE-0 | MPSB0194-SS-AH-AI-0 | MPSB0194-SS-AK-AL-0 | MPSB0194-SS-AT-AU-0 | MPSB0195-SS-AA-AE-0 |
| | | Sample Date | 3/20/2013 | 4/9/2013 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/18/2014 | 6/18/2014 | 6/18/2014 | 6/18/2014 | 6/18/2014 |
| | | Depth (ft) | 7.5-8 | 7.5-8 | 0-2 | 4.5-5 | 5-5.5 | 0-0.5 | 1.5-2 | 3.5-4 | 0-2 | 4.5-5 | 5-5.5 | 0-2 | 0-2 | 4.5-5 | 9-9.5 | 0-2 | 4-4.5 | 5-5.5 | 0-2 | 3.5-4 | 5-5.5 | 9.5-10 | 0-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | 1,1-DICHLOROETHANE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | 1,1-DICHLOROETHENE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | 1,2-DIBROMOETHANE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | 1,2-DICHLOROETHANE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | 3.7 U | 32 U | 0.011 U | 0.0098 U | 0.013 U | | 0.011 U | 0.01 U | 0.011 U | 0.0099 U | 0.012 U | 0.011 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.0099 U | 0.011 U | 0.011 U | 0.013 U | 0.011 U | 0.015 U | 0.0097 U |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | 3.7 U | 32 U | 0.011 U | 0.0098 U | 0.013 U | | 0.011 U | 0.01 U | 0.00027 J | 0.0099 U | 0.012 U | 0.011 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.0099 U | 0.011 U | 0.011 U | 0.013 U | 0.011 U | 0.015 U | 0.0097 U |
| VOC | ACETONE | MG/KG | 3.7 U | 32 U | 0.011 U | 0.0098 U | 0.013 U | | 0.011 U | 0.01 U | 0.011 U | 0.0099 U | 0.012 | 0.011 U | 0.01 U | 0.01 U | 0.011 U | 0.0012 J | 0.0099 U | 0.011 U | 0.011 U | 0.013 U | 0.011 U | 0.015 U | 0.0097 U |
| VOC | BENZENE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | BROMOCHLOROMETHANE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | BROMODICHLOROMETHANE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | BROMOFORM | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | BROMOMETHANE | MG/KG | 1.8 U | 16 UJ | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | CARBON DISULFIDE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | CARBON TETRACHLORIDE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | CHLOROBENZENE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | CHLOROETHANE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | CHLOROFORM | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0055 J | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | CHLOROMETHANE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | CYCLOHEXANE | MG/KG | 2.9 | 63 | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | DICHLOROMETHANE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | ETHYLBENZENE | MG/KG | 12 | 140 | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | ISOPROPYLBENZENE | MG/KG | 0.51 J | 49 | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | METHYL ACETATE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | METHYL ETHYL KETONE | MG/KG | 3.7 U | 32 U | 0.011 U | 0.0098 U | 0.013 U | | 0.011 U | 0.01 U | 0.011 U | 0.0099 U | 0.012 U | 0.011 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.0099 U | 0.011 U | 0.011 U | 0.013 U | 0.011 U | 0.015 U | 0.0097 U |
| VOC | METHYLCYCLOHEXANE | MG/KG | 20 | 560 | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.017 | 0.0048 U |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | TETRACHLOROETHENE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.000079 J | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | TOLUENE | MG/KG | 1.3 J | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | 1.8 U | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | XYLENE, O- | MG/KG | 21 | 16 U | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.000044 J | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | XYLENES (TOTAL) | MG/KG | 76 | 630 | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.000044 J | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |
| VOC | XYLENES, M & P | MG/KG | 55 | 630 | 0.0053 U | 0.0049 U | 0.0065 U | | 0.0053 U | 0.0051 U | 0.0056 U | 0.005 U | 0.0058 U | 0.0053 U | 0.0051 U | 0.005 U | 0.0054 U | 0.0056 U | 0.0049 U | 0.0056 U | 0.0056 U | 0.0064 U | 0.0054 U | 0.0077 U | 0.0048 U |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0195 | MPSB0195 | MPSB0196 | MPSB0196 | MPSB0197 | MPSB0197 | MPSB0197 | MPSB0197 | MPSB0198 | MPSB0198 | MPSB0198 | MPSB0199 | MPSB0199 | MPSB0199 | MPSB0199 | MPSB0200 | MPSB0200 | MPSB0200 | MPSB0201 | MPSB0201 | MPSB0201 | MPSB0201 | MPSB0201 |
| | | Field Sample ID | MPSB0195-SS-AH-AI-0 | MPSB0195-SS-AT-AU-0 | MPSB0196-SS-AA-AB-0 | MPSB0196-SS-AD-AE-0 | MPSB0197-SS-AA-AE-0 | MPSB0197-SS-AH-AI-0 | MPSB0197-SS-AK-AL-0 | MPSB0197-SS-AL-AM-0 | MPSB0198-SS-AA-AE-0 | MPSB0198-SS-AJ-AK-0 | MPSB0198-SS-AP-AQ-0 | MPSB0199-SS-AA-AE-0 | MPSB0199-SS-AA-AE-1 | MPSB0199-SS-AK-AL-0 | MPSB0199-SS-AL-AM-0 | MPSB0200-SS-AA-AE-0 | MPSB0200-SS-AH-AI-0 | MPSB0200-SS-AM-AN-0 | MPSB0201-SS-AA-AB-0 | MPSB0201-SS-AD-AE-0 | MPSB0201-SS-AJ-AL-0 | MPSB0201-SS-AQ-AR-0 | MPSB0201-SS-AT-AU-0 |
| | | Sample Date | 6/18/2014 | 6/18/2014 | 6/18/2014 | 6/18/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 |
| | | Depth (ft) | 3.5-4 | 9.5-10 | 0-0.5 | 1.5-2 | 0-2 | 3.5-4 | 5-5.5 | 5.5-6 | 0-2 | 4.5-5 | 7.5-8 | 0-2 | 0-2 | 5-5.5 | 5.5-6 | 0-2 | 3.5-4 | 6-6.5 | 0-0.5 | 1.5-2 | 4.5-5.5 | 8-8.5 | 9.5-10 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | 2.5 U | 2.2 U | | 2.2 U | | 2.3 U | | 2.2 U | 2.6 U | | 2.1 U | 2.2 U | 2.3 U | | 2.2 U | | | 2.2 U | | | | 2.6 U |
| EPH | C12-C16 ALIPHATICS | MG/KG | | 2.5 U | 2.2 U | | 2.2 U | | 2.3 U | | 2.2 U | 2.6 U | | 2.1 U | 2.2 U | 2.3 U | | 2.2 U | | | 2.2 U | | | | 2.6 U |
| EPH | C12-C16 AROMATICS | MG/KG | | 2.5 U | 2.2 U | | 2.2 U | | 2.3 U | | 2.2 U | 2.6 U | | 2.1 U | 2.2 U | 2.3 U | | 2.2 U | | | 2.2 U | | | | 2.6 U |
| EPH | C16-C21 ALIPHATICS | MG/KG | | 2.5 U | 2.2 U | | 2.2 U | | 2.3 U | | 2.2 U | 2.6 U | | 2.1 U | 2.2 U | 2.3 U | | 2.2 U | | | 2.2 U | | | | 2.6 U |
| EPH | C16-C21 AROMATICS | MG/KG | | 2.5 U | 2.2 U | | 2.2 U | | 2.3 U | | 2.2 U | 2.6 U | | 2.1 U | 2.2 U | 2.3 U | | 2.2 U | | | 2.2 U | | | | 2.6 U |
| EPH | C21-C36 AROMATICS | MG/KG | | 2.5 U | 2.2 U | | 2.2 U | | 2.3 U | | 2.2 U | 2.6 U | | 2.1 U | 2.2 U | 2.3 U | | 2.2 U | | | 2.2 U | | | | 2.6 U |
| EPH | C21-C40 ALIPHATICS | MG/KG | | 2.5 U | 2.2 U | | 2.2 U | | 2.3 U | | 2.2 U | 2.6 U | | 2.1 U | 2.2 U | 2.3 U | | 2.2 U | | | 2.2 U | | | | 2.6 U |
| EPH | C9-C12 ALIPHATICS | MG/KG | | 2.5 U | 2.2 U | | 2.2 U | | 2.3 U | | 2.2 U | 2.6 U | | 2.1 U | 2.2 U | 2.3 U | | 2.2 U | | | 2.2 U | | | | 2.6 U |
| METALS | ALUMINUM | MG/KG | 2200 | 2490 | 2960 | 2420 | 6060 | 8450 | 1620 | 1120 | 5870 | 846 | 2410 | 5630 | 4830 | 2060 | 518 | 6210 | 6300 | 341 | 6760 | 7610 | 3380 | 3260 | 3220 |
| METALS | ANTIMONY | MG/KG | 5 | 5 U | 7 | 7.5 | 0.21 J | 0.3 J | 5.2 U | 5.5 U | 4.5 U | 2.9 J | 0.56 J | 4.9 U | 5.5 U | 5.4 UJ | 5.7 U | 5.2 U | 5.5 U | 4.7 U | 5.5 U | 4.6 U | 6.6 U | 6.2 U | 6 UJ |
| METALS | ARSENIC | MG/KG | 43.9 | 53.4 | 21.1 | 34.8 | 1.8 | 34.6 | 10.4 | 10.6 | 1.8 | 7.6 | 82.2 | 2.1 | 2.4 | 42.3 | 56.4 | 11.1 | 26 | 1.1 | 2.3 | 1.9 | 5.8 | 3.3 | 4.5 |
| METALS | BARIUM | MG/KG | 3520 | 16.7 U | 178 | 337 | 18 U | 4400 | 486 | 52.2 | 229 | 19 U | 20.2 U | 16.4 U | 18.4 U | 720 | 19.1 U | 17.2 U | 1990 | 15.6 U | 29.8 | 75.3 | 1960 | 193 | 8.8 J |
| METALS | BERYLLIUM | MG/KG | 0.4 U | 0.42 U | 0.42 U | 0.42 U | 0.45 U | 0.49 | 0.43 U | 0.46 U | 0.38 U | 0.48 U | 0.51 U | 0.41 U | 0.46 U | 0.45 U | 0.48 U | 0.43 U | 0.45 U | 0.39 U | 0.46 U | 0.38 U | 0.55 U | 0.52 U | 0.5 U |
| METALS | CADMIUM | MG/KG | 1.2 | 0.15 J | 0.22 J | 0.32 J | 0.047 J | 6.3 | 0.056 J | 0.056 J | 0.56 | 0.1 J | 0.2 J | 0.058 J | 0.045 J | 0.12 J | 0.14 J | 0.082 J | 0.15 J | 0.13 J | 0.039 J | 0.12 J | 0.46 J | 0.17 J | 0.2 J |
| METALS | CALCIUM | MG/KG | 16600 | 200 J | 932 | 403 J | 8370 | 55600 | 321 J | 433 J | 640 | 108 J | 231 J | 231 J | 460 U | 1300 J | 145 J | 809 | 1330 | 130 J | 377 J | 165 J | 6650 | 183 J | 271 J |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 153 | 11.3 | 41.6 | 28.6 | 8.6 | 820 | 99.3 | 305 | 13.3 | 13 | 11.7 | 8.7 | 7.1 | 33.5 | 6.5 | 9.8 | 38.3 | 3.7 | 11.4 | 12 | 179 | 195 | 49.6 J |
| METALS | COBALT | MG/KG | 2 J | 0.079 J | 1.2 J | 0.57 J | 0.92 J | 5.6 | 0.75 J | 0.23 J | 1.4 J | 0.1 J | 0.19 J | 0.7 J | 0.74 J | 1.6 J | 0.092 J | 0.74 J | 1.7 J | 3.9 U | 0.68 J | 0.46 J | 1.9 J | 0.65 J | 0.43 J |
| METALS | COPPER | MG/KG | 17 | 1.5 J | 15.6 | 23.6 | 3.2 | 133 | 13.9 | 6 | 4.3 | 2.3 J | 5.3 | 3.2 | 3.2 | 34.9 | 12.8 | 4.1 | 21.1 | 0.4 J | 3.7 | 3.5 | 8.4 | 5.9 | 2.6 |
| METALS | CYANIDE | MG/KG | 230 | 3.2 | 29.9 | 0.66 | 0.86 | 352 | 163 | 31.7 | 5.3 | 0.59 U | 1.5 | 0.47 U | 0.58 | 24.2 | 48.1 | 0.98 | 34.4 | 0.51 U | 1.3 | 6.1 | 216 | 11.6 | 1.1 |
| METALS | IRON | MG/KG | 4680 | 7020 | 6490 | 4890 | 5280 | 13400 | 3570 | 7160 | 4690 | 2450 | 5400 | 4360 | 3990 | 5350 | 1520 | 5740 | 8890 | 312 | 6350 | 6520 | 8130 | 5360 | 8170 |
| METALS | LEAD | MG/KG | 1930 | 3.1 | 154 | 271 | 5.5 | 15300 | 231 | 135 | 1210 | 13.2 | 5.7 | 6.7 | 7.4 | 458 | 10.8 | 15.9 | 1350 | 2.8 | 21 | 41.4 | 978 | 301 | 17.9 |
| METALS | MAGNESIUM | MG/KG | 5220 | 128 J | 290 J | 176 J | 1160 | 14800 | 205 J | 141 J | 189 J | 33.8 J | 85.6 J | 153 J | 141 J | 199 J | 33.8 J | 161 J | 326 J | 21.8 J | 229 J | 296 J | 3120 | 143 J | 147 J |
| METALS | MANGANESE | MG/KG | 226 | 6.6 | 15.6 | 17.9 | 18.2 | 842 | 11.1 | 6.9 | 7.1 | 13.3 | 7.9 | 5.6 | 4.9 | 41.3 | 5.1 | 6.9 | 38 | 12.5 | 6.1 | 7.1 | 191 | 14.5 | |
| METALS | MERCURY | MG/KG | 0.14 | 0.12 U | 0.13 | 0.26 | 0.11 U | 0.89 | 0.11 U | 0.12 U | 0.1 U | 0.12 U | 0.12 U | 0.099 U | 0.1 U | 0.11 U | 0.11 U | 0.11 U | 0.24 | 0.12 U | 0.1 U | 0.1 U | 0.14 | 0.12 U | 0.13 U |
| METALS | NICKEL | MG/KG | 2.5 J | 3.3 U | 1.1 J | 1.2 J | 2 J | 8.2 | 0.77 J | 0.15 J | 1.8 J | 0.73 J | 0.7 J | 1.9 J | 1.5 J | 2.6 J | 0.34 J | 1.9 J | 4.5 | 0.18 J | 1.9 J | 2 J | 2.1 J | 1.2 J | 1.4 J |
| METALS | POTASSIUM | MG/KG | 232 J | 282 J | 668 | 217 J | 225 J | 665 | 176 J | 140 J | 274 J | 87.1 J | 275 J | 410 U | 162 J | 453 U | 478 U | 430 U | 455 U | 390 U | 457 U | 379 U | 825 | 261 J | 363 J |
| METALS | SELENIUM | MG/KG | 2.8 U | 2.9 U | 2.9 U | 2.9 U | 3.1 U | 0.59 J | 3 U | 3.2 U | 2.6 U | 3.3 U | 3.5 U | 2.9 U | 3.2 U | 3.2 U | 3.3 U | 3 U | 3.2 U | 2.7 U | 3.2 U | 2.7 U | 3.8 U | 3.6 U | 0.61 J |
| METALS | SILVER | MG/KG | 0.8 U | 0.83 U | 0.83 U | 0.84 U | 0.9 U | 0.82 U | 0.86 U | 0.92 U | 0.76 U | 0.95 U | 1 U | 0.82 U | 0.92 U | 0.91 U | 0.96 U | 0.86 U | 0.91 U | 0.78 U | 0.91 U | 0.76 U | 1.1 U | 1 U | 1 U |
| METALS | SODIUM | MG/KG | 134 J | 171 J | 47.7 J | 53.4 J | 449 U | 408 U | 432 U | 460 U | 378 U | 476 U | 505 U | 410 U | 32.3 J | 453 U | 478 U | 430 U | 455 U | 390 U | 457 U | 379 U | 549 U | 517 U | 93.4 J |
| METALS | THALLIUM | MG/KG | 2 U | 2.1 U | 2.1 U | 2.1 U | 2.2 U | 0.91 J | 2.2 U | 2.3 U | 1.9 U | 2.4 U | 2.5 U | 2 U | 2.3 U | 2.3 U | 2.4 U | 2.2 U | 2.3 U | 2 U | 2.3 U | 1.9 U | 2.7 U | 2.6 U | 2.5 U |
| METALS | VANADIUM | MG/KG | 7.5 | 9.1 | 24.2 | 7.3 | 9.9 | 17.1 | 5.5 | 8.2 | 8.7 | 4.3 J | 12 | 9 | 8.4 | 6.1 | 2.3 J | 11.3 | 14.5 | 1.8 J | 12.3 | 12.2 | 8.8 | 8.3 | 17 |
| METALS | ZINC | MG/KG | 582 | 5 U | 78.2 | 108 | 4.2 J | 2930 | 102 | 27.8 | 68.9 | 5.2 J | 4.4 J | 5.8 | 5.9 | 95.9 | 13.7 | 11.9 | 796 | 19.9 | 6.3 | 68.7 | 404 | 105 | 163 J |
| PEST/PCB | 4,4'-DDD | MG/KG | | 0.0041 U | 0.0035 U | | 0.0036 U | | 0.0038 U | | 0.0035 U | 0.0043 U | | 0.00051 J | 0.00061 J | 0.0039 U | | 0.0036 U | | | 0.0035 U | | | | 0.0042 U |
| PEST/PCB | 4,4'-DDE | MG/KG | | 0.0041 U | 0.00025 J | | 0.00048 J | | 0.0038 U | | 0.00017 J | 0.0043 U | | 0.0032 J | 0.004 | 0.00012 J | | 0.00013 J | | | 0.000096 J | | | | 0.0042 U |
| PEST/PCB | 4,4'-DDT | MG/KG | | 0.0041 U | 0.00073 J | | 0.0021 J | | 0.0038 U | | 0.00054 J | 0.0043 U | | 0.014 | 0.016 | 0.00072 J | | 0.00042 J | | | 0.00024 J | | | | 0.0042 U |
| PEST/PCB | ALDRIN | MG/KG | | 0.0021 U | 0.0018 U | | 0.0019 U | | 0.002 U | | 0.0018 U | 0.0022 U | | 0.0018 U | 0.0019 U | 0.002 U | | 0.0018 U | | | 0.0018 U | | | | 0.0022 U |
| PEST/PCB | ALPHA-BHC | MG/KG | | 0.0021 U | 0.0018 U | | 0.0019 U | | 0.002 U | | 0.0018 U | 0.0022 U | | 0.0018 U | 0.0019 U | 0.002 U | | 0.0018 U | | | 0.0018 U | | | | 0.0022 U |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | 0.0021 U | 0.0018 U | | 0.0019 U | | 0.002 U | | 0.0018 U | 0.0022 U | | 0.0018 U | 0.0019 U | 0.002 U | | 0.0018 U | | | 0.0018 U | | | | 0.0022 U |
| PEST/PCB | AROCLOR-1016 | MG/KG | | 0.041 U | 0.035 U | | 0.036 U | | 0.038 U | | 0.035 U | 0.043 U | | 0.035 U | 0.036 U | 0.039 U | | 0.036 U | | | 0.035 U | | | | 0.042 U |
| PEST/PCB | AROCLOR-1221 | MG/KG | | 0.041 U | 0.035 U | | 0.036 U | | 0.038 U | | 0.035 U | 0.043 U | | 0.035 U | 0.036 U | 0.039 U | | 0.036 U | | | 0.035 U | | | | 0.042 U |
| PEST/PCB | AROCLOR-1232 | MG/KG | | 0.041 U | 0.035 U | | 0.036 U | | 0.038 U | | 0.035 U | 0.043 U | | 0.035 U | 0.036 U | 0.039 U | | 0.036 U | | | 0.035 U | | | | 0.042 U |
| PEST/PCB | AROCLOR-1242 | MG/KG | | 0.041 U | 0.035 U | | 0.036 U | | 0.038 U | | 0.035 U | 0.043 U | | 0.035 U | 0.036 U | 0.039 U | | 0.036 U | | | 0.035 U | | | | 0.042 U |
| PEST/PCB | AROCLOR-1248 | MG/KG | | 0.041 U | 0.035 U | | 0.036 U | | 0.038 U | | 0.035 U | 0.043 U | | 0.035 U | 0.036 U | 0.039 U | | 0.036 U | | | 0.035 U | | | | 0.042 U |
| PEST/PCB | AROCLOR-1254 | MG/KG | | 0.041 U | 0.035 U | | 0.036 U | | 0.038 U | | 0.035 U | 0.0031 J | | 0.035 U | 0.036 U | 0.039 U | | 0.036 U | | | 0.035 U | | | | 0.042 U |
| PEST/PCB | AROCLOR-1260 | MG/KG | | 0.041 U | 0.035 U | | 0.036 U | | 0.038 U | | 0.035 U | 0.043 U | | 0.0018 J | 0.0042 J | 0.039 U | | 0.036 U | | | 0.035 U | | | | 0.042 U |
| PEST/PCB | AROCLOR-1262 | MG/KG | | 0.041 U | 0.035 U | | 0.036 U | | 0.038 U | | 0.035 U | 0.043 U | | 0.035 U | 0.036 U | 0.039 U | | 0.036 U | | | 0.035 U | | | | 0.042 U |
| PEST/PCB | AROCLOR-1268 | MG/KG | | 0.041 U | 0.035 U | | 0.036 U | | 0.038 U | | 0.035 U | 0.043 U | | 0.035 U | 0.036 U | 0.039 U | | 0.036 U | | | 0.035 U | | | | 0.042 U |
| PEST/PCB | BETA-BHC | MG/KG | | 0.0021 U | 0.0018 U | | 0.0019 U | | 0.002 U | | 0.0018 U | 0.0022 U | | 0.0018 U | 0.0019 U | 0.002 U | | 0.0018 U | | | 0.0018 U | | | | 0.0022 U |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | 0.0021 U | 0.0018 U | | 0.0019 U | | 0.002 U | | 0.0018 U | 0.0022 U | | 0.0018 U | 0.0019 U | 0.002 U | | 0.0018 U | | | 0.0018 U | | | | 0.0022 U |
| PEST/PCB | DIELDRIN | MG/KG | | 0.0041 U | 0.0035 U | | 0.0036 U | | 0.0038 U | | 0.0035 U | 0.0043 U | | 0.0035 U | 0.0036 U | 0.000074 J | | 0.0036 U | | | 0.0035 U | | | | 0.0042 U |
| PEST/PCB | ENDOSULFAN I | MG/KG | | 0.0021 U | 0.00014 J | | 0.0019 U | | 0.002 U | | 0.0018 U | 0.0022 U | | 0.0018 U | 0.0019 U | 0.002 U | | 0.0018 U | | | 0.0018 U | | | | 0.0022 U |
| PEST/PCB | ENDOSULFAN II | MG/KG | | 0.0041 U | 0.0035 U | | 0.000041 J | | 0.0038 U | | 0.0035 U | 0.0043 U | | 0.000041 J | 0.000052 J | 0.0039 U | | 0.0036 U | | | 0.0035 U | | | | 0.0042 U |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | 0.0041 U | 0.0035 U | | 0.0036 U | | 0.0038 U | | 0.0035 U | 0.0043 U | | 0.0035 U | 0.0036 U | 0.0039 U | | 0.0036 U | | | 0.0035 U | | | | 0.0042 U |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | 0.0041 U | 0.0035 U | | 0.0036 U | | 0.000057 J | | 0.000059 J | 0.0043 U | | 0.0035 UJ | 0.00029 J | 0.0039 U | | 0.0036 U | | | 0.0035 U | | | | 0.0042 U |
| PEST/PCB | ENDRIN KETONE | MG/KG | | 0.0041 U | 0.00077 J | | 0.0036 U | | 0.0038 U | | 0.0035 U | 0.0043 U | | 0.0035 U | 0.0036 U | 0.00031 J | | 0.0036 U | | | 0.0035 U | | | | 0.0042 U |
| PEST/PCB | ENDRIN | MG/KG | | 0.0041 U | 0.0035 U | | 0.0036 U | | 0.0038 U | | 0.0035 U | 0.000054 J | | 0.0035 U | 0.0036 U | 0.0039 U | | 0.0036 U | | | 0.0035 U | | | | 0.0042 U |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | 0.0021 U | 0.0018 U | | 0.0019 U | | 0.002 U | | 0.0018 U | 0.0022 U | | 0.0018 U | 0.0019 U | 0.002 U | | 0.0018 U | | | 0.0018 U | | | | 0.0022 U |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | 0.0021 U | 0.0018 U | | 0.0019 U | | 0.002 U | | 0.0018 U | 0.0022 U | | 0.0018 U | 0.0019 U | 0.002 U | | 0.0018 U | | | 0.0018 U | | | | 0.0022 U |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | 0.0021 U | 0.000076 J | | 0.000039 J | | 0.002 U | | 0.0018 U | 0.0022 U | | 0.0018 U | 0.0019 U | 0.002 U | | 0.0018 U | | | 0.0018 U | | | | 0.0022 U |
| PEST/PCB | HEPTACHLOR | MG/KG | | 0.00012 J | 0.000053 J | | 0.0019 U | | 0.002 U | | 0.0018 U | 0.0022 U | | 0.0018 U | 0.0019 U | 0.002 U | | 0.0018 U | | | 0.0018 U | | | | 0.0022 U |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | 0.021 U | 0.018 U | | 0.019 U | | 0.02 U | | 0.018 U | 0.022 U | | 0.018 U | 0.019 U | 0.02 U | | 0.018 U | | | 0.018 U | | | | 0.022 U |
| PEST/PCB | TOXAPHENE | MG/KG | | 0.21 U | 0.18 U | | 0.19 U | | 0.2 U | | 0.18 U | 0.22 U | | 0.18 U | 0.19 U | 0.2 U | | 0.18 U | | | 0.18 U | | | | 0.22 U |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0195 | MPSB0195 | MPSB0196 | MPSB0196 | MPSB0197 | MPSB0197 | MPSB0197 | MPSB0197 | MPSB0198 | MPSB0198 | MPSB0198 | MPSB0199 | MPSB0199 | MPSB0199 | MPSB0199 | MPSB0200 | MPSB0200 | MPSB0200 | MPSB0201 | MPSB0201 | MPSB0201 | MPSB0201 | MPSB0201 |
| | | Field Sample ID | MPSB0195-SS-AH-AI-0 | MPSB0195-SS-AT-AU-0 | MPSB0196-SS-AA-AB-0 | MPSB0196-SS-AD-AE-0 | MPSB0197-SS-AA-AE-0 | MPSB0197-SS-AH-AI-0 | MPSB0197-SS-AK-AL-0 | MPSB0197-SS-AL-AM-0 | MPSB0198-SS-AA-AE-0 | MPSB0198-SS-AJ-AK-0 | MPSB0198-SS-AP-AQ-0 | MPSB0199-SS-AA-AE-0 | MPSB0199-SS-AA-AE-1 | MPSB0199-SS-AK-AL-0 | MPSB0199-SS-AL-AM-0 | MPSB0200-SS-AA-AE-0 | MPSB0200-SS-AH-AI-0 | MPSB0200-SS-AM-AN-0 | MPSB0201-SS-AA-AB-0 | MPSB0201-SS-AD-AE-0 | MPSB0201-SS-AJ-AL-0 | MPSB0201-SS-AQ-AR-0 | MPSB0201-SS-AT-AU-0 |
| | | Sample Date | 6/18/2014 | 6/18/2014 | 6/18/2014 | 6/18/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 |
| | | Depth (ft) | 3.5-4 | 9.5-10 | 0-0.5 | 1.5-2 | 0-2 | 3.5-4 | 5-5.5 | 5.5-6 | 0-2 | 4.5-5 | 7.5-8 | 0-2 | 0-2 | 5-5.5 | 5.5-6 | 0-2 | 3.5-4 | 6-6.5 | 0-0.5 | 1.5-2 | 4.5-5.5 | 8-8.5 | 9.5-10 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 0.38 U | 0.41 U | 0.35 U | 0.35 U | 0.36 U | 0.4 U | 0.38 U | 0.42 U | 0.35 U | 0.43 U | 0.42 U | 0.36 U | 0.35 U | 0.39 U | 0.4 U | 0.36 U | 0.35 U | 0.38 U | 0.36 U | 0.36 U | 0.37 U | 0.4 U | 0.43 U |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.007 J | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | 2-METHYLPHENOL | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | 2-NITROANILINE | MG/KG | 0.38 U | 0.41 U | 0.35 U | 0.35 U | 0.36 U | 0.4 U | 0.38 U | 0.42 U | 0.35 U | 0.43 U | 0.42 U | 0.36 U | 0.35 U | 0.39 U | 0.4 U | 0.36 U | 0.35 U | 0.38 U | 0.36 U | 0.36 U | 0.37 U | 0.4 U | 0.43 U |
| SVOC | 2-NITROPHENOL | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | 3-NITROANILINE | MG/KG | 0.38 U | 0.41 U | 0.35 U | 0.35 U | 0.36 U | 0.4 U | 0.38 U | 0.42 U | 0.35 U | 0.43 U | 0.42 U | 0.36 U | 0.35 U | 0.39 U | 0.4 U | 0.36 U | 0.35 U | 0.38 U | 0.36 U | 0.36 U | 0.37 U | 0.4 U | 0.43 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 0.38 U | 0.41 U | 0.35 U | 0.35 U | 0.36 U | 0.4 U | 0.38 U | 0.42 U | 0.35 U | 0.43 U | 0.42 U | 0.36 U | 0.35 U | 0.39 U | 0.4 U | 0.36 U | 0.35 U | 0.38 U | 0.36 U | 0.36 U | 0.37 U | 0.4 U | 0.43 U |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | 4-CHLOROANILINE | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | 4-METHYLPHENOL | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | 4-NITROANILINE | MG/KG | 0.38 U | 0.41 U | 0.35 U | 0.35 U | 0.36 U | 0.4 U | 0.38 U | 0.42 U | 0.35 U | 0.43 U | 0.42 U | 0.36 U | 0.35 U | 0.39 U | 0.4 U | 0.36 U | 0.35 U | 0.38 U | 0.36 U | 0.36 U | 0.37 U | 0.4 U | 0.43 U |
| SVOC | 4-NITROPHENOL | MG/KG | 0.38 U | 0.41 U | 0.35 U | 0.35 U | 0.36 U | 0.4 U | 0.38 U | 0.42 U | 0.35 U | 0.43 U | 0.42 U | 0.36 U | 0.35 U | 0.39 U | 0.4 U | 0.36 U | 0.35 U | 0.38 U | 0.36 U | 0.36 U | 0.37 U | 0.4 U | 0.43 U |
| SVOC | ACENAPHTHENE | MG/KG | 0.017 J | 0.21 U | 0.066 J | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.02 J | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | ACETOPHENONE | MG/KG | 0.19 U | 0.0065 J | 0.18 U | 0.18 U | 0.18 U | 0.017 J | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | ANTHRACENE | MG/KG | 0.054 J | 0.21 U | 0.1 J | 0.017 J | 0.18 U | 0.17 J | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.046 J | 0.21 U | 0.19 U | 0.0043 J | 0.19 U | 0.19 U | 0.18 U | 0.01 J | 0.0036 J | 0.22 U |
| SVOC | ATRAZINE | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | BENZALDEHYDE | MG/KG | 0.028 J | 0.21 U | 0.017 J | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.004 J | 0.22 U |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.21 J | 0.21 UJ | 0.51 | 0.13 J | 0.18 U | 1.7 | 0.0082 J | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.1 J | 0.21 U | 0.19 U | 0.043 J | 0.19 U | 0.19 U | 0.0061 J | 0.046 J | 0.014 J | 0.22 U |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.19 J | 0.0041 U | 0.52 | 0.14 J | 0.0036 U | 1.9 | 0.013 | 0.0042 U | 0.004 J | 0.0043 U | 0.0042 U | 0.0036 U | 0.0035 U | 0.082 J | 0.004 U | 0.0047 J | 0.048 J | 0.0038 U | 0.0036 U | 0.0074 | 0.045 J | 0.014 | 0.0043 U |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 0.17 J | 0.21 U | 0.47 | 0.13 J | 0.18 U | 2 | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.066 J | 0.21 U | 0.19 U | 0.05 J | 0.19 U | 0.19 U | 0.18 U | 0.052 J | 0.0065 J | 0.22 U |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.11 J | 0.21 U | 0.33 | 0.084 J | 0.18 U | 0.99 | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.037 J | 0.21 U | 0.19 U | 0.026 J | 0.19 U | 0.19 U | 0.18 U | 0.049 J | 0.21 U | 0.22 U |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.2 | 0.21 U | 0.59 | 0.14 J | 0.18 U | 2 | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.089 J | 0.21 U | 0.19 U | 0.048 J | 0.19 U | 0.19 U | 0.18 U | 0.062 J | 0.01 J | 0.22 U |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.021 J | 0.02 J | 0.023 J | 0.0089 J | 0.013 J | 0.025 J | 0.03 J | 0.18 U | 0.18 U | 0.014 J | 0.021 J | 0.016 J | 0.0081 J | 0.19 U | 0.012 J | 0.011 J | 0.19 U | 0.0061 J | 0.22 U |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.031 J | 0.034 J | 0.032 J | 0.018 J | 0.033 J | 0.033 J | 0.042 J | 0.18 U | 0.18 U | 0.022 J | 0.036 J | 0.038 J | 0.019 J | 0.019 J | 0.02 J | 0.025 J | 0.019 J | 0.016 J | 0.22 U |
| SVOC | CAPROLACTAM | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.028 J | 0.044 J | 0.029 J | 0.22 U | 0.18 U | 0.037 J | 0.043 J | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | CARBAZOLE | MG/KG | 0.018 J | 0.21 U | 0.039 J | 0.0086 J | 0.18 U | 0.022 J | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.023 J | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.0059 J | 0.21 U | 0.22 U |
| SVOC | CHRYSENE | MG/KG | 0.22 J | 0.21 UJ | 0.58 | 0.16 J | 0.18 U | 1.9 | 0.0087 J | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.11 J | 0.21 U | 0.19 U | 0.056 J | 0.19 U | 0.19 U | 0.0057 J | 0.058 J | 0.014 J | 0.22 U |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.039 J | 0.0041 U | 0.1 J | 0.031 J | 0.00015 J | 0.34 | 0.0033 J | 0.00051 J | 0.00074 J | 0.0043 U | 0.00019 J | 0.00048 J | 0.00047 J | 0.017 J | 0.00012 J | 0.00085 J | 0.0087 J | 0.0038 U | 0.00042 J | 0.0015 J | 0.017 J | 0.002 J | 0.0043 U |
| SVOC | DIBENZOFURAN | MG/KG | 0.013 J | 0.21 U | 0.012 J | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.0096 J | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.0055 J | 0.21 U | 0.22 U |
| SVOC | DIETHYLPHTHALATE | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.0077 J | 0.18 UJ | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | FLUORANTHENE | MG/KG | 0.39 J | 0.21 UJ | 0.88 | 0.24 J | 0.18 U | 1.5 | 0.0055 J | 0.22 U | 0.0051 J | 0.22 U | 0.22 U | 0.18 U | 0.0047 J | 0.21 | 0.21 U | 0.0064 J | 0.059 J | 0.19 U | 0.19 U | 0.0082 J | 0.064 J | 0.024 J | 0.22 U |
| SVOC | FLUORENE | MG/KG | 0.026 J | 0.21 U | 0.026 J | 0.18 U | 0.18 U | 0.015 J | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.017 J | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | HEXACHLOROBENZENE | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | HEXACHLOROETHANE | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.12 J | 0.21 U | 0.33 | 0.084 J | 0.18 U | 1 | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.036 J | 0.21 U | 0.19 U | 0.026 J | 0.19 U | 0.19 U | 0.18 U | 0.037 J | 0.21 U | 0.22 U |
| SVOC | ISOPHORONE | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | NAPHTHALENE | MG/KG | 0.0077 J | 0.21 U | 0.0066 J | 0.18 U | 0.18 U | 0.027 J | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.0045 J | 0.21 U | 0.22 U |
| SVOC | NITROBENZENE | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | 0.38 U | 0.41 U | 0.35 U | 0.35 U | 0.36 U | 0.4 U | 0.38 U | 0.42 U | 0.35 U | 0.43 U | 0.42 U | 0.36 U | 0.35 U | 0.39 U | 0.4 U | 0.36 U | 0.35 U | 0.38 U | 0.36 U | 0.36 U | 0.37 U | 0.4 U | 0.43 U |
| SVOC | PHENANTHRENE | MG/KG | 0.26 | 0.21 U | 0.46 | 0.075 J | 0.18 U | 0.15 J | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.0022 J | 0.18 UJ | 0.22 | 0.21 U | 0.0051 J | 0.035 J | 0.19 U | 0.19 U | 0.18 U | 0.056 J | 0.0089 J | 0.22 U |
| SVOC | PHENOL | MG/KG | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.21 U | 0.2 U | 0.22 U | 0.18 U | 0.22 U | 0.22 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.19 U | 0.18 U | 0.19 U | 0.19 U | 0.18 U | 0.19 U | 0.21 U | 0.22 U |
| SVOC | PYRENE | MG/KG | 0.32 J | 0.21 UJ | 0.72 | 0.18 J | 0.18 U | 1.4 | 0.0076 J | 0.22 U | 0.0066 J | 0.22 U | 0.22 U | 0.18 U | 0.0041 J | 0.23 | 0.21 U | 0.0098 J | 0.074 J | 0.19 U | 0.19 U | 0.0086 J | 0.054 J | 0.02 J | 0.22 U |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0195 | MPSB0195 | MPSB0196 | MPSB0196 | MPSB0197 | MPSB0197 | MPSB0197 | MPSB0197 | MPSB0198 | MPSB0198 | MPSB0198 | MPSB0199 | MPSB0199 | MPSB0199 | MPSB0199 | MPSB0200 | MPSB0200 | MPSB0200 | MPSB0201 | MPSB0201 | MPSB0201 | MPSB0201 | MPSB0201 |
| | | Field Sample ID | MPSB0195-SS-AH-AI-0 | MPSB0195-SS-AT-AU-0 | MPSB0196-SS-AA-AB-0 | MPSB0196-SS-AD-AE-0 | MPSB0197-SS-AA-AE-0 | MPSB0197-SS-AH-AI-0 | MPSB0197-SS-AK-AL-0 | MPSB0197-SS-AL-AM-0 | MPSB0198-SS-AA-AE-0 | MPSB0198-SS-AJ-AK-0 | MPSB0198-SS-AP-AQ-0 | MPSB0199-SS-AA-AE-0 | MPSB0199-SS-AA-AE-1 | MPSB0199-SS-AK-AL-0 | MPSB0199-SS-AL-AM-0 | MPSB0200-SS-AA-AE-0 | MPSB0200-SS-AH-AI-0 | MPSB0200-SS-AM-AN-0 | MPSB0201-SS-AA-AB-0 | MPSB0201-SS-AD-AE-0 | MPSB0201-SS-AJ-AL-0 | MPSB0201-SS-AQ-AR-0 | MPSB0201-SS-AT-AU-0 |
| | | Sample Date | 6/18/2014 | 6/18/2014 | 6/18/2014 | 6/18/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 | 6/19/2014 |
| | | Depth (ft) | 3.5-4 | 9.5-10 | 0-0.5 | 1.5-2 | 0-2 | 3.5-4 | 5-5.5 | 5.5-6 | 0-2 | 4.5-5 | 7.5-8 | 0-2 | 0-2 | 5-5.5 | 5.5-6 | 0-2 | 3.5-4 | 6-6.5 | 0-0.5 | 1.5-2 | 4.5-5.5 | 8-8.5 | 9.5-10 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | 1,1-DICHLOROETHANE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | 1,1-DICHLOROETHENE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | 1,2-DIBROMOETHANE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | 1,2-DICHLOROETHANE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | 0.012 U | 0.011 U | | 0.011 U | 0.01 U | 0.016 U | 0.01 U | 0.011 U | 0.011 U | 0.012 U | 0.012 U | 0.01 U | 0.01 U | 0.0095 U | 0.01 U | 0.011 U | 0.0098 U | 0.0095 U | | 0.011 U | 0.0099 U | 0.0096 U | 0.01 U |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | 0.012 U | 0.011 U | | 0.011 U | 0.01 U | 0.016 U | 0.01 U | 0.011 U | 0.011 U | 0.012 U | 0.012 U | 0.01 U | 0.01 U | 0.0095 U | 0.01 U | 0.011 U | 0.0098 U | 0.0095 U | | 0.011 U | 0.0099 U | 0.0096 U | 0.01 U |
| VOC | ACETONE | MG/KG | 0.048 | 0.012 U | | 0.022 J | 0.019 U | 0.016 U | 0.016 U | 0.023 J | 0.023 J | 0.012 U | 0.037 J | 0.034 J | 0.01 UJ | 0.016 U | 0.025 J | 0.027 J | 0.016 J | 0.0095 U | | 0.018 U | 0.024 J | 0.035 J | 0.034 J |
| VOC | BENZENE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | BROMOCHLOROMETHANE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | BROMODICHLOROMETHANE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | BROMOFORM | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | BROMOMETHANE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | CARBON DISULFIDE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0013 J | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0016 J | 0.0048 U | 0.0052 U |
| VOC | CARBON TETRACHLORIDE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | CHLOROBENZENE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.000016 J | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | CHLOROETHANE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | CHLOROFORM | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | CHLOROMETHANE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | CYCLOHEXANE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | DICHLOROMETHANE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | ETHYLBENZENE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.000094 J | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | ISOPROPYLBENZENE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | METHYL ACETATE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | METHYL ETHYL KETONE | MG/KG | 0.0043 J | 0.011 U | | 0.011 U | 0.01 U | 0.016 U | 0.01 U | 0.0022 J | 0.011 U | 0.012 U | 0.012 U | 0.01 U | 0.01 U | 0.0095 U | 0.01 U | 0.011 U | 0.0098 U | 0.0095 U | | 0.011 U | 0.0018 J | 0.0033 J | 0.002 J |
| VOC | METHYLCYCLOHEXANE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | TETRACHLOROETHENE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.00063 J | 0.00027 J | 0.00018 J | 0.0053 U | 0.0022 J | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | TOLUENE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.005 U | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | XYLENE, O- | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.000057 J | 0.0081 U | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0051 U | 0.0051 U | 0.0048 U | 0.005 U | 0.0053 U | 0.0049 U | 0.0047 U | | 0.0054 U | 0.0049 U | 0.0048 U | 0.0052 U |
| VOC | XYLENES (TOTAL) | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.000307 J | 0.00015 J | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0001 J | 0.000078 J | 0.000051 J | 0.005 U | 0.000051 J | 0.0049 U | 0.0047 U | | 0.0054 U | 0.000092 J | 0.0048 U | 0.00005 J |
| VOC | XYLENES, M & P | MG/KG | 0.006 U | 0.0053 U | | 0.0053 U | 0.00025 J | 0.00015 J | 0.005 U | 0.0053 U | 0.0053 U | 0.0059 U | 0.0062 U | 0.0001 J | 0.000078 J | 0.000051 J | 0.005 U | 0.000051 J | 0.0049 U | 0.0047 U | | 0.0054 U | 0.000092 J | 0.0048 U | 0.00005 J |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0210 | MPSB0210 | MPSB0210 | MPSB0210 | MPSB0210 | MPSB0210 | MPSB0212 | MPSB0212 | MPSB0212 | MPSB0212 | MPSB0212 | MPSB0212 | MPSB0287 | MPSB0287 | MPSB0287 | MPSB0288 | MPSB0288 | MPSB0288 | MPSB0289 | MPSB0289 | MPSB0289 | MPSB0290 | MPSB0290 |
| | | Field Sample ID | MPSB0210-SS-AA-AE-0 | MPSB0210-SS-AE-AI-0 | MPSB0210-SS-AI-AM-0 | MPSB0210-SS-AM-AQ-0 | MPSB0210-SS-AQ-AU-0 | MPSB0210-SS-AQ-AU-1 | MPSB0212-SS-AA-AE-0 | MPSB0212-SS-AE-AI-0 | MPSB0212-SS-AI-AM-0 | MPSB0212-SS-AM-AQ-0 | MPSB0212-SS-AQ-AU-0 | MPSB0212-SS-AQ-AU-1 | MPSB0287-SS-AA-AB-0 | MPSB0287-SS-AD-AE-0 | MPSB0287-SS-AH-AI-0 | MPSB0288-SS-AA-AB-0 | MPSB0288-SS-AD-AE-0 | MPSB0288-SS-AT-AU-0 | MPSB0289-SS-AA-AB-0 | MPSB0289-SS-AD-AE-0 | MPSB0289-SS-AH-AI-0 | MPSB0290-SS-AA-AB-0 | MPSB0290-SS-AD-AE-0 |
| | | Sample Date | 9/24/2015 | 9/24/2015 | 9/24/2015 | 9/24/2015 | 9/24/2015 | 9/24/2015 | 9/25/2015 | 9/25/2015 | 9/25/2015 | 9/25/2015 | 9/25/2015 | 9/25/2015 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/30/2016 | 9/30/2016 |
| | | Depth (ft) | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 8-10 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 9.5-10 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | 2.2 U | 2.3 U | 2.5 U | 2.7 U | 2.7 U | 2.7 U | 2.1 U | 6.4 J | 14 | 2.3 U | 58 | 62 | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | 2.2 U | 2.3 U | 2.5 U | 2.7 U | 2.7 U | 2.7 U | 2.1 U | 3.5 J | 2.7 | 2.3 U | 13 J | 32 J | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | 2.2 U | 2.3 U | 2.5 U | 2.7 U | 2.7 U | 2.7 U | 2.1 U | 4.9 J | 7.6 | 2.3 U | 19 | 20 | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | 2.2 U | 2.3 U | 2.5 U | 2.7 U | 2.7 U | 2.7 U | 2.1 U | 5.7 J | 4.6 | 2.3 U | 12 U | 15 | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | 2.2 U | 2.3 U | 2.5 U | 2.7 U | 2.7 U | 2.7 U | 2.1 U | 9.8 J | 9.6 | 2.3 U | 17 | 17 | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | 2.2 U | 2.3 U | 2.5 U | 2.7 U | 2.7 U | 2.7 U | 2.1 U | 31 J | 15 | 2.3 U | 6.6 | 5.7 | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | 2.2 U | 2.3 U | 2.5 U | 2.7 U | 2.7 U | 2.7 U | 2.1 U | 66 | 37 | 2.3 U | 12 U | 12 | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | 2.2 U | 2.3 U | 2.5 U | 2.7 U | 2.7 U | 2.7 U | 2.1 U | 9.4 | 8.1 | 2.3 U | 200 | 330 | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | 1060 | 1450 | 1460 | 1640 | 2300 | 2890 | 1560 | 1960 | 1540 | 3020 | 3570 | 5400 | | | | | | | | | | | |
| METALS | ANTIMONY | MG/KG | 6.3 UJ | 5.5 UJ | 6.1 UJ | 6.7 UJ | 6 UJ | 7.3 UJ | 0.26 J | 0.22 J | 6 UJ | 6.1 UJ | 6.1 UJ | 6.7 UJ | | | | | | | | | | | |
| METALS | ARSENIC | MG/KG | 2 | 2.7 | 4 | 5.1 | 3.5 | 4.7 | 2.6 | 2.4 | 2.5 | 8.2 | 3.3 J | 5.5 J | | | | | | | | | | | |
| METALS | BARIUM | MG/KG | 9.9 J | 10.5 J | 12.7 J | 8.6 J | 8.9 J | 10.5 J | 32.6 | 18 J | 10.8 J | 13.9 J | 8.9 J | 8.4 J | | | | | | | | | | | |
| METALS | BERYLLIUM | MG/KG | 0.53 U | 0.46 U | 0.51 U | 0.56 U | 0.5 U | 0.61 U | 0.42 U | 0.45 U | 0.5 U | 0.51 U | 0.51 U | 0.56 U | | | | | | | | | | | |
| METALS | CADMIUM | MG/KG | 0.044 J | 0.46 U | 0.044 J | 0.052 J | 0.068 J | 0.06 J | 0.13 J | 0.043 J | 0.043 J | 0.51 U | 0.059 J | 0.073 J | | | | | | | | | | | |
| METALS | CALCIUM | MG/KG | 212 J | 159 J | 290 J | 164 J | 163 J | 198 J | 611 | 292 J | 719 | 227 J | 208 J | 261 J | | | | | | | | | | | |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | 0.45 U | 0.53 | 0.49 U | 0.88 | 0.51 | 0.49 U | 0.89 | 0.43 U | 293 | 0.76 | 0.44 U |
| METALS | CHROMIUM | MG/KG | 3.9 J | 5.8 J | 9.3 J | 7.2 J | 11.6 J | 16.2 J | 6 J | 7.7 J | 11.6 J | 11.6 J | 14 J | 22.2 J | 21.5 | 9.6 | 10.9 | 20.6 | 13.4 | 15.2 | 9.7 | 12.1 | 975 | 7.3 | 2.4 |
| METALS | COBALT | MG/KG | 0.18 J | 0.25 J | 0.25 J | 5.6 U | 5 U | 6.1 U | 2.7 J | 0.66 J | 0.74 J | 0.22 J | 5.1 U | 5.6 U | | | | | | | | | | | |
| METALS | COPPER | MG/KG | 1.4 J | 0.8 J | 2.3 J | 1.1 J | 1.4 J | 2.1 J | 10.7 | 4.8 | 4.3 | 1.9 J | 1.9 J | 3.2 | | | | | | | | | | | |
| METALS | CYANIDE | MG/KG | 0.51 U | 0.56 U | 0.54 U | 0.45 U | 0.61 U | 0.6 U | 0.49 U | 0.49 U | 0.48 U | 0.52 U | 0.53 U | 0.51 U | | | | | | | | | | | |
| METALS | IRON | MG/KG | 1850 | 2570 | 2940 | 3020 | 4480 | 6610 | 4180 | 4980 | 4990 | 7430 | 8340 J | 14400 J | | | | | | | | | | | |
| METALS | LEAD | MG/KG | 12.2 J | 4.1 J | 12.9 J | 3.3 J | 3.4 J | 3.8 J | 57 J | 9.1 J | 13.8 J | 3.4 J | 3.7 J | 3.6 J | | | | | | | | | | | |
| METALS | MAGNESIUM | MG/KG | 58.2 J | 48.7 J | 81.9 J | 62 J | 124 J | 157 J | 353 J | 367 J | 426 J | 112 J | 126 J | 191 J | | | | | | | | | | | |
| METALS | MANGANESE | MG/KG | 5.1 | 8.8 | 13.2 | 14.4 | 13.7 | 16.2 | 17.7 | 13.2 | 18.4 | 8.3 | 9.2 | 10 | | | | | | | | | | | |
| METALS | MERCURY | MG/KG | 0.097 U | 0.1 U | 0.12 U | 0.11 U | 0.034 J | 0.11 U | 0.13 | 0.033 J | 0.041 J | 0.057 J | 0.053 J | 0.055 J | | | | | | | | | | | |
| METALS | NICKEL | MG/KG | 0.55 J | 0.34 J | 0.83 J | 0.21 J | 0.19 J | 4.9 U | 1.8 J | 1.7 J | 1.6 J | 0.63 J | 0.3 J | 0.33 J | | | | | | | | | | | |
| METALS | POTASSIUM | MG/KG | 42.7 J | 89.1 J | 109 J | 169 J | 321 J | 405 J | 120 J | 339 J | 158 J | 206 J | 278 J | 334 J | | | | | | | | | | | |
| METALS | SELENIUM | MG/KG | 3.7 U | 3.2 U | 3.6 U | 3.9 U | 3.5 U | 4.3 U | 3 U | 3.2 U | 3.5 U | 3.6 U | 3.5 U | 0.6 J | | | | | | | | | | | |
| METALS | SILVER | MG/KG | 1.1 U | 0.92 U | 1 U | 1.1 U | 1 U | 1.2 U | 0.85 U | 0.91 U | 1 U | 1 U | 1 U | 1.1 U | | | | | | | | | | | |
| METALS | SODIUM | MG/KG | 529 U | 459 U | 511 U | 562 U | 1010 | 1130 | 424 U | 453 U | 499 U | 512 U | 506 U | 556 U | | | | | | | | | | | |
| METALS | THALLIUM | MG/KG | 2.6 U | 2.3 U | 2.6 U | 2.8 U | 2.5 U | 3.1 U | 2.1 U | 2.3 U | 2.5 U | 2.6 U | 2.5 U | 2.8 U | | | | | | | | | | | |
| METALS | VANADIUM | MG/KG | 5.3 U | 4.6 U | 5.1 U | 5.8 | 10.9 | 15.6 | 5 | 5.6 | 4.7 J | 11 | 14.1 | 21.5 | | | | | | | | | | | |
| METALS | ZINC | MG/KG | 7.8 | 3 J | 7.6 | 2.1 J | 1.9 J | 2.7 J | 36.3 | 14.9 | 15.7 | 15.1 | 4.5 J | 4.3 J | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | 0.036 U | 0.037 U | 0.039 U | 0.041 U | 0.04 U | 0.04 U | 0.035 U | 0.034 U | 0.035 U | 0.039 U | 0.039 U | 0.038 U | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1221 | MG/KG | 0.036 U | 0.037 U | 0.039 U | 0.041 U | 0.04 U | 0.04 U | 0.035 U | 0.034 U | 0.035 U | 0.039 U | 0.039 U | 0.038 U | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1232 | MG/KG | 0.036 U | 0.037 U | 0.039 U | 0.041 U | 0.04 U | 0.04 U | 0.035 U | 0.034 U | 0.035 U | 0.039 U | 0.039 U | 0.038 U | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1242 | MG/KG | 0.036 U | 0.037 U | 0.039 U | 0.041 U | 0.04 U | 0.04 U | 0.035 U | 0.034 U | 0.035 U | 0.039 U | 0.039 U | 0.038 U | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1248 | MG/KG | 0.036 U | 0.037 U | 0.039 U | 0.041 U | 0.04 U | 0.04 U | 0.035 U | 0.034 U | 0.035 U | 0.039 U | 0.039 U | 0.038 U | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1254 | MG/KG | 0.017 J | 0.037 U | 0.0072 J | 0.041 U | 0.04 U | 0.04 U | 0.16 | 0.0069 J | 0.011 J | 0.039 U | 0.039 U | 0.038 U | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1260 | MG/KG | 0.017 J | 0.037 U | 0.0029 J | 0.041 U | 0.04 U | 0.04 U | 0.049 | 0.034 U | 0.035 U | 0.039 U | 0.039 U | 0.038 U | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1262 | MG/KG | 0.036 U | 0.037 U | 0.039 U | 0.041 U | 0.04 U | 0.04 U | 0.035 U | 0.034 U | 0.035 U | 0.039 U | 0.039 U | 0.038 U | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | 0.036 U | 0.037 U | 0.039 U | 0.041 U | 0.04 U | 0.04 U | 0.035 U | 0.034 U | 0.035 U | 0.039 U | 0.039 U | 0.038 U | | | | | | | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0210 | MPSB0210 | MPSB0210 | MPSB0210 | MPSB0210 | MPSB0210 | MPSB0212 | MPSB0212 | MPSB0212 | MPSB0212 | MPSB0212 | MPSB0212 | MPSB0287 | MPSB0287 | MPSB0287 | MPSB0288 | MPSB0288 | MPSB0288 | MPSB0289 | MPSB0289 | MPSB0289 | MPSB0290 | MPSB0290 |
| | | Field Sample ID | MPSB0210-SS-AA-AE-0 | MPSB0210-SS-AE-AI-0 | MPSB0210-SS-AI-AM-0 | MPSB0210-SS-AM-AQ-0 | MPSB0210-SS-AQ-AU-0 | MPSB0210-SS-AQ-AU-1 | MPSB0212-SS-AA-AE-0 | MPSB0212-SS-AE-AI-0 | MPSB0212-SS-AI-AM-0 | MPSB0212-SS-AM-AQ-0 | MPSB0212-SS-AQ-AU-0 | MPSB0212-SS-AQ-AU-1 | MPSB0287-SS-AA-AB-0 | MPSB0287-SS-AD-AE-0 | MPSB0287-SS-AH-AI-0 | MPSB0288-SS-AA-AB-0 | MPSB0288-SS-AD-AE-0 | MPSB0288-SS-AT-AU-0 | MPSB0289-SS-AA-AB-0 | MPSB0289-SS-AD-AE-0 | MPSB0289-SS-AH-AI-0 | MPSB0290-SS-AA-AB-0 | MPSB0290-SS-AD-AE-0 |
| | | Sample Date | 9/24/2015 | 9/24/2015 | 9/24/2015 | 9/24/2015 | 9/24/2015 | 9/24/2015 | 9/25/2015 | 9/25/2015 | 9/25/2015 | 9/25/2015 | 9/25/2015 | 9/25/2015 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/30/2016 | 9/30/2016 |
| | | Depth (ft) | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 8-10 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 9.5-10 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.0081 J | 0.011 J | | | | | | | | | | | |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 0.37 U | 0.37 U | 0.41 U | 0.42 U | 0.41 U | 0.41 U | 0.35 U | 0.35 U | 0.34 U | 0.38 U | 0.39 U | 0.38 U | | | | | | | | | | | |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | 2-CHLOROPHENOL | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.0079 J | 0.18 U | 0.0048 J | 0.19 U | 0.16 J | 0.22 | | | | | | | | | | | |
| SVOC | 2-METHYLPHENOL | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | 2-NITROANILINE | MG/KG | 0.37 U | 0.37 U | 0.41 U | 0.42 U | 0.41 U | 0.41 U | 0.35 U | 0.35 U | 0.34 U | 0.38 U | 0.39 U | 0.38 U | | | | | | | | | | | |
| SVOC | 2-NITROPHENOL | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | 3-NITROANILINE | MG/KG | 0.37 U | 0.37 U | 0.41 U | 0.42 U | 0.41 U | 0.41 U | 0.35 U | 0.35 U | 0.34 U | 0.38 U | 0.39 U | 0.38 U | | | | | | | | | | | |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 0.37 U | 0.37 U | 0.41 U | 0.42 U | 0.41 U | 0.41 U | 0.35 U | 0.35 U | 0.34 U | 0.38 U | 0.39 U | 0.38 U | | | | | | | | | | | |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | 4-CHLOROANILINE | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | 4-METHYLPHENOL | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | 4-NITROANILINE | MG/KG | 0.37 U | 0.37 U | 0.41 U | 0.42 U | 0.41 U | 0.41 U | 0.35 U | 0.35 U | 0.34 U | 0.38 U | 0.39 U | 0.38 U | | | | | | | | | | | |
| SVOC | 4-NITROPHENOL | MG/KG | 0.37 U | 0.37 U | 0.41 U | 0.42 U | 0.41 U | 0.41 U | 0.35 U | 0.35 U | 0.34 U | 0.38 U | 0.39 U | 0.38 U | | | | | | | | | | | |
| SVOC | ACENAPHTHENE | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.0064 J | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.017 J | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | ACETOPHENONE | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | ANTHRACENE | MG/KG | 0.19 U | 0.19 U | 0.009 J | 0.22 U | 0.21 U | 0.21 U | 0.016 J | 0.18 U | 0.01 J | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | ATRAZINE | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | BENZALDEHYDE | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.014 J | 0.0079 J | 0.005 J | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.027 J | 0.19 U | 0.058 J | 0.22 U | 0.21 U | 0.21 U | 0.086 J | 0.0041 J | 0.05 J | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.027 J | 0.19 U | 0.063 J | 0.00088 J | 0.0041 U | 0.0041 U | 0.13 J | 0.0049 J | 0.072 J | 0.19 U | 0.0039 U | 0.0038 U | | | | | | | | | | | |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 0.042 J | 0.19 U | 0.099 J | 0.22 U | 0.21 U | 0.21 U | 0.27 J | 0.012 J | 0.19 J | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.021 J | 0.19 U | 0.056 J | 0.22 U | 0.21 U | 0.21 U | 0.077 J | 0.18 UJ | 0.032 J | 0.19 UJ | 0.2 UJ | 0.2 UJ | | | | | | | | | | | |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.019 J | 0.19 U | 0.045 J | 0.22 U | 0.21 U | 0.21 U | 0.15 J | 0.18 U | 0.11 J | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.5 J | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | CAPROLACTAM | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | CARBAZOLE | MG/KG | 0.19 U | 0.19 U | 0.0074 J | 0.22 U | 0.21 U | 0.21 U | 0.0048 J | 0.18 U | 0.011 J | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | CHRYSENE | MG/KG | 0.036 J | 0.19 U | 0.089 J | 0.22 U | 0.21 U | 0.21 U | 0.12 J | 0.0097 J | 0.14 J | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.19 U | 0.19 U | 0.017 | 0.00031 J | 0.0041 U | 0.0041 U | 0.023 J | 0.00081 J | 0.011 | 0.19 U | 0.0039 U | 0.0038 U | | | | | | | | | | | |
| SVOC | DIBENZOFURAN | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.007 J | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | DIETHYLPHTHALATE | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.019 J | 0.21 U | 0.18 UJ | 0.019 J | 0.18 UJ | 0.19 UJ | 0.2 UJ | 0.2 UJ | | | | | | | | | | | |
| SVOC | FLUORANTHENE | MG/KG | 0.054 J | 0.01 J | 0.14 J | 0.22 U | 0.21 U | 0.21 U | 0.1 J | 0.18 U | 0.25 | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | FLUORENE | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.0047 J | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | HEXACHLOROBENZENE | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | HEXACHLOROETHANE | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.018 J | 0.19 U | 0.049 J | 0.22 U | 0.21 U | 0.21 U | 0.072 J | 0.18 U | 0.029 J | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | ISOPHORONE | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | NAPHTHALENE | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.02 J | 0.18 U | 0.0063 J | 0.19 U | 0.24 | 0.37 | | | | | | | | | | | |
| SVOC | NITROBENZENE | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | PENTACHLOROPHENOL | MG/KG | 0.37 UJ | 0.37 UJ | 0.41 UJ | 0.42 UJ | 0.41 UJ | 0.41 UJ | 0.35 U | 0.35 U | 0.34 U | 0.38 U | 0.39 U | 0.38 U | | | | | | | | | | | |
| SVOC | PHENANTHRENE | MG/KG | 0.023 J | 0.19 U | 0.067 J | 0.22 U | 0.21 U | 0.21 U | 0.048 J | 0.0058 J | 0.072 J | 0.19 U | 0.0048 J | 0.0049 J | | | | | | | | | | | |
| SVOC | PHENOL | MG/KG | 0.19 U | 0.19 U | 0.21 U | 0.22 U | 0.21 U | 0.21 U | 0.18 U | 0.0037 J | 0.18 U | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |
| SVOC | PYRENE | MG/KG | 0.064 J | 0.012 J | 0.18 J | 0.22 U | 0.21 U | 0.21 U | 0.12 J | 0.18 U | 0.17 J | 0.19 U | 0.2 U | 0.2 U | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0210 | MPSB0210 | MPSB0210 | MPSB0210 | MPSB0210 | MPSB0210 | MPSB0212 | MPSB0212 | MPSB0212 | MPSB0212 | MPSB0212 | MPSB0212 | MPSB0287 | MPSB0287 | MPSB0287 | MPSB0288 | MPSB0288 | MPSB0288 | MPSB0289 | MPSB0289 | MPSB0289 | MPSB0290 | MPSB0290 |
| | | Field Sample ID | MPSB0210-SS-AA-AE-0 | MPSB0210-SS-AE-AI-0 | MPSB0210-SS-AI-AM-0 | MPSB0210-SS-AM-AQ-0 | MPSB0210-SS-AQ-AU-0 | MPSB0210-SS-AQ-AU-1 | MPSB0212-SS-AA-AE-0 | MPSB0212-SS-AE-AI-0 | MPSB0212-SS-AI-AM-0 | MPSB0212-SS-AM-AQ-0 | MPSB0212-SS-AQ-AU-0 | MPSB0212-SS-AQ-AU-1 | MPSB0287-SS-AA-AB-0 | MPSB0287-SS-AD-AE-0 | MPSB0287-SS-AH-AI-0 | MPSB0288-SS-AA-AB-0 | MPSB0288-SS-AD-AE-0 | MPSB0288-SS-AT-AU-0 | MPSB0289-SS-AA-AB-0 | MPSB0289-SS-AD-AE-0 | MPSB0289-SS-AH-AI-0 | MPSB0290-SS-AA-AB-0 | MPSB0290-SS-AD-AE-0 |
| | | Sample Date | 9/24/2015 | 9/24/2015 | 9/24/2015 | 9/24/2015 | 9/24/2015 | 9/24/2015 | 9/25/2015 | 9/25/2015 | 9/25/2015 | 9/25/2015 | 9/25/2015 | 9/25/2015 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/30/2016 | 9/30/2016 |
| | | Depth (ft) | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 8-10 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 9.5-10 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | 0.0096 U | 0.01 U | 0.0098 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.009 U | 0.011 U | 0.01 U | 0.57 U | 0.66 U | | | | | | | | | | | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | 0.0096 U | 0.01 U | 0.0098 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.009 U | 0.011 U | 0.01 U | 0.57 U | 0.66 U | | | | | | | | | | | |
| VOC | ACETONE | MG/KG | 0.065 | 0.029 | 0.039 | 0.02 | 0.02 | 0.014 | 0.011 U | 0.009 U | 0.011 U | 0.011 | 0.57 U | 2.4 J | | | | | | | | | | | |
| VOC | BENZENE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | BROMOCHLOROMETHANE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | BROMOFORM | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | BROMOMETHANE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | CARBON DISULFIDE | MG/KG | 0.0033 J | 0.0051 U | 0.014 | 0.0052 U | 0.00015 J | 0.0007 J | 0.0053 U | 0.0045 U | 0.0055 U | 0.00028 J | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | CARBON TETRACHLORIDE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | CHLOROBENZENE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | CHLOROETHANE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | CHLOROFORM | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | CHLOROMETHANE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | CYCLOHEXANE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | ETHYLBENZENE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0018 J | 0.0052 U | 0.00024 J | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | ISOPROPYLBENZENE | MG/KG | 0.0048 U | 0.0015 J | 0.00085 J | 0.0035 J | 0.00067 J | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.0023 J | 0.25 J | 0.16 J | | | | | | | | | | | |
| VOC | METHYL ACETATE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.18 J | | | | | | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | 0.0074 J | 0.01 U | 0.0047 J | 0.0026 J | 0.011 U | 0.002 J | 0.011 U | 0.009 U | 0.011 U | 0.01 U | 0.57 U | 0.66 U | | | | | | | | | | | |
| VOC | METHYLCYCLOHEXANE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.94 J | 0.31 J | | | | | | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | TETRACHLOROETHENE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.00061 J | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | TOLUENE | MG/KG | 0.0048 U | 0.0051 U | 0.00014 J | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0013 J | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0053 U | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.0021 J | 0.0052 U | 0.0053 U | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | XYLENE, O- | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.00058 J | 0.0052 U | 0.00018 J | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.00111 J | 0.0052 U | 0.00095 J | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |
| VOC | XYLENES, M & P | MG/KG | 0.0048 U | 0.0051 U | 0.0049 U | 0.0052 U | 0.00053 J | 0.0052 U | 0.00077 J | 0.0045 U | 0.0055 U | 0.005 U | 0.29 U | 0.33 U | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0290 | MPSB0291 | MPSB0291 | MPSB0291 | MPSB0292 | MPSB0292 | MPSB0292 | MPSB0292 | MPSB0293 | MPSB0293 | MPSB0293 | MPSB0294 | MPSB0294 | MPSB0294 | MPSB0295 | MPSB0295 | MPSB0295 | MPSB0296 | MPSB0296 | MPSB0296 | MPSB0296 | MPSB0297 | MPSB0297 |
| | | Field Sample ID | MPSB0290-SS-AQ-AR-0 | MPSB0291-SS-AA-AB-0 | MPSB0291-SS-AD-AE-0 | MPSB0291-SS-AQ-AR-0 | MPSB0292-SS-AA-AB-0 | MPSB0292-SS-AD-AE-0 | MPSB0292-SS-AL-AM-0 | MPSB0292-SS-AL-AM-1 | MPSB0293-SS-AA-AB-0 | MPSB0293-SS-AD-AE-0 | MPSB0293-SS-AJ-AK-0 | MPSB0294-SS-AA-AB-0 | MPSB0294-SS-AD-AE-0 | MPSB0294-SS-AH-AI-0 | MPSB0295-SS-AA-AB-0 | MPSB0295-SS-AD-AE-0 | MPSB0295-SS-AE-AF-0 | MPSB0296-SS-AA-AB-0 | MPSB0296-SS-AD-AE-0 | MPSB0296-SS-AD-AE-1 | MPSB0296-SS-AQ-AR-0 | MPSB0297-SS-AA-AB-0 | MPSB0297-SS-AD-AE-0 |
| | | Sample Date | 9/30/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/30/2016 | 9/30/2016 | 9/30/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 |
| | | Depth (ft) | 8-8.5 | 0-0.5 | 1.5-2 | 8-8.5 | 0-0.5 | 1.5-2 | 5.5-6 | 5.5-6 | 0-0.5 | 1.5-2 | 4.5-5 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 2-2.5 | 0-0.5 | 1.5-2 | 1.5-2 | 8-8.5 | 0-0.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ANTIMONY | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ARSENIC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | BARIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | BERYLLIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CADMIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CALCIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | 0.51 U | 0.41 U | 0.43 U | 0.53 UJ | 0.43 U | 0.43 U | 0.64 | 0.97 | 0.45 U | 0.44 U | 0.5 | 0.45 U | 1.1 | 0.51 | 0.55 | 0.59 | 0.55 | 0.43 U | 0.72 | 0.6 | 0.59 J | 0.44 U | 0.53 |
| METALS | CHROMIUM | MG/KG | 11.3 | 21 | 23.6 | 20.7 | 22.6 | 13.9 | 49.5 | 62.1 | 8.2 | 5.3 | 5 | 13.2 | 38.4 | 7.7 | 14.8 | 9.6 | 11.2 | 23.4 | 15.2 | 12.1 | 14.6 | 5.4 | 3.8 |
| METALS | COBALT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | COPPER | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CYANIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | IRON | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | LEAD | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | MAGNESIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | MANGANESE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | MERCURY | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | NICKEL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | POTASSIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | SELENIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | SILVER | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | SODIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | THALLIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | VANADIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ZINC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1221 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1232 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1242 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1248 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1254 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1260 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0290 | MPSB0291 | MPSB0291 | MPSB0291 | MPSB0292 | MPSB0292 | MPSB0292 | MPSB0292 | MPSB0293 | MPSB0293 | MPSB0293 | MPSB0294 | MPSB0294 | MPSB0294 | MPSB0295 | MPSB0295 | MPSB0295 | MPSB0296 | MPSB0296 | MPSB0296 | MPSB0296 | MPSB0297 | MPSB0297 |
| | | Field Sample ID | MPSB0290-SS-AQ-AR-0 | MPSB0291-SS-AA-AB-0 | MPSB0291-SS-AD-AE-0 | MPSB0291-SS-AQ-AR-0 | MPSB0292-SS-AA-AB-0 | MPSB0292-SS-AD-AE-0 | MPSB0292-SS-AL-AM-0 | MPSB0292-SS-AL-AM-1 | MPSB0293-SS-AA-AB-0 | MPSB0293-SS-AD-AE-0 | MPSB0293-SS-AJ-AK-0 | MPSB0294-SS-AA-AB-0 | MPSB0294-SS-AD-AE-0 | MPSB0294-SS-AH-AI-0 | MPSB0295-SS-AA-AB-0 | MPSB0295-SS-AD-AE-0 | MPSB0295-SS-AE-AF-0 | MPSB0296-SS-AA-AB-0 | MPSB0296-SS-AD-AE-0 | MPSB0296-SS-AD-AE-1 | MPSB0296-SS-AQ-AR-0 | MPSB0297-SS-AA-AB-0 | MPSB0297-SS-AD-AE-0 |
| | | Sample Date | 9/30/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/30/2016 | 9/30/2016 | 9/30/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 |
| | | Depth (ft) | 8-8.5 | 0-0.5 | 1.5-2 | 8-8.5 | 0-0.5 | 1.5-2 | 5.5-6 | 5.5-6 | 0-0.5 | 1.5-2 | 4.5-5 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 2-2.5 | 0-0.5 | 1.5-2 | 1.5-2 | 8-8.5 | 0-0.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DINITROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-CHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-NITROANILINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-NITROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 3-NITROANILINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLOROANILINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-NITROANILINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-NITROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ACENAPHTHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ACENAPHTHYLENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ACETOPHENONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ANTHRACENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ATRAZINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(A)PYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | CAPROLACTAM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | CARBAZOLE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | CHRYSENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DIBENZOFURAN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DIETHYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DIMETHYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | FLUORANTHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | FLUORENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ISOPHORONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | NITROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | PENTACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | PHENANTHRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | PHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | PYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0290 | MPSB0291 | MPSB0291 | MPSB0291 | MPSB0292 | MPSB0292 | MPSB0292 | MPSB0292 | MPSB0293 | MPSB0293 | MPSB0293 | MPSB0294 | MPSB0294 | MPSB0294 | MPSB0295 | MPSB0295 | MPSB0295 | MPSB0296 | MPSB0296 | MPSB0296 | MPSB0296 | MPSB0297 | MPSB0297 |
| | | Field Sample ID | MPSB0290-SS-AQ-AR-0 | MPSB0291-SS-AA-AB-0 | MPSB0291-SS-AD-AE-0 | MPSB0291-SS-AQ-AR-0 | MPSB0292-SS-AA-AB-0 | MPSB0292-SS-AD-AE-0 | MPSB0292-SS-AL-AM-0 | MPSB0292-SS-AL-AM-1 | MPSB0293-SS-AA-AB-0 | MPSB0293-SS-AD-AE-0 | MPSB0293-SS-AJ-AK-0 | MPSB0294-SS-AA-AB-0 | MPSB0294-SS-AD-AE-0 | MPSB0294-SS-AH-AI-0 | MPSB0295-SS-AA-AB-0 | MPSB0295-SS-AD-AE-0 | MPSB0295-SS-AE-AF-0 | MPSB0296-SS-AA-AB-0 | MPSB0296-SS-AD-AE-0 | MPSB0296-SS-AD-AE-1 | MPSB0296-SS-AQ-AR-0 | MPSB0297-SS-AA-AB-0 | MPSB0297-SS-AD-AE-0 |
| | | Sample Date | 9/30/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/29/2016 | 9/30/2016 | 9/30/2016 | 9/30/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 |
| | | Depth (ft) | 8-8.5 | 0-0.5 | 1.5-2 | 8-8.5 | 0-0.5 | 1.5-2 | 5.5-6 | 5.5-6 | 0-0.5 | 1.5-2 | 4.5-5 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 2-2.5 | 0-0.5 | 1.5-2 | 1.5-2 | 8-8.5 | 0-0.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ACETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOFORM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CARBON DISULFIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CARBON TETRACHLORIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROFORM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ETHYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TETRACHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TOLUENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0297 | MPSB0297 | MPSB0298 | MPSB0298 | MPSB0298 | MPSB0299 | MPSB0299 | MPSB0299 | MPSB0300 | MPSB0300 | MPSB0300 | MPSB0302 | MPSB0302 | MPSB0302 | MPSB0303 | MPSB0303 | MPSB0303 | MW-11 | MW-12 | MW-12 | MW-19 | MW-20 | MW-20 |
| | | Field Sample ID | MPSB0297-SS-AD-AE-1 | MPSB0297-SS-AQ-AR-0 | MPSB0298-SS-AA-AB-0 | MPSB0298-SS-AD-AE-0 | MPSB0298-SS-AL-AM-0 | MPSB0299-SS-AA-AB-0 | MPSB0299-SS-AD-AE-0 | MPSB0299-SS-AL-AM-0 | MPSB0300-SS-AA-AB-0 | MPSB0300-SS-AD-AE-0 | MPSB0300-SS-AE-AF-0 | MPSB0302-SS-AA-AB-0 | MPSB0302-SS-AD-AE-0 | MPSB0302-SS-AL-AM-0 | MPSB0303-SS-AA-AB-0 | MPSB0303-SS-AD-AE-0 | MPSB0303-SS-AL-AM-0 | 011-B001 | 012-B001 | 012-B002 | 019-B001 | 020-B001 | 020-B002 |
| | | Sample Date | 10/3/2016 | 10/3/2016 | 9/30/2016 | 9/30/2016 | 9/30/2016 | 9/30/2016 | 9/30/2016 | 9/30/2016 | 9/30/2016 | 9/30/2016 | 9/30/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/14/1991 | 10/14/1991 | 10/14/1991 | 7/13/1993 | 7/14/1993 | 7/14/1993 |
| | | Depth (ft) | 1.5-2 | 8-8.5 | 0-0.5 | 1.5-2 | 5.5-6 | 0-0.5 | 1.5-2 | 5.5-6 | 0-0.5 | 1.5-2 | 2-2.5 | 0-0.5 | 1.5-2 | 5.5-6 | 0-0.5 | 1.5-2 | 5.5-6 | 0-2 | 0-2 | 6-8 | 4-4.5 | 1.5-2 | 3-3.3 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ANTIMONY | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ARSENIC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | BARIUM | MG/KG | | | | | | | | | | | | | | | | | | 9.1 | 10.1 | 2 | | | | |
| METALS | BERYLLIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CADMIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CALCIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | 0.46 U | 0.43 UJ | 0.42 U | 1.9 | 1.4 | 1.7 | 40.7 | 6.8 | 0.44 U | 0.66 | 0.75 | 1.2 | 0.65 | 0.5 | 0.72 | 2.2 | 2.8 | | | | | | | |
| METALS | CHROMIUM | MG/KG | 4.1 | 9.6 | 25.6 | 56.3 | 76.8 | 43.5 | 494 | 150 | 3.6 | 6.9 | 6.5 | 50.5 | 51.3 | 7.7 | 11.5 | 12.5 | 15.2 | 6 | 7.7 | 4.7 | | | | |
| METALS | COBALT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | COPPER | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CYANIDE | MG/KG | | | | | | | | | | | | | | | | | | 10 U | 10 U | 10 U | | | | |
| METALS | IRON | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | LEAD | MG/KG | | | | | | | | | | | | | | | | | | 2.6 | 4.1 | 1.8 | | | | |
| METALS | MAGNESIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | MANGANESE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | MERCURY | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | NICKEL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | POTASSIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | SELENIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | SILVER | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | SODIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | THALLIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | VANADIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ZINC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1221 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1232 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1242 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1248 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1254 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1260 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0297 | MPSB0297 | MPSB0298 | MPSB0298 | MPSB0298 | MPSB0299 | MPSB0299 | MPSB0299 | MPSB0300 | MPSB0300 | MPSB0300 | MPSB0302 | MPSB0302 | MPSB0302 | MPSB0303 | MPSB0303 | MPSB0303 | MW-11 | MW-12 | MW-12 | MW-19 | MW-20 | MW-20 |
| | | Field Sample ID | MPSB0297-SS-AD-AE-1 | MPSB0297-SS-AQ-AR-0 | MPSB0298-SS-AA-AB-0 | MPSB0298-SS-AD-AE-0 | MPSB0298-SS-AL-AM-0 | MPSB0299-SS-AA-AB-0 | MPSB0299-SS-AD-AE-0 | MPSB0299-SS-AL-AM-0 | MPSB0300-SS-AA-AB-0 | MPSB0300-SS-AD-AE-0 | MPSB0300-SS-AE-AF-0 | MPSB0302-SS-AA-AB-0 | MPSB0302-SS-AD-AE-0 | MPSB0302-SS-AL-AM-0 | MPSB0303-SS-AA-AB-0 | MPSB0303-SS-AD-AE-0 | MPSB0303-SS-AL-AM-0 | 011-B001 | 012-B001 | 012-B002 | 019-B001 | 020-B001 | 020-B002 |
| | | Sample Date | 10/3/2016 | 10/3/2016 | 9/30/2016 | 9/30/2016 | 9/30/2016 | 9/30/2016 | 9/30/2016 | 9/30/2016 | 9/30/2016 | 9/30/2016 | 9/30/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/14/1991 | 10/14/1991 | 10/14/1991 | 7/13/1993 | 7/14/1993 | 7/14/1993 |
| | | Depth (ft) | 1.5-2 | 8-8.5 | 0-0.5 | 1.5-2 | 5.5-6 | 0-0.5 | 1.5-2 | 5.5-6 | 0-0.5 | 1.5-2 | 2-2.5 | 0-0.5 | 1.5-2 | 5.5-6 | 0-0.5 | 1.5-2 | 5.5-6 | 0-2 | 0-2 | 6-8 | 4-4.5 | 1.5-2 | 3-3.3 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | 9.4 U | 1.8 U | 9.7 U | | | | |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | 2,4-DINITROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | 9.4 U | 1.8 U | 9.7 U | | | | |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | 2-CHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | 0.37 | 0.35 U | 8.4 | | | | |
| SVOC | 2-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | 2-NITROANILINE | MG/KG | | | | | | | | | | | | | | | | | | 9.4 U | 1.8 U | 9.7 U | | | | |
| SVOC | 2-NITROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | 3-NITROANILINE | MG/KG | | | | | | | | | | | | | | | | | | 9.4 U | 1.8 U | 9.7 U | | | | |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | 9.4 U | 1.8 U | 9.7 U | | | | |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | 4-CHLOROANILINE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | 4-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | 4-NITROANILINE | MG/KG | | | | | | | | | | | | | | | | | | 9.4 U | 1.8 U | 9.7 U | | | | |
| SVOC | 4-NITROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | 9.4 U | 1.8 U | 9.7 U | | | | |
| SVOC | ACENAPHTHENE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | ACENAPHTHYLENE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | ACETOPHENONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ANTHRACENE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | ATRAZINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | BENZO(A)PYRENE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | 9.4 U | 1.8 U | 9.7 U | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.15 J | 1.9 U | | | | |
| SVOC | CAPROLACTAM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | CARBAZOLE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | CHRYSENE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | DIBENZOFURAN | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | DIETHYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | DIMETHYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.043 J | 1.9 U | | | | |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | FLUORANTHENE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | FLUORENE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | HEXACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | HEXACHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | ISOPHORONE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | 1.6 | 0.35 U | 39 | | | | |
| SVOC | NITROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | PENTACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | 9.4 U | 1.8 U | 9.7 U | | | | |
| SVOC | PHENANTHRENE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | PHENOL | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |
| SVOC | PYRENE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 U | 0.35 U | 1.9 U | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0297 | MPSB0297 | MPSB0298 | MPSB0298 | MPSB0298 | MPSB0299 | MPSB0299 | MPSB0299 | MPSB0300 | MPSB0300 | MPSB0300 | MPSB0302 | MPSB0302 | MPSB0302 | MPSB0303 | MPSB0303 | MPSB0303 | MW-11 | MW-12 | MW-12 | MW-19 | MW-20 | MW-20 |
| | | Field Sample ID | MPSB0297-SS-AD-AE-1 | MPSB0297-SS-AQ-AR-0 | MPSB0298-SS-AA-AB-0 | MPSB0298-SS-AD-AE-0 | MPSB0298-SS-AL-AM-0 | MPSB0299-SS-AA-AB-0 | MPSB0299-SS-AD-AE-0 | MPSB0299-SS-AL-AM-0 | MPSB0300-SS-AA-AB-0 | MPSB0300-SS-AD-AE-0 | MPSB0300-SS-AE-AF-0 | MPSB0302-SS-AA-AB-0 | MPSB0302-SS-AD-AE-0 | MPSB0302-SS-AL-AM-0 | MPSB0303-SS-AA-AB-0 | MPSB0303-SS-AD-AE-0 | MPSB0303-SS-AL-AM-0 | 011-B001 | 012-B001 | 012-B002 | 019-B001 | 020-B001 | 020-B002 |
| | | Sample Date | 10/3/2016 | 10/3/2016 | 9/30/2016 | 9/30/2016 | 9/30/2016 | 9/30/2016 | 9/30/2016 | 9/30/2016 | 9/30/2016 | 9/30/2016 | 9/30/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/14/1991 | 10/14/1991 | 10/14/1991 | 7/13/1993 | 7/14/1993 | 7/14/1993 |
| | | Depth (ft) | 1.5-2 | 8-8.5 | 0-0.5 | 1.5-2 | 5.5-6 | 0-0.5 | 1.5-2 | 5.5-6 | 0-0.5 | 1.5-2 | 2-2.5 | 0-0.5 | 1.5-2 | 5.5-6 | 0-0.5 | 1.5-2 | 5.5-6 | 0-2 | 0-2 | 6-8 | 4-4.5 | 1.5-2 | 3-3.3 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | 0.28 U | 0.006 U | 0.6 U | 0.54 U | 5.8 U | 6.2 U |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | 0.28 U | 0.006 U | 0.6 U | 0.54 U | 5.8 U | 6.2 U |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | 0.28 U | 0.006 U | 0.6 U | 0.54 U | 5.8 U | 6.2 U |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | 0.28 U | 0.006 U | 0.6 U | 0.54 U | 5.8 U | 6.2 U |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | 0.28 U | 0.006 U | 0.6 U | 0.54 U | 5.8 U | 6.2 U |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | 0.28 U | 0.006 U | 0.6 U | 0.54 U | 5.8 U | 6.2 U |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | 0.28 U | 0.006 U | 0.6 U | 0.54 U | 5.8 U | 6.2 U |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | | | | | | | | | | | | | | | | | 0.57 U | 0.011 U | 1.2 U | 0.54 U | 5.8 U | 6.2 U |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | | | | | | | | | | | | | | | | | 0.57 U | 0.011 U | 1.2 U | 0.54 U | 5.8 U | 6.2 U |
| VOC | ACETONE | MG/KG | | | | | | | | | | | | | | | | | | 0.71 B | 0.052 B | 22 B | 0.54 U | 5.8 U | 6.2 U |
| VOC | BENZENE | MG/KG | | | | | | | | | | | | | | | | | | 0.28 U | 0.006 U | 0.6 U | 0.54 U | 5.8 U | 6.2 U |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | 0.28 U | 0.006 U | 0.6 U | 0.54 U | 5.8 U | 6.2 U |
| VOC | BROMOFORM | MG/KG | | | | | | | | | | | | | | | | | | 0.28 U | 0.006 U | 0.6 U | 0.54 U | 5.8 U | 6.2 U |
| VOC | BROMOMETHANE | MG/KG | | | | | | | | | | | | | | | | | | 0.57 U | 0.011 U | 1.2 U | 0.54 U | 5.8 U | 6.2 U |
| VOC | CARBON DISULFIDE | MG/KG | | | | | | | | | | | | | | | | | | 0.28 U | 0.006 U | 0.6 U | 0.54 U | 5.8 U | 6.2 U |
| VOC | CARBON TETRACHLORIDE | MG/KG | | | | | | | | | | | | | | | | | | 0.28 U | 0.006 U | 0.6 U | 0.54 U | 5.8 U | 6.2 U |
| VOC | CHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | 0.28 U | 0.006 U | 0.6 U | 0.54 U | 5.8 U | 6.2 U |
| VOC | CHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | 0.57 U | 0.011 U | 1.2 U | 0.54 U | 5.8 U | 6.2 U |
| VOC | CHLOROFORM | MG/KG | | | | | | | | | | | | | | | | | | 0.28 U | 0.006 U | 0.6 U | 0.54 U | 5.8 U | 6.2 U |
| VOC | CHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | 0.57 U | 0.011 U | 1.2 U | 0.54 U | 5.8 U | 6.2 U |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | | | 0.28 U | 0.006 U | 0.6 U | 0.54 U | 5.8 U | 6.2 U |
| VOC | CYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | 0.28 U | 0.006 U | 0.6 U | 0.54 U | 5.8 U | 6.2 U |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | 1.9 B | 0.004 JB | 3.3 B | 0.54 U | 5.8 U | 6.2 U |
| VOC | ETHYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | 0.28 U | 0.006 U | 19 | 0.54 U | 24 | 6.2 U |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | | | | | | | | | | | | | | | | | | 0.57 U | 0.011 U | 1.2 U | 0.54 U | 5.8 U | 6.2 U |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | | | | | | | | | | | | | | | | | 0.28 U | 0.006 U | 0.6 U | 0.54 U | 5.8 U | 6.2 U |
| VOC | TETRACHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | 0.28 U | 0.006 U | 0.6 U | 0.54 U | 5.8 U | 6.2 U |
| VOC | TOLUENE | MG/KG | | | | | | | | | | | | | | | | | | 0.28 U | 0.006 U | 0.6 U | 0.54 U | 5.8 U | 6.2 U |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | 0.28 U | 0.006 U | 0.6 U | 0.54 U | 5.8 U | 6.2 U |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | | | 0.28 U | 0.006 U | 0.6 U | 0.54 U | 5.8 U | 6.2 U |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | | | | | | | | | | | | | | | | | 0.28 U | 0.006 U | 0.6 U | 0.54 U | 5.8 U | 6.2 U |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | 0.57 U | 0.011 U | 1.2 U | 0.54 U | 5.8 U | 6.2 U |
| VOC | VINYL CHLORIDE | MG/KG | | | | | | | | | | | | | | | | | | 0.57 U | 0.011 U | 1.2 U | 0.54 U | 5.8 U | 6.2 U |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | | | | | | | | | | | | | | | | | | 0.28 U | 0.006 U | 69 | 0.54 U | 4.4 | 6.2 U |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MW-20 | PWSB0018 | PWSB0019 | PWSB0022 | PWSB0023 | PWSB0024 | PWSB0028 | SGW-234 | SGW-236 | SGW-236 | SGW-280 | TB-01 | TB-02 | TB-02 | TB-03 | TB-03 | TB-04 | TB-04 | TB-06 | TB-06 | TB-28 | TB-28 | TB-29 |
| | | Field Sample ID | 020-B101 | PWSB0018-SS-AI-AJ-0 | PWSB0019-SS-AJ-AK-0 | PWSB0022-SS-AF-AG-0 | PWSB0023-SS-AH-AI-0 | PWSB0024-SS-AF-AG-0 | PWSB0028-SS-AG-AI-0 | 234A-B001 | 236-B001 | 236-B002 | 280-B001 | 001-B001 | 002-B001 | 002-B002 | 003-B001 | 003-B002 | 004-B001 | 004-B002 | 006-B001 | 006-B002 | 028-B001 | 028-B002 | 029-B001 |
| | | Sample Date | 7/14/1993 | 2/26/2007 | 2/28/2007 | 5/2/2007 | 4/22/2008 | 4/24/2008 | 5/13/2008 | 7/7/1993 | 7/6/1993 | 7/6/1993 | 7/8/1993 | 10/14/1991 | 10/14/1991 | 10/14/1991 | 10/14/1991 | 10/14/1991 | 10/14/1991 | 10/14/1991 | 10/22/1991 | 10/22/1991 | 7/6/1993 | 7/6/1993 | 7/7/1993 |
| | | Depth (ft) | 0-2 | 4-4.5 | 4.5-5 | 2.5-3 | 3.5-4 | 2.5-3 | 3-4 | 8-8.7 | 1.5-2 | 3.5-4 | 5.7-6.2 | 0-2 | 0-2 | 8-10 | 0-2 | 8-10 | 0-2 | 8-10 | 1-2 | 6-7 | 1.5-2 | 7-7.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | | | | | 2990 | 3670 | 4930 | 1420 | | | 1360 | | | | | | | | | | | | |
| METALS | ANTIMONY | MG/KG | | | | | 0.65 UJ | 0.63 UJ | 0.93 UJ | 6.6 U | | | 7.2 U | | | | | | | | | | | | |
| METALS | ARSENIC | MG/KG | | | | | 4.9 | 19.3 J | 1.1 J | 0.95 | | | 1.7 | | | | | | | | | | | | |
| METALS | BARIUM | MG/KG | | | | | 168 | 358 | 23 J | 10 U | | | 10 U | 69.5 | 16.5 | 5.3 | 7.7 | 2.8 | 6.8 | 2.1 | 29.8 | 7.4 | | | 10 U |
| METALS | BERYLLIUM | MG/KG | | | | | 0.12 J | 0.14 J | 0.33 U | 0.15 U | | | 0.16 U | | | | | | | | | | | | |
| METALS | CADMIUM | MG/KG | | | | | 0.22 J | 0.43 J | 0.31 U | 0.59 U | | | 0.64 U | | | | | | | | | | | | |
| METALS | CALCIUM | MG/KG | | | | | 705 J | 1770 | 536 J | 74.3 | | | 213 | | | | | | | | | | | | |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | | | | | 20.4 | 46.9 | 7.1 | 10 U | | | 12.5 | 8.3 | 8.3 | 5.6 | 6.3 | 6.9 | 3.2 | 5.5 | 7.1 | 22 | | | 10 U |
| METALS | COBALT | MG/KG | | | | | 0.85 U | 1.4 J | 1.2 U | 0.55 U | | | 0.71 | | | | | | | | | | | | |
| METALS | COPPER | MG/KG | | | | | 7.1 J | 33.2 | 1.2 U | 2.7 U | | | 3 U | | | | | | | | | | | | |
| METALS | CYANIDE | MG/KG | | | | | 2.3 | 4.1 | 0.02 U | 2.5 U | | | 2.9 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | | | 2.7 U |
| METALS | IRON | MG/KG | | | | | 5650 | 5420 | 2010 | 3570 | | | 5320 | | | | | | | | | | | | |
| METALS | LEAD | MG/KG | | | | | 153 | 542 | 6.3 | 10 U | | | 10 U | 258 | 38.6 | 2.4 | 2.1 | 2.8 | 1.6 | 2.5 | 78.3 | 4.4 | | | 10 U |
| METALS | MAGNESIUM | MG/KG | | | | | 463 J | 554 J | 99.8 J | 48.8 | | | 132 | | | | | | | | | | | | |
| METALS | MANGANESE | MG/KG | | | | | 18.7 | 55 | 13.6 | 16.3 | | | 10.2 | | | | | | | | | | | | |
| METALS | MERCURY | MG/KG | | | | | 0.06 U | 0.17 | 0.06 U | 0.08 U | | | 0.1 U | | | | | | | | | | | | |
| METALS | NICKEL | MG/KG | | | | | 1.6 J | 3.4 J | 1.1 J | 2.6 U | | | 2.9 U | | | | | | | | | | | | |
| METALS | POTASSIUM | MG/KG | | | | | 473 J | 353 J | 109 U | 297 | | | 288 | | | | | | | | | | | | |
| METALS | SELENIUM | MG/KG | | | | | 1.1 UJ | 1.1 UJ | 1.1 UJ | 0.32 | | | 0.5 | | | | | | | | | | | | |
| METALS | SILVER | MG/KG | | | | | 0.18 U | 0.17 U | 0.19 U | 1.3 | | | 0.81 | | | | | | | | | | | | |
| METALS | SODIUM | MG/KG | | | | | 346 J | 356 J | 119 U | 21.8 | | | 44.6 | | | | | | | | | | | | |
| METALS | THALLIUM | MG/KG | | | | | 1.2 UJ | 1.1 UJ | 1.4 J | 0.34 U | | | 0.24 U | | | | | | | | | | | | |
| METALS | VANADIUM | MG/KG | | | | | 10.6 J | 9.6 J | 7.2 J | 10.6 | | | 7.4 | | | | | | | | | | | | |
| METALS | ZINC | MG/KG | | | | | 56.5 | 171 | 1.3 U | 2.5 | | | 4.4 | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | 0.042 | 0.0052 | 0.0079 U | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | 0.0074 U | 0.0036 U | 0.0079 U | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | 0.0074 U | 0.0036 U | 0.0079 U | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | 0.024 J | 0.0018 U | 0.004 U | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | 0.0038 U | 0.0018 U | 0.004 U | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | 0.023 J | 0.0018 U | 0.004 U | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | | | | | 0.074 U | 0.036 U | 0.079 U | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1221 | MG/KG | | | | | 0.15 U | 0.073 U | 0.16 U | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1232 | MG/KG | | | | | 0.074 U | 0.036 U | 0.079 U | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1242 | MG/KG | | | | | 0.074 U | 0.036 U | 0.079 U | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1248 | MG/KG | | | | | 0.074 U | 0.036 U | 0.079 U | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1254 | MG/KG | | | | | 0.074 U | 0.055 | 0.079 U | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1260 | MG/KG | | | | | 0.083 | 0.036 U | 0.079 U | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | | | | | 0.0038 U | 0.0018 U | 0.004 U | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | 0.0038 U | 0.0018 U | 0.004 U | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | 0.0074 U | 0.0036 U | 0.0079 UJ | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | 0.0038 U | 0.0018 U | 0.004 U | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | 0.0074 U | 0.0036 U | 0.0079 U | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | 0.0074 U | 0.0036 U | 0.0079 U | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | 0.0074 U | 0.0036 U | 0.0079 U | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | 0.0074 U | 0.0036 U | 0.0079 U | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | | | | 0.0074 U | 0.0036 U | 0.0079 UJ | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | 0.0038 U | 0.0018 U | 0.004 U | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | 0.028 | 0.0018 U | 0.004 U | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | 0.0038 U | 0.0018 U | 0.004 U | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | 0.0038 U | 0.0018 U | 0.004 U | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | 0.038 U | 0.018 U | 0.04 U | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | 0.38 U | 0.18 U | 0.4 U | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MW-20 | PWSB0018 | PWSB0019 | PWSB0022 | PWSB0023 | PWSB0024 | PWSB0028 | SGW-234 | SGW-236 | SGW-236 | SGW-280 | TB-01 | TB-02 | TB-02 | TB-03 | TB-03 | TB-04 | TB-04 | TB-06 | TB-06 | TB-28 | TB-28 | TB-29 |
| | | Field Sample ID | 020-B101 | PWSB0018-SS-AI-AJ-0 | PWSB0019-SS-AJ-AK-0 | PWSB0022-SS-AF-AG-0 | PWSB0023-SS-AH-AI-0 | PWSB0024-SS-AF-AG-0 | PWSB0028-SS-AG-AI-0 | 234A-B001 | 236-B001 | 236-B002 | 280-B001 | 001-B001 | 002-B001 | 002-B002 | 003-B001 | 003-B002 | 004-B001 | 004-B002 | 006-B001 | 006-B002 | 028-B001 | 028-B002 | 029-B001 |
| | | Sample Date | 7/14/1993 | 2/26/2007 | 2/28/2007 | 5/2/2007 | 4/22/2008 | 4/24/2008 | 5/13/2008 | 7/7/1993 | 7/6/1993 | 7/6/1993 | 7/8/1993 | 10/14/1991 | 10/14/1991 | 10/14/1991 | 10/14/1991 | 10/14/1991 | 10/14/1991 | 10/14/1991 | 10/22/1991 | 10/22/1991 | 7/6/1993 | 7/6/1993 | 7/7/1993 |
| | | Depth (ft) | 0-2 | 4-4.5 | 4.5-5 | 2.5-3 | 3.5-4 | 2.5-3 | 3-4 | 8-8.7 | 1.5-2 | 3.5-4 | 5.7-6.2 | 0-2 | 0-2 | 8-10 | 0-2 | 8-10 | 0-2 | 8-10 | 1-2 | 6-7 | 1.5-2 | 7-7.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | | | | | 0.89 U | 0.87 U | 19 U | 0.93 U | | | 0.98 U | 1.7 U | 1.8 U | 10 U | 1.8 U | 41 U | 8.6 U | 40 U | 46 U | 1.8 U | | | |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.66 | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | 2,4-DINITROPHENOL | MG/KG | | | | | 0.89 UJ | 0.87 UJ | 19 U | 0.93 U | | | 0.98 U | 1.7 U | 1.8 U | 10 U | 1.8 U | 41 U | 8.6 U | 40 U | 46 U | 1.8 U | | | |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | 2-CHLOROPHENOL | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | | | | | 0.007 J | 0.027 J | 2 J | 0.37 U | | | 0.39 U | 0.35 U | 0.072 J | 7.5 | 0.39 | 15 | 4.5 | 18 | 9.3 U | 0.37 U | | | |
| SVOC | 2-METHYLPHENOL | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | 2-NITROANILINE | MG/KG | | | | | 0.89 U | 0.87 U | 19 U | 0.93 U | | | 0.98 U | 1.7 U | 1.8 U | 10 U | 1.8 U | 41 U | 8.6 U | 40 U | 46 U | 1.8 U | | | |
| SVOC | 2-NITROPHENOL | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.37 U | | | 0.39 U | 0.7 U | 0.72 U | 4.1 U | 0.71 U | 8.2 U | 3.4 U | 16 U | 19 U | 0.73 U | | | |
| SVOC | 3-NITROANILINE | MG/KG | | | | | 0.89 U | 0.87 U | 19 U | 0.93 U | | | 0.98 U | 1.7 U | 1.8 U | 10 U | 1.8 U | 41 U | 8.6 U | 40 U | 46 U | 1.8 U | | | |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | | | | | 0.89 U | 0.87 U | 19 U | 0.93 U | | | 0.98 U | 1.7 U | 1.8 U | 10 U | 1.8 U | 41 U | 8.6 U | 40 U | 46 U | 1.8 U | | | |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | 4-CHLOROANILINE | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | 4-METHYLPHENOL | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | 4-NITROANILINE | MG/KG | | | | | 0.89 U | 0.87 U | 19 U | 0.93 U | | | 0.98 U | 1.7 U | 1.8 U | 10 U | 1.8 U | 41 U | 8.6 U | 40 U | 46 U | 1.8 U | | | |
| SVOC | 4-NITROPHENOL | MG/KG | | | | | 0.89 U | 0.87 U | 19 U | 0.93 U | | | 0.98 U | 1.7 U | 1.8 U | 10 U | 1.8 U | 41 U | 8.6 U | 40 U | 46 U | 1.8 U | | | |
| SVOC | ACENAPHTHENE | MG/KG | | | | | 0.006 J | 0.028 J | 7.9 U | 0.37 U | | | 0.39 U | 0.098 J | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | ACENAPHTHYLENE | MG/KG | | | | | 0.006 J | 0.011 J | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | ACETOPHENONE | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | | | | | | | | | | | | | | | | |
| SVOC | ANTHRACENE | MG/KG | | | | | 0.009 J | 0.029 J | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | ATRAZINE | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | | | | | | | | | | | | | | | | |
| SVOC | BENZALDEHYDE | MG/KG | | | | | 0.37 UJ | 0.36 UJ | 7.9 U | | | | | | | | | | | | | | | | |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | | | | | 0.036 J | 0.15 J | 7.9 U | 0.37 U | | | 0.39 U | 0.53 | 0.055 J | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | BENZO(A)PYRENE | MG/KG | | | | | 0.03 J | 0.12 J | 7.9 U | 0.37 U | | | 0.39 U | 0.46 | 0.038 J | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | | | | | 0.045 J | 0.17 J | 7.9 U | 0.37 U | | | 0.39 U | 0.53 | 0.056 J | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | | | | | 0.37 U | 0.013 J | 7.9 U | 0.37 U | | | 0.39 U | 0.23 J | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | | | | | 0.04 J | 0.18 J | 7.9 U | 0.37 U | | | 0.39 U | 0.42 | 0.038 J | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | 0.37 U | | | 0.39 U | 1.7 U | 1.8 U | 10 U | 1.8 U | 41 U | 8.6 U | 40 U | 46 U | 1.8 U | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.058 J | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.043 J | | | 0.39 U | 0.059 J | 0.069 J | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 2.8 J | 0.72 J | | | |
| SVOC | CAPROLACTAM | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | | | | | | | | | | | | | | | | |
| SVOC | CARBAZOLE | MG/KG | | | | | 0.008 J | 0.011 J | 7.9 U | 0.37 U | | | 0.39 U | 0.18 J | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | CHRYSENE | MG/KG | | | | | 0.042 J | 0.16 J | 7.9 U | 0.37 U | | | 0.39 U | 0.52 | 0.063 J | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | | | | | 0.37 U | 0.018 J | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | DIBENZOFURAN | MG/KG | | | | | 0.008 J | 0.014 J | 7.9 U | 0.37 U | | | 0.39 U | 0.051 J | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | DIETHYLPHTHALATE | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | DIMETHYLPHTHALATE | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.13 J | | | 0.15 J | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | | | | | 0.37 U | 0.36 UJ | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | FLUORANTHENE | MG/KG | | | | | 0.089 J | 0.27 J | 7.9 U | 0.37 U | | | 0.39 U | 1 | 0.12 J | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | FLUORENE | MG/KG | | | | | 0.011 J | 0.028 J | 7.9 U | 0.37 U | | | 0.39 U | 0.085 J | 0.043 J | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | HEXACHLOROBENZENE | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | HEXACHLOROETHANE | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | | | | | 0.011 J | 0.037 J | 7.9 U | 0.37 U | | | 0.39 U | 0.24 J | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | ISOPHORONE | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | NAPHTHALENE | MG/KG | | | | | 0.015 J | 0.038 J | 0.45 J | 0.37 U | | | 0.39 U | 0.055 J | 0.053 J | 25 | 0.35 U | 72 | 8.5 | 92 | 9.3 U | 0.37 U | | | |
| SVOC | NITROBENZENE | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | PENTACHLOROPHENOL | MG/KG | | | | | 0.89 U | 0.87 U | 19 U | 0.93 U | | | 0.39 U | 1.7 U | 1.8 U | 10 U | 1.8 U | 41 U | 8.6 U | 40 U | 46 U | 1.8 U | | | |
| SVOC | PHENANTHRENE | MG/KG | | | | | 0.084 J | 0.15 J | 7.9 U | 0.37 U | | | 0.39 U | 0.7 | 0.14 J | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | PHENOL | MG/KG | | | | | 0.37 U | 0.36 U | 7.9 U | 0.37 U | | | 0.39 U | 0.35 U | 0.36 U | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |
| SVOC | PYRENE | MG/KG | | | | | 0.075 J | 0.27 J | 7.9 U | 0.37 U | | | 0.39 U | 0.81 | 0.1 J | 2.1 U | 0.35 U | 8.2 U | 1.7 U | 8 U | 9.3 U | 0.37 U | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MW-20 | PWSB0018 | PWSB0019 | PWSB0022 | PWSB0023 | PWSB0024 | PWSB0028 | SGW-234 | SGW-236 | SGW-236 | SGW-280 | TB-01 | TB-02 | TB-02 | TB-03 | TB-03 | TB-04 | TB-04 | TB-06 | TB-06 | TB-28 | TB-28 | TB-29 |
| | | Field Sample ID | 020-B101 | PWSB0018-SS-AI-AJ-0 | PWSB0019-SS-AJ-AK-0 | PWSB0022-SS-AF-AG-0 | PWSB0023-SS-AH-AI-0 | PWSB0024-SS-AF-AG-0 | PWSB0028-SS-AG-AI-0 | 234A-B001 | 236-B001 | 236-B002 | 280-B001 | 001-B001 | 002-B001 | 002-B002 | 003-B001 | 003-B002 | 004-B001 | 004-B002 | 006-B001 | 006-B002 | 028-B001 | 028-B002 | 029-B001 |
| | | Sample Date | 7/14/1993 | 2/26/2007 | 2/28/2007 | 5/2/2007 | 4/22/2008 | 4/24/2008 | 5/13/2008 | 7/7/1993 | 7/6/1993 | 7/6/1993 | 7/8/1993 | 10/14/1991 | 10/14/1991 | 10/14/1991 | 10/14/1991 | 10/14/1991 | 10/14/1991 | 10/14/1991 | 10/22/1991 | 10/22/1991 | 7/6/1993 | 7/6/1993 | 7/7/1993 |
| | | Depth (ft) | 0-2 | 4-4.5 | 4.5-5 | 2.5-3 | 3.5-4 | 2.5-3 | 3-4 | 8-8.7 | 1.5-2 | 3.5-4 | 5.7-6.2 | 0-2 | 0-2 | 8-10 | 0-2 | 8-10 | 0-2 | 8-10 | 1-2 | 6-7 | 1.5-2 | 7-7.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | 0.01 U | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | 0.011 U | 0.01 U | 0.01 U | 0.012 U | 0.005 U | 0.27 U | 0.6 U | 0.053 U | 1.2 U | 0.026 U | 1.2 U | 0.006 U | 0.006 U | 0.01 U | 0.01 U | 0.011 U |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | 0.01 U | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | 0.011 U | 0.01 U | 0.01 U | 0.012 U | 0.005 U | 0.27 U | 0.6 U | 0.053 U | 1.2 U | 0.026 U | 1.2 U | 0.05 | 0.006 U | 0.01 U | 0.01 U | 0.011 U |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | 0.01 U | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | 0.003 J | 0.01 U | 0.01 U | 0.007 J | 0.005 U | 0.27 U | 0.6 U | 0.053 U | 1.2 U | 0.026 U | 1.2 U | 0.006 U | 0.006 U | 0.014 | 0.01 U | 0.011 U |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 UJ | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | 0.01 U | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | 0.011 U | 0.01 U | 0.01 U | 0.012 U | 0.005 U | 0.27 U | 0.6 U | 0.053 U | 1.2 U | 0.026 U | 1.2 U | 0.006 U | 0.006 U | 0.01 U | 0.01 U | 0.011 U |
| VOC | 1,1-DICHLOROETHENE | MG/KG | 0.01 U | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | 0.011 U | 0.01 U | 0.01 U | 0.012 U | 0.005 U | 0.27 U | 0.6 U | 0.053 U | 1.2 U | 0.026 U | 1.2 U | 0.006 U | 0.006 U | 0.01 U | 0.01 U | 0.011 U |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | 0.01 U | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | 0.011 U | 0.01 U | 0.01 U | 0.012 U | 0.005 U | 0.27 U | 0.6 U | 0.053 U | 1.2 U | 0.026 U | 1.2 U | 0.006 U | 0.006 U | 0.01 U | 0.01 U | 0.011 U |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | 0.01 U | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | 0.011 U | 0.01 U | 0.01 U | 0.012 U | 0.005 U | 0.27 U | 0.6 U | 0.053 U | 1.2 U | 0.026 U | 1.2 U | 0.006 U | 0.006 U | 0.01 U | 0.01 U | 0.011 U |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | | | | | | | | | | | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | | | | | | | | | | | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | 0.01 U | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 UJ | 0.011 U | 0.01 U | 0.01 U | 0.012 U | 0.01 U | 0.54 U | 1.2 U | 0.11 U | 2.5 U | 0.052 U | 2.4 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.011 U |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | 0.01 U | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | 0.011 U | 0.01 U | 0.01 U | 0.012 U | 0.01 U | 0.54 U | 1.2 U | 0.11 U | 2.5 U | 0.052 U | 2.4 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.011 U |
| VOC | ACETONE | MG/KG | 0.003 J | 4.8 U | 0.011 U | 0.016 | 1 U | 1 U | 21 UJ | 0.034 | 0.01 U | 0.01 U | 0.059 B | 0.009 JB | 0.85 B | 1.6 B | 0.24 B | 2.1 JB | 0.12 B | 2.1 JB | 0.26 B | 0.012 B | 0.01 U | 0.01 U | 0.049 |
| VOC | BENZENE | MG/KG | 0.01 U | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | 0.011 U | 0.01 U | 0.01 U | 0.012 U | 0.005 U | 0.27 U | 0.6 U | 0.053 U | 1.2 U | 0.026 U | 1.2 U | 0.006 U | 0.006 U | 0.01 U | 0.01 U | 0.011 U |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | 0.01 U | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | 0.011 U | 0.01 U | 0.01 U | 0.012 U | 0.005 U | 0.27 U | 0.6 U | 0.053 U | 1.2 U | 0.026 U | 1.2 U | 0.006 U | 0.006 U | 0.01 U | 0.01 U | 0.011 U |
| VOC | BROMOFORM | MG/KG | 0.01 U | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | 0.011 U | 0.01 U | 0.01 U | 0.012 U | 0.005 U | 0.27 U | 0.6 U | 0.053 U | 1.2 U | 0.026 U | 1.2 U | 0.006 U | 0.006 U | 0.01 U | 0.01 U | 0.011 U |
| VOC | BROMOMETHANE | MG/KG | 0.01 U | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | 0.011 U | 0.01 U | 0.01 U | 0.012 U | 0.01 U | 0.54 U | 1.2 U | 0.11 U | 2.5 U | 0.052 U | 2.4 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.011 U |
| VOC | CARBON DISULFIDE | MG/KG | 0.01 U | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 UJ | 0.011 U | 0.01 U | 0.01 U | 0.012 U | 0.005 U | 0.27 U | 0.6 U | 0.053 U | 1.2 U | 0.026 U | 1.2 U | 0.006 U | 0.006 U | 0.01 U | 0.01 U | 0.011 U |
| VOC | CARBON TETRACHLORIDE | MG/KG | 0.01 U | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | 0.011 U | 0.01 U | 0.01 U | 0.012 U | 0.005 U | 0.27 U | 0.6 U | 0.053 U | 1.2 U | 0.026 U | 1.2 U | 0.006 U | 0.006 U | 0.01 U | 0.01 U | 0.011 U |
| VOC | CHLOROBENZENE | MG/KG | 0.01 U | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | 0.011 U | 0.01 U | 0.01 U | 0.012 U | 0.005 U | 0.27 U | 0.6 U | 0.053 U | 1.2 U | 0.026 U | 1.2 U | 0.006 U | 0.006 U | 0.01 U | 0.01 U | 0.011 U |
| VOC | CHLOROETHANE | MG/KG | 0.01 U | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | 0.011 U | 0.01 U | 0.01 U | 0.012 U | 0.01 U | 0.54 U | 1.2 U | 0.11 U | 2.5 U | 0.052 U | 2.4 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.011 U |
| VOC | CHLOROFORM | MG/KG | 0.01 U | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | 0.011 U | 0.01 U | 0.01 U | 0.012 U | 0.005 U | 0.27 U | 0.6 U | 0.053 U | 1.2 U | 0.026 U | 1.2 U | 0.006 U | 0.006 U | 0.01 U | 0.01 U | 0.011 U |
| VOC | CHLOROMETHANE | MG/KG | 0.01 U | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | 0.011 U | 0.01 U | 0.01 U | 0.012 U | 0.01 U | 0.54 U | 1.2 U | 0.11 U | 2.5 U | 0.052 U | 2.4 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.011 U |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | | | | | | | | | | | | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | 0.01 U | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | 0.011 U | 0.01 U | 0.01 U | 0.012 U | 0.005 U | 0.27 U | 0.6 U | 0.053 U | 1.2 U | 0.026 U | 1.2 U | 0.006 U | 0.006 U | 0.01 U | 0.01 U | 0.011 U |
| VOC | CYCLOHEXANE | MG/KG | | 2.8 J | 0.011 U | 0.01 U | 1 U | 1 U | 15 J | | | | | | | | | | | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | 0.01 U | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | 0.011 U | 0.01 U | 0.01 U | 0.012 U | 0.005 U | 0.27 U | 0.6 U | 0.053 U | 1.2 U | 0.026 U | 1.2 U | 0.006 U | 0.006 U | 0.01 U | 0.01 U | 0.011 U |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | | | | | | | | | | | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | 0.01 U | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | 0.011 U | 0.01 U | 0.01 U | 0.031 B | 0.003 JB | 0.22 JB | 0.57 JB | 0.038 JB | 0.69 JB | 0.026 U | 0.66 JB | 0.005 JB | 0.002 JB | 0.01 U | 0.01 U | 0.011 U |
| VOC | ETHYLBENZENE | MG/KG | 0.01 U | 4.8 U | 0.011 U | 0.01 U | 1 U | 0.29 J | 21 U | 0.011 U | 0.76 J | 0.031 J | 0.012 U | 0.005 U | 5.5 | 31 | 0.28 | 18 | 0.14 | 4.8 | 0.006 U | 0.006 U | 0.01 U | 0.01 U | 0.011 U |
| VOC | ISOPROPYLBENZENE | MG/KG | | 2.2 J | 0.011 U | 0.01 U | 1 U | 1 U | 21 | | | | | | | | | | | | | | | | |
| VOC | METHYL ACETATE | MG/KG | | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | | | | | | | | | | | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | 0.01 U | 4.8 U | 0.011 U | 0.004 J | 1 U | 1 U | 21 U | 0.011 U | 0.01 U | 0.01 U | 0.012 U | 0.01 U | 0.54 U | 1.2 U | 0.11 U | 2.5 U | 0.052 U | 2.4 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.011 U |
| VOC | METHYLCYCLOHEXANE | MG/KG | | 57 | 0.011 U | 0.01 U | 1 U | 0.17 J | 230 | | | | | | | | | | | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | | | | | | | | | | | | | | | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | 0.01 U | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | 0.011 U | 0.01 U | 0.01 U | 0.012 U | 0.005 U | 0.27 U | 0.6 U | 0.053 U | 1.2 U | 0.026 U | 1.2 U | 0.006 U | 0.006 U | 0.001 J | 0.01 U | 0.011 U |
| VOC | TETRACHLOROETHENE | MG/KG | 0.01 U | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | 0.011 U | 0.01 U | 0.01 U | 0.012 U | 0.005 U | 0.27 U | 0.6 U | 0.053 U | 1.2 U | 0.026 U | 1.2 U | 0.019 | 0.006 U | 0.01 U | 0.01 U | 0.011 U |
| VOC | TOLUENE | MG/KG | 0.01 U | 4.8 U | 0.011 U | 0.01 U | 1 U | 0.075 J | 21 U | 0.011 U | 0.01 U | 0.01 U | 0.012 U | 0.005 U | 0.27 U | 0.6 U | 0.053 U | 1.2 U | 0.026 U | 1.2 U | 0.006 U | 0.006 U | 0.01 U | 0.01 U | 0.011 U |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | 0.003 J | | | | | | | 0.011 U | 0.01 U | 0.01 U | 0.012 U | 0.005 U | 0.27 U | 0.6 U | 0.053 U | 1.2 U | 0.026 U | 1.2 U | 0.019 | 0.006 U | 0.01 U | 0.01 U | 0.011 U |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | 0.01 U | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | 0.011 U | 0.01 U | 0.01 U | 0.012 U | 0.005 U | 0.27 U | 0.6 U | 0.053 U | 1.2 U | 0.026 U | 1.2 U | 0.006 U | 0.006 U | 0.01 U | 0.01 U | 0.011 U |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | 0.006 J | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | 0.011 U | 0.01 U | 0.01 U | 0.012 U | 0.005 U | 0.55 | 0.6 U | 0.024 J | 1.2 U | 0.026 U | 1.2 U | 0.071 | 0.006 U | 0.008 J | 0.01 U | 0.011 U |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 UJ | | | | | | | | | | | | | | | | |
| VOC | VINYL ACETATE | MG/KG | 0.01 U | | | | | | | 0.011 U | 0.01 U | 0.01 U | 0.012 U | 0.01 U | 0.54 U | 1.2 U | 0.11 U | 2.5 U | 0.052 U | 2.4 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.011 U |
| VOC | VINYL CHLORIDE | MG/KG | 0.01 U | 4.8 U | 0.011 U | 0.01 U | 1 U | 1 U | 21 U | 0.011 U | 0.01 U | 0.01 U | 0.012 U | 0.01 U | 0.54 U | 1.2 U | 0.11 U | 2.5 U | 0.052 U | 2.4 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.011 U |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | 0.01 U | 4.8 U | 0.011 U | 0.01 U | 1 U | 0.19 J | 21 U | 0.011 U | 0.01 U | 0.25 | 0.012 U | 0.005 U | 37 | 150 | 1.6 | 84 | 1.8 | 33 | 0.006 U | 0.006 U | 0.006 J | 0.47 J | 0.011 U |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | TB-29 | TB-32 | TB-37 | TB-38 | TB-38 | TB-54 | TB-55 | TB-58 | TB-58 | TB-58 | TB-59 | TB-60 | TB-60 | TB-61 | TB-62 | TB-63 | TB-63 | TB-64 | TB-64 | TB-65 | TB-65 | TB-65 | TP-64 |
| | | Field Sample ID | 029-B002 | 032-B001 | 037-B001 | 038-B001 | TB-38P | TB-54-01 | TB-55-8.5 | TB-58-09 | TB-90-01 | TB-90-09 | TB-59-01 | TB60-03 | TB-60-04 | TB-61-04 | TB-62-01 | TB-63-5.5 | TB-63P | TB-64-7.5 | TB-64P | TB-65-9.5 | TB-65P | TB-65PD | TP64 |
| | | Sample Date | 7/7/1993 | 7/8/1993 | 7/6/1993 | 7/6/1993 | 1/13/1999 | 9/30/1996 | 9/30/1996 | 9/30/1996 | 9/30/1996 | 9/30/1996 | 10/1/1996 | 10/11/1996 | 10/1/1996 | 10/1/1996 | 10/1/1996 | 10/1/1996 | 1/13/1999 | 9/30/1996 | 1/13/1999 | 10/1/1996 | 1/13/1999 | 1/13/1999 | 9/17/2003 |
| | | Depth (ft) | 5.2-5.7 | 4.5-5 | 4.7-5.5 | 8-9.6 | 8-9.5 | 1.5-2 | 8.5-9 | 9-9.5 | 1.5-2 | 9-9.5 | 1.5-2 | 3-3.5 | 4-4.5 | 4-4.5 | 1.5-2 | 5.5-6 | 5.5-6 | 7.5-8 | 7.5-8 | 9.5-10 | 9.5-10 | 9.5-10 | 0-0 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | | 2840 | 574 | | | 935 | | | 2080 | | | | | | 2050 | | | | | | | | |
| METALS | ANTIMONY | MG/KG | | 5.1 U | | | | 0.35 | | | 0.32 | | | | | | 4.4 | | | | | | | | |
| METALS | ARSENIC | MG/KG | | 9.7 | 0.9 | | | 2 | | | 2.1 | | | | | | 19 | | | | | | | | |
| METALS | BARIUM | MG/KG | 10 U | 10 U | 1.6 | | | 2.2 | | | 4.5 | | | | | | 357 | | | | | | | | |
| METALS | BERYLLIUM | MG/KG | | 0.11 U | | | | 0.05 | | | 0.04 | | | | | | 0.08 | | | | | | | | |
| METALS | CADMIUM | MG/KG | | 0.46 | | | | 0.57 | | | 0.59 | | | | | | 0.14 | | | | | | | | |
| METALS | CALCIUM | MG/KG | | 1110 | 38.9 | | | 255 | | | 117 | | | | | | 1270 | | | | | | | | |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 10 U | 68.9 | 6.8 | | | 4.1 | | | 6 | | | | | | 17.4 | | | | | | | | |
| METALS | COBALT | MG/KG | | 1.6 | 1 U | | | 0.12 U | | | 0.43 | | | | | | 2.9 | | | | | | | | |
| METALS | COPPER | MG/KG | | 23 | | | | 1.1 | | | 1.5 | | | | | | 42 | | | | | | | | |
| METALS | CYANIDE | MG/KG | 2.7 U | 2.8 | | | | | | | | | | | | | | | | | | | | | |
| METALS | IRON | MG/KG | | 8170 | 4470 | | | 3190 | | | 3960 | | | | | | 10300 | | | | | | | | |
| METALS | LEAD | MG/KG | 10 U | 859 | 1.8 | | | 1.5 | | | 2.9 | | | | | | 735 | | | | | | | | |
| METALS | MAGNESIUM | MG/KG | | 284 | 14.4 | | | 41.4 | | | 92.5 | | | | | | 393 | | | | | | | | |
| METALS | MANGANESE | MG/KG | | 30.3 | 3.7 | | | 3.3 | | | 10.7 | | | | | | 63.5 | | | | | | | | |
| METALS | MERCURY | MG/KG | | 0.59 | | | | 0.05 | | | 0.09 | | | | | | 0.29 | | | | | | | | |
| METALS | NICKEL | MG/KG | | 2 U | | | | 0.67 | | | 0.95 | | | | | | 4.3 | | | | | | | | |
| METALS | POTASSIUM | MG/KG | | 376 | 147 | | | 80.5 | | | 206 | | | | | | 191 | | | | | | | | |
| METALS | SELENIUM | MG/KG | | 0.35 | 0.16 | | | 0.3 U | | | 0.29 U | | | | | | 0.58 | | | | | | | | |
| METALS | SILVER | MG/KG | | 1.2 | 0.6 | | | 0.12 U | | | 0.12 U | | | | | | 0.13 U | | | | | | | | |
| METALS | SODIUM | MG/KG | | 24 | 10.1 | | | 27.7 | | | 24.2 | | | | | | 157 | | | | | | | | |
| METALS | THALLIUM | MG/KG | | 0.24 U | | | | 0.32 | | | 0.28 U | | | | | | 0.32 U | | | | | | | | |
| METALS | VANADIUM | MG/KG | | 11.3 | 3.4 | | | 4.1 | | | 5.8 | | | | | | 7.3 | | | | | | | | |
| METALS | ZINC | MG/KG | | 611 | 2.4 | | | 112 | | | 143 | | | | | | 1220 | | | | | | | | |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | | | | | 0.0087 U | | | | | | | | | | | | 0.088 U | | 0.0091 U | | 0.0091 U | 0.0091 U | |
| PEST/PCB | AROCLOR-1221 | MG/KG | | | | | 0.0087 U | | | | | | | | | | | | 0.088 U | | 0.0091 U | | 0.0091 U | 0.0091 U | |
| PEST/PCB | AROCLOR-1232 | MG/KG | | | | | 0.0087 U | | | | | | | | | | | | 0.088 U | | 0.0091 U | | 0.0091 U | 0.0091 U | |
| PEST/PCB | AROCLOR-1242 | MG/KG | | | | | 0.0087 U | | | | | | | | | | | | 0.088 U | | 0.0091 U | | 0.0091 U | 0.0091 U | |
| PEST/PCB | AROCLOR-1248 | MG/KG | | | | | 0.0087 U | | | | | | | | | | | | 0.088 U | | 0.0091 U | | 0.0091 U | 0.0091 U | |
| PEST/PCB | AROCLOR-1254 | MG/KG | | | | | 0.0087 U | | | | | | | | | | | | 0.088 U | | 0.0091 U | | 0.0091 U | 0.0091 U | |
| PEST/PCB | AROCLOR-1260 | MG/KG | | | | | 0.0087 U | | | | | | | | | | | | 0.088 U | | 0.0091 U | | 0.0091 U | 0.0091 U | |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | TB-29 | TB-32 | TB-37 | TB-38 | TB-38 | TB-54 | TB-55 | TB-58 | TB-58 | TB-58 | TB-59 | TB-60 | TB-60 | TB-61 | TB-62 | TB-63 | TB-63 | TB-64 | TB-64 | TB-65 | TB-65 | TB-65 | TP-64 |
| | | Field Sample ID | 029-B002 | 032-B001 | 037-B001 | 038-B001 | TB-38P | TB-54-01 | TB-55-8.5 | TB-58-09 | TB-90-01 | TB-90-09 | TB-59-01 | TB60-03 | TB-60-04 | TB-61-04 | TB-62-01 | TB-63-5.5 | TB-63P | TB-64-7.5 | TB-64P | TB-65-9.5 | TB-65P | TB-65PD | TP64 |
| | | Sample Date | 7/7/1993 | 7/8/1993 | 7/6/1993 | 7/6/1993 | 1/13/1999 | 9/30/1996 | 9/30/1996 | 9/30/1996 | 9/30/1996 | 9/30/1996 | 10/1/1996 | 10/11/1996 | 10/1/1996 | 10/1/1996 | 10/1/1996 | 10/1/1996 | 1/13/1999 | 9/30/1996 | 1/13/1999 | 10/1/1996 | 1/13/1999 | 1/13/1999 | 9/17/2003 |
| | | Depth (ft) | 5.2-5.7 | 4.5-5 | 4.7-5.5 | 8-9.6 | 8-9.5 | 1.5-2 | 8.5-9 | 9-9.5 | 1.5-2 | 9-9.5 | 1.5-2 | 3-3.5 | 4-4.5 | 4-4.5 | 1.5-2 | 5.5-6 | 5.5-6 | 7.5-8 | 7.5-8 | 9.5-10 | 9.5-10 | 9.5-10 | 0-0 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 0.2 U |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 2 U |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 2 U |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 2 U |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 2 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | | 0.94 U | 0.66 U | 0.66 U | | | | | | | | | | | 1.8 U | | | | | | | | 2 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 2 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 2 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 2 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | | 0.94 U | 0.66 U | 0.66 U | | | | | | | | | | | 1.8 U | | | | | | | | 8.1 U |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 0.4 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | | 0.38 U | 0.33 U | 1.2 J | | | | | | | | | | | 0.37 U | | | | | | | | 0.4 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 2 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 2 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | | 0.38 U | 0.33 U | 240 | | | | | | | | | | | 0.37 U | | | | | | | | 4.7 |
| SVOC | 2-METHYLPHENOL | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 2 U |
| SVOC | 2-NITROANILINE | MG/KG | | 0.94 U | 0.66 U | 0.66 U | | | | | | | | | | | 1.8 U | | | | | | | | 4 U |
| SVOC | 2-NITROPHENOL | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 2 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.74 U | | | | | | | | 4 U |
| SVOC | 3-NITROANILINE | MG/KG | | 0.94 U | 0.66 U | 0.66 U | | | | | | | | | | | 1.8 U | | | | | | | | 4 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | | 0.94 U | 0.66 U | 0.66 U | | | | | | | | | | | 1.8 U | | | | | | | | 8.1 U |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 2 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 2 U |
| SVOC | 4-CHLOROANILINE | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 2 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 2 U |
| SVOC | 4-METHYLPHENOL | MG/KG | | 0.38 U | 0.33 U | 0.8 J | | | | | | | | | | | 0.37 U | | | | | | | | 2 U |
| SVOC | 4-NITROANILINE | MG/KG | | 0.94 U | 0.66 U | 0.66 U | | | | | | | | | | | 1.8 U | | | | | | | | 4 U |
| SVOC | 4-NITROPHENOL | MG/KG | | 0.94 U | 0.66 U | 0.66 U | | | | | | | | | | | 1.8 U | | | | | | | | 8.1 U |
| SVOC | ACENAPHTHENE | MG/KG | | 0.38 U | 0.33 U | 24 | | | | | | | | | | | 0.37 U | | | | | | | | 0.17 J |
| SVOC | ACENAPHTHYLENE | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 2 U |
| SVOC | ACETOPHENONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ANTHRACENE | MG/KG | | 0.38 U | 0.33 U | 1.4 J | | | | | | | | | | | 0.37 U | | | | | | | | 2 U |
| SVOC | ATRAZINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | | 0.1 J | 0.33 U | 0.33 U | | | | | | | | | | | 0.079 J | | | | | | | | 0.2 U |
| SVOC | BENZO(A)PYRENE | MG/KG | | 0.33 J | 0.33 U | 0.33 U | | | | | | | | | | | 0.088 J | | | | | | | | 0.2 U |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | | 0.16 J | 0.33 U | 0.33 U | | | | | | | | | | | 0.093 J | | | | | | | | 0.2 U |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | | | 0.33 U | 0.33 U | | | | | | | | | | | 0.063 J | | | | | | | | 2 U |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.082 J | | | | | | | | 0.2 U |
| SVOC | BENZOIC ACID | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 1.8 U | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 2 U |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 2 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 0.2 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | | 0.19 J | 0.33 U | 0.33 U | | | | | | | | | | | 0.049 J | | | | | | | | 2 U |
| SVOC | CAPROLACTAM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | CARBAZOLE | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 2 U |
| SVOC | CHRYSENE | MG/KG | | 0.11 J | 0.33 U | 0.33 U | | | | | | | | | | | 0.1 J | | | | | | | | 2 U |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 0.2 U |
| SVOC | DIBENZOFURAN | MG/KG | | 0.38 U | 0.33 U | 26 | | | | | | | | | | | 0.37 U | | | | | | | | 0.13 J |
| SVOC | DIETHYLPHTHALATE | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 2 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 2 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | | 0.15 J | 0.21 J | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 2 U |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 2 U |
| SVOC | FLUORANTHENE | MG/KG | | 0.042 J | 0.33 U | 0.9 J | | | | | | | | | | | 0.13 J | | | | | | | | 0.064 J |
| SVOC | FLUORENE | MG/KG | | 0.38 U | 0.33 U | 18 | | | | | | | | | | | 0.37 U | | | | | | | | 0.11 J |
| SVOC | HEXACHLOROBENZENE | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 0.2 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 0.4 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 2 U |
| SVOC | HEXACHLOROETHANE | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 0.2 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.058 J | | | | | | | | 0.2 U |
| SVOC | ISOPHORONE | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 2 U |
| SVOC | NAPHTHALENE | MG/KG | | 0.38 U | 0.049 J | 580 | | | | 21 | | 0.34 U | | | | | 0.37 U | 0.36 U | | 0.38 U | | 15 | | | 9.8 |
| SVOC | NITROBENZENE | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 0.2 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 0.2 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | | 0.38 U | 0.33 U | 0.69 J | | | | | | | | | | | 0.37 U | | | | | | | | 2 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | | 0.94 U | 0.66 U | 0.66 U | | | | | | | | | | | 0.31 J | | | | | | | | 8.1 U |
| SVOC | PHENANTHRENE | MG/KG | | 0.38 U | 0.33 U | 8.6 | | | | | | | | | | | 0.1 J | | | | | | | | 0.14 J |
| SVOC | PHENOL | MG/KG | | 0.38 U | 0.33 U | 0.33 U | | | | | | | | | | | 0.37 U | | | | | | | | 2 U |
| SVOC | PYRENE | MG/KG | | 0.085 J | 0.33 U | 0.55 J | | | | | | | | | | | 0.15 J | | | | | | | | 0.07 J |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA | NFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | TB-29 | TB-32 | TB-37 | TB-38 | TB-38 | TB-54 | TB-55 | TB-58 | TB-58 | TB-58 | TB-59 | TB-60 | TB-60 | TB-61 | TB-62 | TB-63 | TB-63 | TB-64 | TB-64 | TB-65 | TB-65 | TB-65 | TP-64 |
| | | Field Sample ID | 029-B002 | 032-B001 | 037-B001 | 038-B001 | TB-38P | TB-54-01 | TB-55-8.5 | TB-58-09 | TB-90-01 | TB-90-09 | TB-59-01 | TB60-03 | TB-60-04 | TB-61-04 | TB-62-01 | TB-63-5.5 | TB-63P | TB-64-7.5 | TB-64P | TB-65-9.5 | TB-65P | TB-65PD | TP64 |
| | | Sample Date | 7/7/1993 | 7/8/1993 | 7/6/1993 | 7/6/1993 | 1/13/1999 | 9/30/1996 | 9/30/1996 | 9/30/1996 | 9/30/1996 | 9/30/1996 | 10/1/1996 | 10/11/1996 | 10/1/1996 | 10/1/1996 | 10/1/1996 | 10/1/1996 | 1/13/1999 | 9/30/1996 | 1/13/1999 | 10/1/1996 | 1/13/1999 | 1/13/1999 | 9/17/2003 |
| | | Depth (ft) | 5.2-5.7 | 4.5-5 | 4.7-5.5 | 8-9.6 | 8-9.5 | 1.5-2 | 8.5-9 | 9-9.5 | 1.5-2 | 9-9.5 | 1.5-2 | 3-3.5 | 4-4.5 | 4-4.5 | 1.5-2 | 5.5-6 | 5.5-6 | 7.5-8 | 7.5-8 | 9.5-10 | 9.5-10 | 9.5-10 | 0-0 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | 0.011 U | 0.012 U | 0.01 U | 0.01 U | | | | 19 U | | 16 U | | 80 U | | | | 0.005 U | | 0.006 U | | 7.5 U | | | 12 U |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | 0.011 U | 0.012 U | 0.01 U | 0.01 U | | | | 19 U | | 16 U | | 80 U | | | | 0.005 U | | 0.006 U | | 7.5 U | | | 2.3 U |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | 0.011 U | 0.005 J | 0.01 U | 0.01 U | | | | 19 U | | 16 U | | 80 U | | | | 0.005 U | | 0.006 U | | 7.5 U | | | 7 U |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | 0.011 U | 0.012 U | 0.01 U | 0.01 U | | | | 19 U | | 16 U | | 80 U | | | | 0.005 U | | 0.006 U | | 7.5 U | | | 12 U |
| VOC | 1,1-DICHLOROETHENE | MG/KG | 0.011 U | 0.012 U | 0.01 U | 0.01 U | | | | 19 U | | 16 U | | 80 U | | | | 0.005 U | | 0.006 U | | 7.5 U | | | 4.7 U |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | 0.011 U | 0.012 U | 0.01 U | 0.01 U | | | | 19 U | | 16 U | | 80 U | | | | 0.005 U | | 0.006 U | | 7.5 U | | | 4.7 U |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | 0.011 U | 0.012 U | 0.01 U | 0.01 U | | | | 19 U | | 16 U | | 80 U | | | | 0.005 U | | 0.006 U | | 7.5 U | | | 2.3 U |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | 0.011 U | 0.012 U | 0.01 U | 0.01 U | | | | 38 U | | 32 U | | 160 U | | | | 0.01 U | | 0.011 U | | 15 U | | | 12 U |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | 0.011 U | 0.012 U | 0.01 U | 0.01 U | | | | 38 U | | 32 U | | 160 U | | | | 0.01 U | | 0.011 U | | 15 U | | | 12 U |
| VOC | ACETONE | MG/KG | 0.066 | 0.07 | 0.04 | 0.01 U | | | | 38 U | | 32 U | | 160 U | | | | 0.008 JB | | 0.011 U | | 15 U | | | 12 U |
| VOC | BENZENE | MG/KG | 0.011 U | 0.012 U | 0.01 U | 0.01 U | | | 6.8 U | 19 U | | 16 U | 0.66 U | 80 U | 3.7 U | 7.3 U | | 0.005 U | | 0.006 U | | 1.9 J | | | 4.2 |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | 0.011 U | 0.012 U | 0.01 U | 0.01 U | | | | 19 U | | 16 U | | 80 U | | | | 0.005 U | | 0.006 U | | 7.5 U | | | 2.3 U |
| VOC | BROMOFORM | MG/KG | 0.011 U | 0.012 U | 0.01 U | 0.01 U | | | | 19 U | | 16 U | | 80 U | | | | 0.005 U | | 0.006 U | | 7.5 U | | | 9.4 U |
| VOC | BROMOMETHANE | MG/KG | 0.011 U | 0.012 U | 0.01 U | 0.01 U | | | | 38 U | | 32 U | | 160 U | | | | 0.01 U | | 0.011 U | | 15 U | | | 12 U |
| VOC | CARBON DISULFIDE | MG/KG | 0.011 U | 0.012 U | 0.01 U | 0.01 U | | | | 19 U | | 16 U | | 80 U | | | | 0.005 U | | 0.006 U | | 7.5 U | | | 12 U |
| VOC | CARBON TETRACHLORIDE | MG/KG | 0.011 U | 0.012 U | 0.01 U | 0.01 U | | | | 19 U | | 16 U | | 80 U | | | | 0.005 U | | 0.006 U | | 7.5 U | | | 4.7 U |
| VOC | CHLOROBENZENE | MG/KG | 0.011 U | 0.012 U | 0.01 U | 0.01 U | | | | 19 U | | 16 U | | 80 U | | | | 0.005 U | | 0.006 U | | 7.5 U | | | 12 U |
| VOC | CHLOROETHANE | MG/KG | 0.011 U | 0.012 U | 0.01 U | 0.01 U | | | | 38 U | | 32 U | | 160 U | | | | 0.01 U | | 0.011 U | | 15 U | | | 12 U |
| VOC | CHLOROFORM | MG/KG | 0.011 U | 0.012 U | 0.01 U | 0.01 U | | | | 19 U | | 16 U | | 80 U | | | | 0.005 U | | 0.006 U | | 7.5 U | | | 12 U |
| VOC | CHLOROMETHANE | MG/KG | 0.011 U | 0.012 U | 0.01 U | 0.01 U | | | | 38 U | | 32 U | | 160 U | | | | 0.01 U | | 0.011 U | | 15 U | | | 12 U |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 12 U |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | 0.011 U | 0.012 U | 0.01 U | 0.01 U | | | | 19 U | | 16 U | | 80 U | | | | 0.005 U | | 0.006 U | | 7.5 U | | | 12 U |
| VOC | CYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | 0.011 U | 0.012 U | 0.01 U | 0.01 U | | | | 19 U | | 16 U | | 80 U | | | | 0.005 U | | 0.006 U | | 7.5 U | | | 12 U |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | 0.011 U | 0.008 J | 0.01 U | 0.01 U | | | | 12 JB | | 14 JB | | 34 JB | | | | 0.006 B | | 0.003 JB | | 2.5 JB | | | 7 U |
| VOC | ETHYLBENZENE | MG/KG | 0.011 U | 0.012 U | 0.01 U | 84 | | | 37 | 11 J | | 8.9 J | 7 | 36 J | 28 | 27 | | 0.005 U | | 0.006 U | | 80 | | | 140 |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | 0.011 U | 0.012 U | 0.01 U | 0.01 U | | | | 38 U | | 32 U | | 160 U | | | | 0.01 U | | 0.011 U | | 15 U | | | 12 U |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | 0.011 U | 0.012 U | 0.01 U | 67 | | | | 19 U | | 16 U | | 80 U | | | | 0.005 U | | 0.006 U | | 7.5 U | | | 12 U |
| VOC | TETRACHLOROETHENE | MG/KG | 0.011 U | 0.012 U | 0.01 U | 0.01 U | | | | 19 U | | 16 U | | 80 U | | | | 0.005 U | | 0.006 U | | 7.5 U | | | 2.3 U |
| VOC | TOLUENE | MG/KG | 0.011 U | 0.012 U | 0.01 U | 44 | | | 6.8 U | 19 U | | 16 U | 0.66 U | 80 U | 3.7 U | 7.3 U | | 0.005 U | | 0.006 U | | 3.7 J | | | 12 U |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | 0.011 U | 0.012 U | 0.01 U | 0.01 U | | | | 19 U | | 16 U | | 80 U | | | | 0.005 U | | 0.006 U | | 7.5 U | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 12 U |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | 0.011 U | 0.012 U | 0.01 U | 0.01 U | | | | 19 U | | 16 U | | 80 U | | | | 0.005 U | | 0.006 U | | 7.5 U | | | 12 U |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | 0.011 U | 0.012 U | 0.01 U | 0.01 U | | | | 19 U | | 16 U | | 80 U | | | | 0.005 U | | 0.006 U | | 7.5 U | | | 2.3 U |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL ACETATE | MG/KG | 0.011 U | 0.012 U | 0.01 U | 0.01 U | | | | 38 U | | 32 U | | | | | | 0.01 U | | 0.011 U | | 15 U | | | |
| VOC | VINYL CHLORIDE | MG/KG | 0.011 U | 0.012 U | 0.01 U | 0.01 U | | | | 38 U | | 32 U | | 160 U | | | | 0.01 U | | 0.011 U | | 15 U | | | 12 U |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | 0.011 U | 0.012 U | 0.01 U | 720 | | | 170 | 56 | | 43 | 24 | 23 J | 56 | 170 | | 0.002 J | | 0.006 U | | 430 | | | 42 |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | A0000025N | A0000025S | A0000025S | A0100025N | FP159 | FP160 | FP161 | HA-1 | HA-2 | HA-3 | HCSB0181 | HCSB0181 | HCSB0182/194 | HCSB0182/194 | HCSB0182/194 | HCSB0183/195 | HCSB0183/195 | HCSB0183/195 | HCSB0184/196 | HCSB0184/196 | HCSB0184/196 | HCSB0185/197 | HCSB0185/197 |
| | | Field Sample ID | A0000025N | A0000025S | A0000025SR | A0100025N | SS-FP159-4-8 | SS-FP160-4-8 | SS-FP161-0-4 | HA-1 | HA-2 | HA-3 | HCSB0181-SS-AA-AE-0 | HCSB0181-SS-AF-AG-0 | HCSB0182-SS-AA-AB-0 | HCSB0182-SS-AC-AD-0 | HCSB0194-SS-AC-AD-0 | HCSB0183-SS-AA-AB-0 | HCSB0183-SS-AC-AD-0 | HCSB0195-SS-AC-AD-0 | HCSB0184-SS-AA-AB-0 | HCSB0184-SS-AC-AD-0 | HCSB0196-SS-AC-AD-0 | HCSB0185-SS-AA-AB-0 | HCSB0185-SS-AC-AD-0 |
| | | Sample Date | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 12/10/2003 | 12/10/2003 | 12/10/2003 | 7/8/1993 | 7/8/1993 | 7/8/1993 | 7/25/2005 | 7/25/2005 | 7/25/2005 | 7/25/2005 | 7/26/2005 | 7/25/2005 | 7/25/2005 | 7/26/2005 | 7/25/2005 | 7/25/2005 | 7/26/2005 | 7/25/2005 | 7/25/2005 |
| | | Depth (ft) | 0-2 | 0-2 | 0-2 | 0-2 | 4-8 | 4-8 | 0-4 | 0-0.5 | 0-0.5 | 0-0.5 | 0-2 | 2.5-3 | 0-0.5 | 1-1.5 | 1-1.5 | 0-0.5 | 1-1.5 | 1-1.5 | 0-0.5 | 1-1.5 | 1-1.5 | 0-0.5 | 1-1.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | | | | | | | | 5460 | | | 1890 | 2290 | 1160 | | 1480 | 1160 | | 1200 | 1610 | | 1830 | 1320 | |
| METALS | ANTIMONY | MG/KG | | | | | | | | 6.1 U | | | 18.5 | 0.53 U | 93.5 J | | 12.1 J | 1090 J | | 76.8 J | 153 J | | 7.5 J | 1.9 J | |
| METALS | ARSENIC | MG/KG | | | | | | | | 4.8 | | | 16.1 | 10.5 | 43.9 | | | 31.5 | | | 35.1 | | | 19.6 | |
| METALS | BARIUM | MG/KG | | | | | | | | 39.5 | 44 | 64.4 | 304 | 209 | 214 | | 56.1 | 254 | | 177 | 323 | | 108 | 74.6 | |
| METALS | BERYLLIUM | MG/KG | | | | | | | | 0.23 | | | 0.31 J | 0.3 J | 0.24 J | | 0.19 J | 0.21 J | | 0.2 J | 0.25 J | | 0.16 J | 0.19 J | |
| METALS | CADMIUM | MG/KG | | | | | | | | 0.54 U | | | 0.18 J | 0.095 J | 0.75 J | | 0.16 J | 0.74 J | | 0.67 J | 0.92 J | | 0.16 J | 0.29 J | |
| METALS | CALCIUM | MG/KG | | | | | | | | 1280 | | | 1910 | 759 J | 2270 | | 1330 | 2380 J | | 2810 | 9940 J | | 1330 | 1760 J | |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | | | | | | | | 14.4 | 10 U | 10 U | 35 | 38.3 | 44.8 | | 15 J | 75.7 J | | 39.8 J | 55.5 J | | 13.5 J | 13.2 J | |
| METALS | COBALT | MG/KG | | | | | | | | 2 | | | 1.2 J | 1.2 J | 1.7 J | | 0.84 J | 1.4 J | | 1.4 J | 2.4 J | | 1.4 J | 1.2 J | |
| METALS | COPPER | MG/KG | | | | | | | | 5.4 | | | 20.3 | 17.5 | 25.3 | | 17.6 | 25.1 J | | 21.4 | 28.5 J | | 12.1 | 14.6 J | |
| METALS | CYANIDE | MG/KG | | | | | | | | 2.5 U | 2.7 U | 2.7 U | 3.5 J | 6.1 J | 8.2 | | 5.3 | 23.5 | | 10.9 | 13.4 | | 0.8 | 6.2 | |
| METALS | IRON | MG/KG | | | | | | | | 8000 | | | 4780 | 9200 | | | 6230 | | | 4630 | | | 2940 | | |
| METALS | LEAD | MG/KG | 170 | 320 | 260 | 88 | | | | 20 | 70 | 118 | 443 | 336 | 553 | | 133 | 567 | | 417 | 597 | | 202 | 169 | |
| METALS | MAGNESIUM | MG/KG | | | | | | | | 685 | | | 606 J | 162 J | 852 J | | 840 J | 1100 J | | 1310 | 5270 | | 302 J | 661 J | |
| METALS | MANGANESE | MG/KG | | | | | | | | 68.2 | | | 34.5 | 104 | 61 | | 22.4 J | 40.6 | | 50.6 J | 61.9 | | 28.5 J | 54.5 | |
| METALS | MERCURY | MG/KG | | | | | | | | 0.09 U | | | 0.79 | 0.16 | 1.3 | | 0.28 | 0.84 | | 0.76 | 2.1 | | 0.22 | 0.43 | |
| METALS | NICKEL | MG/KG | | | | | | | | 2.4 U | | | 2.8 J | 3.1 J | 3.8 J | | 2.5 J | 3.1 J | | 3.4 J | 3.3 J | | 1.8 J | 2.7 J | |
| METALS | POTASSIUM | MG/KG | | | | | | | | 450 | | | 206 J | 176 J | 200 J | | 315 J | 239 J | | 153 J | 356 J | | 143 J | 189 J | |
| METALS | SELENIUM | MG/KG | | | | | | | | 0.22 U | | | 1.1 J | 0.76 J | 1.3 U | | 0.4 U | 1.1 U | | 0.53 J | 0.5 J | | 0.4 U | 1.1 U | |
| METALS | SILVER | MG/KG | | | | | | | | 0.93 | | | 0.093 J | 0.09 J | 0.14 J | | 0.052 U | 0.072 J | | 0.057 U | 0.1 J | | 0.052 U | 2.2 U | |
| METALS | SODIUM | MG/KG | | | | | | | | 53.6 | | | 67.1 J | 76 J | 159 J | | 129 J | 115 J | | 101 J | 387 J | | 58.3 J | 80.4 J | |
| METALS | THALLIUM | MG/KG | | | | | | | | 0.22 U | | | 0.32 U | 0.4 J | 0.44 J | | 0.31 U | 0.46 J | | 0.53 J | 0.47 J | | 0.66 J | 2.2 U | |
| METALS | VANADIUM | MG/KG | | | | | | | | 13.1 | | | 10.3 J | 8.1 J | 7 J | | 5.4 J | 6.7 J | | 7 J | 7.3 J | | 5.6 J | 6 J | |
| METALS | ZINC | MG/KG | | | | | | | | 26.4 | | | 78 | 400 | 413 | | 167 | 255 J | | 326 | 431 J | | 98.6 | 137 J | |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | 0.018 J | 0.0041 UJ | 0.0044 U | | 0.0034 U | 0.0079 J | | 0.0039 J | | | 0.0034 UJ | 0.0036 U | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | 0.017 J | 0.0041 UJ | 0.012 J | | 0.0034 U | | | 0.003 J | 0.0036 U | | 0.0048 J | 0.0036 U | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | 0.021 J | 0.0045 J | 0.0066 | | 0.0036 J | 0.0048 J | | 0.011 | 0.012 J | | 0.0034 J | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | 0.0018 UJ | 0.0021 UJ | | | 0.0018 U | 0.0044 J | | 0.0019 U | 0.0019 U | | 0.0018 UJ | 0.0018 U | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | 0.0018 UJ | 0.0021 UJ | 0.0023 U | | 0.0018 U | 0.0019 U | | 0.0019 U | 0.0019 U | | 0.0018 UJ | 0.0018 U | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | 0.0018 UJ | 0.0021 UJ | 0.0033 | | 0.0029 | 0.0031 | | 0.0046 | 0.0045 J | | 0.00089 J | 0.0018 U | |
| PEST/PCB | AROCLOR-1016 | MG/KG | | | | | | | | | | | 0.036 UJ | 0.041 UJ | 0.044 U | | 0.034 U | 0.037 U | | 0.037 U | 0.036 U | | 0.034 UJ | 0.036 U | |
| PEST/PCB | AROCLOR-1221 | MG/KG | | | | | | | | | | | 0.072 UJ | 0.084 UJ | 0.089 U | | 0.07 U | 0.076 U | | 0.076 U | 0.073 U | | 0.07 UJ | 0.073 U | |
| PEST/PCB | AROCLOR-1232 | MG/KG | | | | | | | | | | | 0.036 UJ | 0.041 UJ | 0.044 U | | 0.034 U | 0.037 U | | 0.037 U | 0.036 U | | 0.034 UJ | 0.036 U | |
| PEST/PCB | AROCLOR-1242 | MG/KG | | | | | | | | | | | 0.036 UJ | 0.041 UJ | 0.044 U | | 0.034 U | 0.037 U | | 0.037 U | 0.036 U | | 0.034 UJ | 0.036 U | |
| PEST/PCB | AROCLOR-1248 | MG/KG | | | | | | | | | | | 0.036 UJ | 0.041 UJ | 0.044 U | | 0.034 U | 0.037 U | | 0.037 U | 0.036 U | | 0.034 UJ | 0.036 U | |
| PEST/PCB | AROCLOR-1254 | MG/KG | | | | | | | | | | | 0.036 UJ | 0.041 UJ | 0.044 U | | 0.062 J | 0.037 U | | 0.037 U | 0.036 U | | 0.034 UJ | 0.036 U | |
| PEST/PCB | AROCLOR-1260 | MG/KG | | | | | | | | | | | 0.11 J | 0.041 UJ | 0.044 U | | 0.058 | 0.037 U | | 0.15 | 0.036 U | | 0.066 J | 0.11 | |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | 0.0018 UJ | 0.0021 UJ | 0.0023 U | | 0.0018 U | 0.0019 U | | 0.0019 U | 0.0019 U | | 0.0018 UJ | 0.0016 J | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | 0.0018 UJ | 0.0021 UJ | 0.0023 U | | 0.0018 U | 0.0019 U | | 0.0019 U | 0.0019 U | | 0.0018 UJ | 0.0018 U | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | 0.0027 J | 0.0041 UJ | 0.0044 U | | 0.0034 U | 0.006 J | | 0.0035 J | 0.0036 U | | 0.0034 UJ | 0.0028 J | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | 0.0018 UJ | 0.0021 UJ | 0.0023 U | | 0.0018 U | 0.0019 U | | 0.0019 U | 0.0019 U | | 0.0018 UJ | 0.0018 U | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | 0.0036 UJ | 0.0041 UJ | 0.008 | | 0.0034 U | 0.0073 J | | 0.0062 J | 0.015 J | | 0.0047 J | 0.0063 J | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | 0.0036 UJ | 0.0041 UJ | 0.0044 U | | 0.0034 U | 0.0037 U | | 0.0037 U | 0.0036 U | | 0.0034 UJ | 0.0036 U | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | 0.0036 UJ | 0.0041 UJ | 0.0044 U | | 0.0025 J | 0.0037 U | | 0.0068 | 0.018 | | 0.0034 UJ | 0.0036 U | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | 0.0036 UJ | 0.0041 UJ | 0.0044 U | | 0.0034 U | 0.0037 U | | 0.0037 U | 0.0036 U | | 0.0034 UJ | 0.0036 U | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | 0.0072 J | 0.0041 UJ | 0.0044 U | | 0.0034 U | 0.006 J | | 0.0045 J | | | 0.0034 UJ | 0.0036 U | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | 0.0018 UJ | 0.0021 UJ | 0.0023 U | | 0.0018 U | 0.0019 U | | 0.0019 U | 0.0019 U | | 0.0018 UJ | 0.0018 U | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | 0.0018 UJ | 0.0021 UJ | | | 0.0035 J | | | 0.0038 J | 0.0046 J | | 0.0018 UJ | 0.0024 J | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | 0.0018 UJ | 0.0021 UJ | 0.0023 U | | 0.0018 U | 0.0019 U | | 0.0019 U | 0.0019 U | | 0.0018 UJ | 0.0018 U | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | 0.0018 UJ | 0.0021 UJ | 0.0023 U | | 0.0018 U | 0.0019 U | | 0.0019 U | 0.0019 U | | 0.0018 UJ | 0.0018 U | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | 0.018 UJ | 0.021 UJ | 0.023 U | | 0.018 U | 0.019 U | | 0.019 U | 0.019 U | | 0.018 UJ | 0.018 U | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | 0.18 UJ | 0.21 UJ | 0.23 U | | 0.18 U | 0.19 U | | 0.19 U | 0.19 U | | 0.18 UJ | 0.18 U | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | A0000025N | A0000025S | A0000025S | A0100025N | FP159 | FP160 | FP161 | HA-1 | HA-2 | HA-3 | HCSB0181 | HCSB0181 | HCSB0182/194 | HCSB0182/194 | HCSB0182/194 | HCSB0183/195 | HCSB0183/195 | HCSB0183/195 | HCSB0184/196 | HCSB0184/196 | HCSB0184/196 | HCSB0185/197 | HCSB0185/197 |
| | | Field Sample ID | A0000025N | A0000025S | A0000025SR | A0100025N | SS-FP159-4-8 | SS-FP160-4-8 | SS-FP161-0-4 | HA-1 | HA-2 | HA-3 | HCSB0181-SS-AA-AE-0 | HCSB0181-SS-AF-AG-0 | HCSB0182-SS-AA-AB-0 | HCSB0182-SS-AC-AD-0 | HCSB0194-SS-AC-AD-0 | HCSB0183-SS-AA-AB-0 | HCSB0183-SS-AC-AD-0 | HCSB0195-SS-AC-AD-0 | HCSB0184-SS-AA-AB-0 | HCSB0184-SS-AC-AD-0 | HCSB0196-SS-AC-AD-0 | HCSB0185-SS-AA-AB-0 | HCSB0185-SS-AC-AD-0 |
| | | Sample Date | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 12/10/2003 | 12/10/2003 | 12/10/2003 | 7/8/1993 | 7/8/1993 | 7/8/1993 | 7/25/2005 | 7/25/2005 | 7/25/2005 | 7/25/2005 | 7/26/2005 | 7/25/2005 | 7/25/2005 | 7/26/2005 | 7/25/2005 | 7/25/2005 | 7/26/2005 | 7/25/2005 | 7/25/2005 |
| | | Depth (ft) | 0-2 | 0-2 | 0-2 | 0-2 | 4-8 | 4-8 | 0-4 | 0-0.5 | 0-0.5 | 0-0.5 | 0-2 | 2.5-3 | 0-0.5 | 1-1.5 | 1-1.5 | 0-0.5 | 1-1.5 | 1-1.5 | 0-0.5 | 1-1.5 | 1-1.5 | 0-0.5 | 1-1.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | | | | | | | | | | | 0.36 UJ | 0.41 UJ | 4.4 UJ | | 1 UJ | 1.1 UJ | | 1.1 UJ | 1.1 UJ | | 0.34 UJ | 1.1 UJ | |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | | | | | | | | | | | 0.9 U | 1 U | 11 U | | 2.6 U | 2.8 U | | 2.8 U | 2.7 U | | 0.86 U | 2.7 U | |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | 2,4-DINITROPHENOL | MG/KG | | | | | | | | | | | 0.9 U | 1 U | 11 U | | 2.6 U | 2.8 U | | 2.8 U | 2.7 U | | 0.86 U | 2.7 U | |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | 2-CHLOROPHENOL | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 0.12 J | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | 2-METHYLPHENOL | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | 2-NITROANILINE | MG/KG | | | | | | | | | | | 0.9 U | 1 U | 11 U | | 2.6 U | 2.8 U | | 2.8 U | 2.7 U | | 0.86 U | 2.7 U | |
| SVOC | 2-NITROPHENOL | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | 3-NITROANILINE | MG/KG | | | | | | | | | | | 0.9 U | 1 U | 11 U | | 2.6 U | 2.8 U | | 2.8 U | 2.7 U | | 0.86 U | 2.7 U | |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | | | | | | | | | | | 0.9 U | 1 U | 11 U | | 2.6 U | 2.8 U | | 2.8 U | 2.7 U | | 0.86 U | 2.7 U | |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | 4-CHLOROANILINE | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | 4-METHYLPHENOL | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | 4-NITROANILINE | MG/KG | | | | | | | | | | | 0.9 U | 1 U | 11 U | | 2.6 U | 2.8 U | | 2.8 U | 2.7 U | | 0.86 U | 2.7 U | |
| SVOC | 4-NITROPHENOL | MG/KG | | | | | | | | | | | 0.9 U | 1 U | 11 U | | 2.6 U | 2.8 U | | 2.8 U | 2.7 U | | 0.86 U | 2.7 U | |
| SVOC | ACENAPHTHENE | MG/KG | | | | | | | | | | | 0.078 J | 0.41 U | 1.1 J | | 0.11 J | 0.72 J | | 1.1 U | 0.37 J | | 0.34 U | 0.48 J | |
| SVOC | ACENAPHTHYLENE | MG/KG | | | | | | | | | | | 0.038 J | 0.41 U | 4.4 U | | 1 U | 0.13 J | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | ACETOPHENONE | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | ANTHRACENE | MG/KG | | | | | | | | | | | 0.53 | 0.046 J | 3 J | | 0.52 J | 1.7 | | 0.32 J | 1.1 | | 0.077 J | 1.5 | |
| SVOC | ATRAZINE | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 UJ | 1.1 U | | 1.1 UJ | 1.1 U | | 0.34 UJ | 1.1 U | |
| SVOC | BENZALDEHYDE | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 UJ | 1.1 U | | 1.1 UJ | 1.1 U | | 0.34 UJ | 1.1 U | |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | | | | | | | | | | | 1.7 | 0.16 J | 17 | | 2.2 | 15 | | 1.7 | 3.9 | | 0.39 | 5.9 | |
| SVOC | BENZO(A)PYRENE | MG/KG | | | | | | | | | | | 1.8 | 0.2 J | 21 | | 2.3 | 16 | | 2 | 4.3 | | 0.44 | 7 | |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | | | | | | | | | | | 2.3 | 0.24 J | 29 | | 3.1 | 25 | | 2.6 | 5.8 | | 0.59 | 9.7 | |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | | | | | | | | | | | 1.4 | 0.15 J | 16 | | 1.8 | 10 | | 1.6 | 3 | | 0.38 | 4.5 | |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | | | | | | | | | | | 0.98 | 0.096 J | 12 | | 0.98 J | 5.8 | | 0.98 J | 2.2 | | 0.22 J | 3.2 | |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | | | | | | | | | | | 0.082 J | 0.41 U | 0.58 J | | 1.5 | 0.34 J | | 0.37 J | 0.43 J | | 0.11 J | 1.1 U | |
| SVOC | CAPROLACTAM | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | CARBAZOLE | MG/KG | | | | | | | | | | | 0.13 J | 0.41 U | 3.4 J | | 0.27 J | 2.2 | | 0.28 J | 0.79 J | | 0.067 J | 1.1 | |
| SVOC | CHRYSENE | MG/KG | | | | | | | | | | | 1.9 | 0.18 J | 25 | | 2.9 | 15 | | 2.4 | 4.8 | | 0.55 | 7.4 | |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | | | | | | | | | | | 0.41 | 0.41 U | 4.4 | | 0.45 J | 3.8 | | 0.39 J | 0.93 J | | 0.098 J | 1.4 | |
| SVOC | DIBENZOFURAN | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 0.55 J | | 1 U | 0.38 J | | 1.1 U | 0.25 J | | 0.34 U | 0.22 J | |
| SVOC | DIETHYLPHTHALATE | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | DIMETHYLPHTHALATE | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.056 J | 1.1 U | |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | FLUORANTHENE | MG/KG | | | | | | | | | | | 4.4 | 0.36 J | 54 | | 4.8 | 38 | | 3.6 | 14 | | 0.97 | 17 | |
| SVOC | FLUORENE | MG/KG | | | | | | | | | | | 0.11 J | 0.41 U | 1.4 J | | 0.15 J | 0.84 J | | 0.11 J | 0.38 J | | 0.34 U | 0.56 J | |
| SVOC | HEXACHLOROBENZENE | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | HEXACHLOROETHANE | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | | | | | | | | | | | 1.4 | 0.15 J | 17 | | 1.7 | 11 | | 1.5 | 3.3 | | 0.34 | 5 | |
| SVOC | ISOPHORONE | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | NAPHTHALENE | MG/KG | | | | | | | | | | | 0.053 J | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 0.15 J | | 0.34 U | 1.1 U | |
| SVOC | NITROBENZENE | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | PENTACHLOROPHENOL | MG/KG | | | | | | | | | | | 0.9 U | 1 U | 11 U | | 2.6 UJ | 2.8 U | | 2.8 UJ | 2.7 U | | 0.86 UJ | 2.7 U | |
| SVOC | PHENANTHRENE | MG/KG | | | | | | | | | | | 2 | 0.14 J | 26 | | 2.7 | 21 | | 2.1 | 6.2 | | 0.49 | 11 | |
| SVOC | PHENOL | MG/KG | | | | | | | | | | | 0.36 U | 0.41 U | 4.4 U | | 1 U | 1.1 U | | 1.1 U | 1.1 U | | 0.34 U | 1.1 U | |
| SVOC | PYRENE | MG/KG | | | | | | | | | | | 3.5 | 0.22 J | 33 | | 4.3 | 29 J | | 3.5 | 6.3 | | 0.76 | 15 | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | A0000025N | A0000025S | A0000025S | A0100025N | FP159 | FP160 | FP161 | HA-1 | HA-2 | HA-3 | HCSB0181 | HCSB0181 | HCSB0182/194 | HCSB0182/194 | HCSB0182/194 | HCSB0183/195 | HCSB0183/195 | HCSB0183/195 | HCSB0184/196 | HCSB0184/196 | HCSB0184/196 | HCSB0185/197 | HCSB0185/197 |
| | | Field Sample ID | A0000025N | A0000025S | A0000025SR | A0100025N | SS-FP159-4-8 | SS-FP160-4-8 | SS-FP161-0-4 | HA-1 | HA-2 | HA-3 | HCSB0181-SS-AA-AE-0 | HCSB0181-SS-AF-AG-0 | HCSB0182-SS-AA-AB-0 | HCSB0182-SS-AC-AD-0 | HCSB0194-SS-AC-AD-0 | HCSB0183-SS-AA-AB-0 | HCSB0183-SS-AC-AD-0 | HCSB0195-SS-AC-AD-0 | HCSB0184-SS-AA-AB-0 | HCSB0184-SS-AC-AD-0 | HCSB0196-SS-AC-AD-0 | HCSB0185-SS-AA-AB-0 | HCSB0185-SS-AC-AD-0 |
| | | Sample Date | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 12/10/2003 | 12/10/2003 | 12/10/2003 | 7/8/1993 | 7/8/1993 | 7/8/1993 | 7/25/2005 | 7/25/2005 | 7/25/2005 | 7/25/2005 | 7/26/2005 | 7/25/2005 | 7/25/2005 | 7/26/2005 | 7/25/2005 | 7/25/2005 | 7/26/2005 | 7/25/2005 | 7/25/2005 |
| | | Depth (ft) | 0-2 | 0-2 | 0-2 | 0-2 | 4-8 | 4-8 | 0-4 | 0-0.5 | 0-0.5 | 0-0.5 | 0-2 | 2.5-3 | 0-0.5 | 1-1.5 | 1-1.5 | 0-0.5 | 1-1.5 | 1-1.5 | 0-0.5 | 1-1.5 | 1-1.5 | 0-0.5 | 1-1.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 UJ | 0.011 U | | 0.01 UJ | | | 0.015 UJ | | | 0.01 UJ | | | 0.01 UJ |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | ACETONE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.022 | 0.017 | | 0.019 | | | 0.03 | | | 0.014 | | | 0.01 U |
| VOC | BENZENE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | BROMOFORM | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 UJ | 0.011 U | | 0.01 UJ | | | 0.015 UJ | | | 0.01 UJ | | | 0.01 UJ |
| VOC | BROMOMETHANE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | CARBON DISULFIDE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | CARBON TETRACHLORIDE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | CHLOROBENZENE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | CHLOROETHANE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | CHLOROFORM | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | CHLOROMETHANE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | CYCLOHEXANE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.0012 J | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 UJ | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | DICHLOROMETHANE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | ETHYLBENZENE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | METHYL ACETATE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | METHYL ETHYL KETONE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.0073 J | 0.005 J | | 0.0022 J | | | 0.0085 J | | | 0.003 J | | | 0.01 U |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.012 | 0.0085 J | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | TETRACHLOROETHENE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | TOLUENE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.0013 J | 0.011 U | | 0.0013 J | | | 0.0023 J | | | 0.0012 J | | | 0.0015 J |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | | | | | 1.4 U | 1.3 U | 1.4 U | | | | 0.011 U | 0.011 U | | 0.01 U | | | 0.015 U | | | 0.01 U | | | 0.01 U |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | HCSB0185/197 | HCSB0198 | HCSB0198 | HCSB0292 | HCSB0292 | HCSB0292 | HCSB0293 | HCSB0293 | HCSB0293 | HCSB0294 | HCSB0294 | HCSB0295 | HCSB0295 | HCSB0297 | HCSB0297 | HCSB0297 | HCSB0297 | HCSB0300 | HCSB0300 | HCSB0301 | HCSB0301 | HCSB0306 | HCSB0306 |
| | | Field Sample ID | HCSB0197-SS-AC-AD-0 | HCSB0198-SS-AA-AE-0 | HCSB0198-SS-AF-AG-0 | HCSB0292-SS-AA-AB-0 | HCSB0292-SS-AA-AB-1 | HCSB0292-SS-AE-AF-0 | HCSB0293-SS-AA-AB-0 | HCSB0293-SS-AE-AF-0 | HCSB0293-SS-AM-AN-0 | HCSB0294-SS-AA-AB-0 | HCSB0294-SS-AI-AJ-0 | HCSB0295-SS-AA-AB-0 | HCSB0295-SS-AQ-AR-0 | HCSB0297-SS-AA-AB-0 | HCSB0297-SS-AE-AF-0 | HCSB0297-SS-AE-AF-1 | HCSB0297-SS-AQ-AR-0 | HCSB0300-SS-AA-AB-0 | HCSB0300-SS-AE-AF-0 | HCSB0301-SS-AA-AB-0 | HCSB0301-SS-AE-AF-0 | HCSB0306-SS-AA-AB-0 | HCSB0306-SS-AE-AF-0 |
| | | Sample Date | 7/26/2005 | 7/26/2005 | 7/26/2005 | 8/7/2006 | 8/7/2006 | 8/7/2006 | 8/7/2006 | 8/7/2006 | 8/8/2006 | 8/7/2006 | 8/7/2006 | 8/8/2006 | 8/8/2006 | 8/8/2006 | 8/9/2006 | 8/9/2006 | 7/30/2007 | 8/10/2006 | 8/10/2006 | 8/10/2006 | 8/10/2006 | 8/14/2006 | 8/14/2006 |
| | | Depth (ft) | 1-1.5 | 0-2 | 2.5-3 | 0-0.5 | 0-0.5 | 2-2.5 | 0-0.5 | 2-2.5 | 6-6.5 | 0-0.5 | 4-4.5 | 0-0.5 | 8-8.5 | 0-0.5 | 2-2.5 | 2-2.5 | 8-8.5 | 0-0.5 | 2-2.5 | 0-0.5 | 2-2.5 | 0-0.5 | 2-2.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | 1670 | 1960 | 1340 | 2860 | 2410 | 1520 | 1930 | 4400 | 477 | 4410 | 1610 | 1900 | 3280 | 3080 | 1350 | 1060 | 1640 | 1360 | 1640 | 2090 | 1870 | 1320 | 1640 |
| METALS | ANTIMONY | MG/KG | 0.47 UJ | 7.9 J | 2.1 J | 5.8 J | 7.6 J | 1.2 U | 6.3 J | 2.4 J | 0.73 U | 1.3 U | 1.4 U | 0.89 J | 0.7 U | 27.9 | 1.6 J | 1.4 J | 6.1 J | 1.2 U | 1.2 U | 2 J | 1.3 U | 0.75 J | 1.8 J |
| METALS | ARSENIC | MG/KG | | | | 12.5 | 12 | 1.5 J | 8.6 | 130 | 5.2 J | 7.2 | 1.7 J | 16.4 | 3.5 J | 142 | 11.4 | 10.9 | 41.8 | | | | | 8.6 | 5.7 J |
| METALS | BARIUM | MG/KG | 99.2 | 1150 | 293 | 226 | 221 | 17.7 J | 122 | 504 | 39 | 44.7 | 100 | 557 | 13.9 J | 314 | 131 | 72.2 | 241 | 507 | 58 | 675 | 4.7 J | 415 | 145 |
| METALS | BERYLLIUM | MG/KG | 0.15 J | 0.29 J | 0.24 J | 0.17 J | 0.16 J | 0.07 J | 0.06 J | 1 | 0.09 J | 0.29 J | 0.05 U | 0.09 J | 0.06 J | 0.16 J | 0.12 J | 0.1 J | 0.11 J | 0.05 U | 0.05 U | 0.07 J | 0.05 U | 0.02 U | 0.02 U |
| METALS | CADMIUM | MG/KG | 0.25 J | 0.074 J | 2.2 | 0.09 J | 0.06 U | 0.06 U | 0.06 U | 0.3 J | 0.61 J | 0.06 U | 0.07 U | 0.37 J | 0.1 J | 0.9 J | 0.41 J | 0.28 J | 0.46 J | 0.2 J | 0.06 U | 0.12 J | 0.07 U | 0.07 UJ | 0.07 UJ |
| METALS | CALCIUM | MG/KG | 515 J | 832 J | 629 J | 836 | 709 J | 180 J | 557 J | 1720 | 491 J | 2130 | 263 J | 11100 J | 203 J | 4750 J | 1290 J | 1300 J | 1480 | 678 J | 368 J | 959 | 140 J | 1510 | 3490 |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 12.2 J | 82.7 J | 29.8 J | 24.5 J | 24.5 J | 4.7 J | 14.7 J | 103 J | 5 | 14.6 J | 4.8 J | 16.2 | 9.5 | 42.2 | 13.1 J | 13 J | 29.8 | 23.8 J | 13.7 J | 59.4 J | 6 J | 14.6 | 16.4 |
| METALS | COBALT | MG/KG | 1.4 J | 0.59 J | 2.8 J | 2.6 J | 2.1 J | 0.43 U | 0.42 U | 3.4 J | 2.5 J | 1.6 J | 0.51 U | 1.8 J | 1.3 J | 3.9 J | 1.9 J | 1.2 J | 2.1 J | 1.1 J | 1.7 J | 2.2 J | 0.46 U | 1.3 J | 3 J |
| METALS | COPPER | MG/KG | 12.8 | 43.7 | 19.4 | 21.4 J | 19.9 J | 2.2 J | 10.6 J | 76.3 J | 10.5 | 11.6 J | 1 J | 25.6 | 7 | 41.9 | 15.8 | 12.6 | 33.6 | 13.5 J | 18.3 J | 22.3 J | 3.3 J | 19.5 | 55.2 |
| METALS | CYANIDE | MG/KG | 6 | 4.1 | 5.1 | 1.4 | 1.2 | 0.49 U | 1.1 | 57.4 | 1.7 | 0.48 U | 0.59 U | 4.2 | 0.55 U | 18.9 | 1 | 1 | 7.4 | 2.7 | 0.75 | 7.5 | 0.5 U | 3.9 | 1.9 |
| METALS | IRON | MG/KG | 3430 | 5040 | 8880 | 6540 | 5580 | 2400 | 3700 | 6480 | 638 | 8050 | 2370 | 5400 | 4990 | 19700 | 4760 | 3840 | 6300 | 2880 | 2760 | 4440 | 4750 | 3550 | 5900 |
| METALS | LEAD | MG/KG | 203 | 1640 | 440 | 366 | 359 | 21.2 | 152 | 924 | 35.6 | 82.8 | 20.1 | 205 | 38.3 | 395 | 237 | 166 | 338 | 207 | 74.8 | 422 | 3.7 | 193 | 186 |
| METALS | MAGNESIUM | MG/KG | 186 J | 405 J | 139 J | 622 J | 360 J | 151 J | 87.4 J | 414 J | 43.2 J | 1220 | 65.4 J | 1000 | 58.2 J | 1780 | 804 J | 618 J | 638 J | 124 J | 97.5 J | 274 J | 42.4 J | 118 J | 923 J |
| METALS | MANGANESE | MG/KG | 16.7 J | 82.9 J | 173 J | 46 | 36.1 | 16.4 | 7.2 | 16.5 | 8 | 83.2 | 5.1 | 66.5 | 8.8 | 410 | | | 24.7 | 18 J | 8.6 J | 38.2 J | 5.2 J | 21.9 | 25.2 |
| METALS | MERCURY | MG/KG | 0.17 | 0.44 | 0.19 | 0.42 | 0.44 | 0.043 U | 0.36 | 0.18 | 0.052 U | 0.054 J | 0.052 U | 0.96 | 0.041 U | 0.5 | 0.15 | 0.12 J | 0.65 J | 0.52 | 0.15 | 0.95 | 0.042 U | 1.3 | |
| METALS | NICKEL | MG/KG | 1.4 J | 2.5 J | 3.6 J | 2.9 J | 2.3 J | 0.77 J | 0.76 J | 11.5 | 5.5 J | 5 J | 0.49 J | 4.3 J | 2.4 J | 7.8 J | 2.5 J | 1.8 J | 3.9 J | 1.6 J | 1.2 J | 2.7 J | 0.39 U | 2 J | 4.5 J |
| METALS | POTASSIUM | MG/KG | 125 J | 194 J | 147 J | 234 J | 209 J | 95.8 J | 68.8 U | 277 J | 40.1 U | 367 J | 84.1 U | 186 J | 122 J | 276 J | 209 J | 117 J | 173 J | 133 J | 86.2 J | 174 J | 190 J | 75 J | 99 J |
| METALS | SELENIUM | MG/KG | 0.45 J | 0.73 J | 1.1 J | 0.74 U | 0.73 UJ | 0.74 U | 0.71 U | 1 | 0.73 U | 0.78 U | 0.87 U | 0.66 U | 0.7 U | 0.93 U | 0.67 UJ | 0.87 U | 1 U | 0.83 | 0.73 U | 0.75 U | 0.79 U | 0.85 J | 0.71 U |
| METALS | SILVER | MG/KG | 0.061 | 0.095 J | 0.064 U | 0.31 U | 0.31 U | 0.31 U | 0.3 U | 0.37 U | 0.23 U | 0.32 U | 0.36 U | 0.2 U | 0.21 U | 0.29 U | 0.21 U | 0.22 U | 0.22 J | 0.31 U | 0.31 U | 0.31 U | 0.33 U | 0.2 U | 0.22 U |
| METALS | SODIUM | MG/KG | 19.8 U | 26.6 J | 82.5 J | 85.8 U | 85 U | 86.2 U | 82.5 U | 298 J | 59.5 U | 90.1 U | 101 U | 53.2 U | 56.6 U | 228 J | 54.2 U | 57.2 U | 100 J | 87.1 U | 85.1 U | 86.6 U | 91.4 U | 52 U | 81.7 J |
| METALS | THALLIUM | MG/KG | 0.34 U | 0.45 J | 0.58 J | 0.82 U | 0.81 U | 0.92 J | 0.79 U | 2.2 | 1.5 U | 0.86 U | 0.96 U | 1.3 U | 1.4 U | 1.9 U | 1.3 U | 1.4 U | 1.4 U | 0.83 U | 0.81 U | 0.82 U | 0.87 U | 1.3 U | 1.4 U |
| METALS | VANADIUM | MG/KG | 5.9 J | 9.5 J | 7.2 J | 10.9 J | 10.1 J | 4.4 J | 6.3 J | 21.2 J | 3.5 J | 11.9 J | 6.8 J | 8.2 J | 9.1 | 20.9 | 8.2 J | 7.3 J | 10.4 J | 6.7 J | 6.5 J | 8.9 | 6.4 J | 6.3 J | 19.3 |
| METALS | ZINC | MG/KG | 111 | 71.7 | 267 | 73.9 J | 70.4 J | 10.8 J | 36.9 J | 259 J | 171 | 60.2 J | 28 J | 263 | 53 | 371 | 146 | 104 | 305 | 105 J | 42.5 J | 202 J | 1.3 J | 274 | 131 |
| PEST/PCB | 4,4'-DDD | MG/KG | 0.0037 U | 0.01 J | 0.0029 J | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | 0.0028 J | 0.01 J | 0.0042 UJ | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | 0.0056 | 0.028 | 0.0046 J | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | 0.0019 U | 0.0018 U | 0.0022 UJ | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | 0.0019 U | 0.0018 U | 0.0022 UJ | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | 0.0019 U | 0.0018 U | 0.0022 UJ | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | 0.037 U | 0.034 U | 0.042 UJ | 0.017 U | 0.017 U | 0.018 U | 0.017 U | 0.021 U | 0.021 U | 0.018 U | 0.021 U | 0.019 U | 0.02 U | 0.027 U | 0.019 U | 0.04 U | 0.039 U | 0.018 U | 0.017 U | 0.018 U | 0.018 U | 0.019 U | 0.02 U |
| PEST/PCB | AROCLOR-1221 | MG/KG | 0.076 U | 0.069 U | 0.086 UJ | 0.017 U | 0.017 U | 0.018 U | 0.017 U | 0.021 U | 0.021 U | 0.018 U | 0.021 U | 0.019 U | 0.02 U | 0.027 U | 0.019 U | 0.04 U | 0.039 U | 0.018 U | 0.017 U | 0.018 U | 0.018 U | 0.019 U | 0.02 U |
| PEST/PCB | AROCLOR-1232 | MG/KG | 0.037 U | 0.034 U | 0.042 UJ | 0.017 U | 0.017 U | 0.018 U | 0.017 U | 0.021 U | 0.021 U | 0.018 U | 0.021 U | 0.019 U | 0.02 U | 0.027 U | 0.019 U | 0.04 U | 0.039 U | 0.018 U | 0.017 U | 0.018 U | 0.018 U | 0.019 U | 0.02 U |
| PEST/PCB | AROCLOR-1242 | MG/KG | 0.037 U | 0.034 U | 0.042 UJ | 0.017 U | 0.017 U | 0.018 U | 0.017 U | 0.021 U | 0.021 U | 0.018 U | 0.021 U | 0.019 U | 0.02 U | 0.027 U | 0.019 U | 0.04 U | 0.039 U | 0.018 U | 0.017 U | 0.018 U | 0.018 U | 0.019 U | 0.02 U |
| PEST/PCB | AROCLOR-1248 | MG/KG | 0.037 U | 0.034 U | 0.042 UJ | 0.017 U | 0.017 U | 0.018 U | 0.017 U | 0.021 U | 0.021 U | 0.018 U | 0.021 U | 0.019 U | 0.02 U | 0.027 U | 0.019 U | 0.04 U | 0.039 U | 0.018 U | 0.017 U | 0.018 U | 0.018 U | 0.019 U | 0.02 U |
| PEST/PCB | AROCLOR-1254 | MG/KG | 0.037 U | 0.034 U | 0.042 UJ | 0.049 | 0.049 | 0.018 U | 0.093 | 0.021 U | 0.021 U | 0.018 U | 0.021 U | 0.024 J | 0.02 U | 0.056 | 0.19 | 0.33 | 0.039 U | 0.033 | 0.021 J | 0.069 J | 0.018 U | 0.069 J | 0.08 J |
| PEST/PCB | AROCLOR-1260 | MG/KG | 0.037 U | 0.062 | 0.042 UJ | 0.038 J | 0.029 | 0.018 U | 0.033 | 0.021 U | 0.021 U | 0.021 | 0.021 U | 0.025 J | 0.02 U | 0.12 | 0.18 | 0.19 | 0.039 U | 0.019 | 0.017 U | 0.036 J | 0.018 U | 0.033 J | 0.05 J |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | 0.0019 U | 0.0018 U | 0.0022 UJ | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | 0.0019 U | 0.0018 U | 0.0022 UJ | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | 0.0037 U | 0.0034 U | 0.0042 UJ | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | 0.0019 U | 0.0018 U | 0.0022 UJ | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | 0.0037 U | 0.0046 | 0.0042 UJ | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | 0.0037 U | 0.0034 U | 0.0042 UJ | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | 0.0037 U | 0.0034 U | 0.0042 UJ | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | 0.0037 U | 0.0034 U | 0.0042 UJ | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | 0.0037 U | 0.004 J | 0.0042 UJ | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | 0.0019 U | 0.0018 U | 0.0022 UJ | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | 0.0019 U | 0.0018 U | 0.0022 UJ | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | 0.0019 U | 0.0018 U | 0.0022 UJ | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | 0.0019 U | 0.0018 U | 0.0022 UJ | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | 0.019 U | 0.018 U | 0.022 UJ | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | 0.19 U | 0.18 U | 0.22 UJ | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | HCSB0185/197 | HCSB0198 | HCSB0198 | HCSB0292 | HCSB0292 | HCSB0292 | HCSB0293 | HCSB0293 | HCSB0293 | HCSB0294 | HCSB0294 | HCSB0295 | HCSB0295 | HCSB0297 | HCSB0297 | HCSB0297 | HCSB0297 | HCSB0300 | HCSB0300 | HCSB0301 | HCSB0301 | HCSB0306 | HCSB0306 |
| | | Field Sample ID | HCSB0197-SS-AC-AD-0 | HCSB0198-SS-AA-AE-0 | HCSB0198-SS-AF-AG-0 | HCSB0292-SS-AA-AB-0 | HCSB0292-SS-AA-AB-1 | HCSB0292-SS-AE-AF-0 | HCSB0293-SS-AA-AB-0 | HCSB0293-SS-AE-AF-0 | HCSB0293-SS-AM-AN-0 | HCSB0294-SS-AA-AB-0 | HCSB0294-SS-AI-AJ-0 | HCSB0295-SS-AA-AB-0 | HCSB0295-SS-AQ-AR-0 | HCSB0297-SS-AA-AB-0 | HCSB0297-SS-AE-AF-0 | HCSB0297-SS-AE-AF-1 | HCSB0297-SS-AQ-AR-0 | HCSB0300-SS-AA-AB-0 | HCSB0300-SS-AE-AF-0 | HCSB0301-SS-AA-AB-0 | HCSB0301-SS-AE-AF-0 | HCSB0306-SS-AA-AB-0 | HCSB0306-SS-AE-AF-0 |
| | | Sample Date | 7/26/2005 | 7/26/2005 | 7/26/2005 | 8/7/2006 | 8/7/2006 | 8/7/2006 | 8/7/2006 | 8/7/2006 | 8/8/2006 | 8/7/2006 | 8/7/2006 | 8/8/2006 | 8/8/2006 | 8/8/2006 | 8/9/2006 | 8/9/2006 | 7/30/2007 | 8/10/2006 | 8/10/2006 | 8/10/2006 | 8/10/2006 | 8/14/2006 | 8/14/2006 |
| | | Depth (ft) | 1-1.5 | 0-2 | 2.5-3 | 0-0.5 | 0-0.5 | 2-2.5 | 0-0.5 | 2-2.5 | 6-6.5 | 0-0.5 | 4-4.5 | 0-0.5 | 8-8.5 | 0-0.5 | 2-2.5 | 2-2.5 | 8-8.5 | 0-0.5 | 2-2.5 | 0-0.5 | 2-2.5 | 0-0.5 | 2-2.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 0.37 UJ | 0.34 UJ | 0.42 UJ | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 0.94 U | 0.86 U | 1.1 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 0.94 UJ | 0.86 UJ | 1.1 UJ | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-CHLOROPHENOL | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-METHYLPHENOL | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-NITROANILINE | MG/KG | 0.94 U | 0.86 U | 1.1 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-NITROPHENOL | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 3-NITROANILINE | MG/KG | 0.94 U | 0.86 U | 1.1 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 0.94 U | 0.86 U | 1.1 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLOROANILINE | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 0.37 UJ | 0.34 UJ | 0.42 UJ | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-METHYLPHENOL | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-NITROANILINE | MG/KG | 0.94 U | 0.86 U | 1.1 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-NITROPHENOL | MG/KG | 0.94 U | 0.86 U | 1.1 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | ACENAPHTHENE | MG/KG | 0.044 J | 0.34 U | 0.42 U | 0.026 J | 0.052 J | 0.35 U | 0.03 J | 0.42 U | 0.41 U | 0.026 J | 0.41 U | 0.92 J | 0.39 U | 1.2 J | 0.51 J | 1.5 J | 0.044 J | 0.042 J | 0.34 UJ | 0.35 UJ | 0.36 UJ | 0.026 J | 0.4 U |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.37 U | 0.34 U | 0.049 J | 0.34 U | 0.42 J | 0.35 U | 0.34 U | 0.42 U | 0.41 U | 0.35 U | 0.41 U | 9.3 U | 0.39 U | 15 U | 0.96 U | 2 U | 0.38 U | 0.35 UJ | 0.34 UJ | 0.35 UJ | 0.36 UJ | 0.38 U | 0.4 U |
| SVOC | ACETOPHENONE | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | ANTHRACENE | MG/KG | 0.11 J | 0.064 J | 0.42 U | 0.058 J | 0.44 J | 0.35 U | 0.086 J | 0.022 J | 0.41 U | 0.058 J | 0.41 U | 2.9 J | 0.39 U | 3.5 J | 1.1 | 3.3 | 0.074 J | 0.12 J | 0.017 J | 0.35 UJ | 0.36 UJ | 0.09 J | 0.031 J |
| SVOC | ATRAZINE | MG/KG | 0.37 UJ | 0.34 UJ | 0.42 UJ | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZALDEHYDE | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.61 | 0.26 J | 0.27 J | 0.46 J | 3.6 J | 0.029 J | 0.43 | 0.13 J | 0.03 J | 0.47 | 0.41 U | 20 | 0.031 J | 32 | 2.6 | 5.3 | 0.26 J | 0.25 J | 0.093 J | 0.12 J | 0.36 UJ | 0.27 J | 0.13 J |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.69 | 0.27 J | 0.39 J | 0.5 J | 3.8 J | 0.031 J | 0.43 | 0.13 J | 0.41 U | 0.54 | 0.41 U | 21 | 0.032 J | 37 | 2.6 | 4.6 | 0.24 J | 0.24 J | 0.099 J | 0.15 J | 0.36 UJ | 0.23 J | 0.13 J |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 0.98 | 0.41 | 0.53 | 0.71 J | 3.8 J | 0.042 J | 0.56 | 0.19 J | 0.41 U | 0.74 | 0.41 U | 29 | 0.39 U | 44 | 3.3 | 6 | 0.3 J | 0.23 J | 0.11 J | 0.16 J | 0.36 UJ | 0.21 J | 0.12 J |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.5 | 0.22 J | 0.29 J | 0.4 J | 1.8 J | 0.032 J | 0.34 J | 0.15 J | 0.022 J | 0.38 | 0.41 U | 20 | 0.39 U | 44 | 1.4 | 2 | 0.054 J | 0.12 J | 0.047 J | 0.07 J | 0.36 UJ | 0.099 J | 0.061 J |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.32 J | 0.15 J | 0.17 J | 0.41 J | 3.6 J | 0.028 J | 0.35 | 0.13 J | 0.41 U | 0.52 | 0.41 U | 17 | 0.39 U | 41 | 2.1 | 4.3 | 0.33 J | 0.28 J | 0.13 J | 0.25 J | 0.36 UJ | 0.33 J | 0.18 J |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 0.038 J | 0.05 J | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | CAPROLACTAM | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | CARBAZOLE | MG/KG | 0.1 J | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | CHRYSENE | MG/KG | 0.82 | 0.35 | 0.3 J | 0.66 J | 3.9 J | 0.04 J | 0.53 | 0.17 J | 0.033 J | 0.71 | 0.022 J | 28 | 0.027 J | 55 | 2.7 | 5.2 | 0.28 J | 0.3 J | 0.12 J | 0.18 J | 0.36 UJ | 0.29 J | 0.15 J |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.12 J | 0.04 J | 0.088 J | 0.11 J | 0.68 J | 0.35 U | 0.099 J | 0.039 J | 0.41 U | 0.095 J | 0.41 U | 5.8 J | 0.39 U | 14 J | 0.43 J | 0.64 J | 0.025 J | 0.031 J | 0.018 J | 0.02 J | 0.36 UJ | 0.035 J | 0.4 U |
| SVOC | DIBENZOFURAN | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | DIETHYLPHTHALATE | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | FLUORANTHENE | MG/KG | 1.8 | 0.48 | 0.18 J | 0.82 J | 5.2 J | 0.055 J | 1 | 0.15 J | 0.061 J | 1.1 | 0.032 J | 67 | 0.04 J | 120 | 5.3 | 11 | 0.62 | 0.56 J | 0.16 J | 0.23 J | 0.36 UJ | 0.53 | 0.24 J |
| SVOC | FLUORENE | MG/KG | 0.047 J | 0.34 U | 0.42 U | 0.018 J | 0.069 J | 0.35 U | 0.032 J | 0.42 U | 0.41 U | 0.023 J | 0.41 U | 1 J | 0.39 U | 1.4 J | 0.52 J | 1.8 J | 0.033 J | 0.049 J | 0.34 UJ | 0.35 UJ | 0.36 UJ | 0.034 J | 0.4 U |
| SVOC | HEXACHLOROBENZENE | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROETHANE | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.48 | 0.22 J | 0.31 J | 0.36 J | 1.9 J | 0.027 J | 0.3 J | 0.12 J | 0.019 J | 0.33 J | 0.41 U | 16 | 0.39 U | 37 | 1.3 | 2 | 0.071 J | 0.11 J | 0.053 J | 0.065 J | 0.36 UJ | 0.11 J | 0.064 J |
| SVOC | ISOPHORONE | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | NAPHTHALENE | MG/KG | 0.37 U | 0.057 J | 0.054 J | 0.02 J | 0.23 J | 0.35 U | 0.34 U | 0.42 U | 0.43 | 0.35 U | 0.41 U | 9.3 U | 0.39 U | 15 U | 0.27 J | 1.2 J | 0.019 J | 0.35 UJ | 0.34 UJ | 0.019 J | 0.36 UJ | 0.38 U | 0.4 U |
| SVOC | NITROBENZENE | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | PENTACHLOROPHENOL | MG/KG | 0.94 U | 0.86 U | 1.1 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | PHENANTHRENE | MG/KG | 0.89 | 0.33 J | 0.069 J | 0.35 J | 1.4 J | 0.021 J | 0.56 | 0.12 J | 0.032 J | 0.5 | 0.41 U | 26 | 0.39 U | 39 | 3.9 | 11 | 0.29 J | 0.47 J | 0.081 J | 0.11 J | 0.36 UJ | 0.38 | 0.13 J |
| SVOC | PHENOL | MG/KG | 0.37 U | 0.34 U | 0.42 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | PYRENE | MG/KG | 1 J | 0.33 J | 0.14 J | 1.4 J | 7.4 J | 0.075 J | 1.3 | 0.26 J | 0.085 J | 1.8 | 0.049 J | 58 | 0.038 J | 120 | 7.1 J | 13 J | 0.55 | 0.94 J | 0.27 J | 0.39 J | 0.36 UJ | 0.67 | 0.36 J |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | HCSB0185/197 | HCSB0198 | HCSB0198 | HCSB0292 | HCSB0292 | HCSB0292 | HCSB0293 | HCSB0293 | HCSB0293 | HCSB0294 | HCSB0294 | HCSB0295 | HCSB0295 | HCSB0297 | HCSB0297 | HCSB0297 | HCSB0297 | HCSB0300 | HCSB0300 | HCSB0301 | HCSB0301 | HCSB0306 | HCSB0306 |
| | | Field Sample ID | HCSB0197-SS-AC-AD-0 | HCSB0198-SS-AA-AE-0 | HCSB0198-SS-AF-AG-0 | HCSB0292-SS-AA-AB-0 | HCSB0292-SS-AA-AB-1 | HCSB0292-SS-AE-AF-0 | HCSB0293-SS-AA-AB-0 | HCSB0293-SS-AE-AF-0 | HCSB0293-SS-AM-AN-0 | HCSB0294-SS-AA-AB-0 | HCSB0294-SS-AI-AJ-0 | HCSB0295-SS-AA-AB-0 | HCSB0295-SS-AQ-AR-0 | HCSB0297-SS-AA-AB-0 | HCSB0297-SS-AE-AF-0 | HCSB0297-SS-AE-AF-1 | HCSB0297-SS-AQ-AR-0 | HCSB0300-SS-AA-AB-0 | HCSB0300-SS-AE-AF-0 | HCSB0301-SS-AA-AB-0 | HCSB0301-SS-AE-AF-0 | HCSB0306-SS-AA-AB-0 | HCSB0306-SS-AE-AF-0 |
| | | Sample Date | 7/26/2005 | 7/26/2005 | 7/26/2005 | 8/7/2006 | 8/7/2006 | 8/7/2006 | 8/7/2006 | 8/7/2006 | 8/8/2006 | 8/7/2006 | 8/7/2006 | 8/8/2006 | 8/8/2006 | 8/8/2006 | 8/9/2006 | 8/9/2006 | 7/30/2007 | 8/10/2006 | 8/10/2006 | 8/10/2006 | 8/10/2006 | 8/14/2006 | 8/14/2006 |
| | | Depth (ft) | 1-1.5 | 0-2 | 2.5-3 | 0-0.5 | 0-0.5 | 2-2.5 | 0-0.5 | 2-2.5 | 6-6.5 | 0-0.5 | 4-4.5 | 0-0.5 | 8-8.5 | 0-0.5 | 2-2.5 | 2-2.5 | 8-8.5 | 0-0.5 | 2-2.5 | 0-0.5 | 2-2.5 | 0-0.5 | 2-2.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | 0.011 UJ | 0.013 UJ | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | ACETONE | MG/KG | | 0.013 U | 0.02 U | | | | | | | | | | | | | | | | | | | | |
| VOC | BENZENE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOFORM | MG/KG | | 0.011 UJ | 0.013 UJ | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOMETHANE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | CARBON DISULFIDE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | CARBON TETRACHLORIDE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROBENZENE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROETHANE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROFORM | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROMETHANE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | CYCLOHEXANE | MG/KG | | 0.011 U | 0.0043 J | | | | | | | | | | | | | | | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | ETHYLBENZENE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | ISOPROPYLBENZENE | MG/KG | | 0.011 U | 0.025 | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ACETATE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | | 0.011 U | 0.0042 J | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYLCYCLOHEXANE | MG/KG | | 0.011 U | 0.012 J | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | TETRACHLOROETHENE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | TOLUENE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | | 0.011 U | 0.013 U | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | HCSB0306 | HCSB0313 | HCSB0313 | HCSB0313 | HCSB0313 | HCSB0313 | HCSB0313 | HCSB0379 | HCSB0379 | HCSB0379 | HCSB0379 | MPSB0018 | MPSB0018 | MPSB0018 | MPSB0018 | MPSB0026 | MPSB0026 | MPSB0026 | MPSB0026 | MPSB0026 | MPSB0036 | MPSB0036 | MPSB0036 |
| | | Field Sample ID | HCSB0306-SS-AM-AN-0 | HCSB0313-SS-AA-AB-0 | HCSB0313-SS-AA-AB-1 | HCSB0313-SS-AG-AH-0 | HCSB0313-SS-AL-AM-0 | HCSB0313-SS-AO-AP-0 | HCSB0313-SS-AP-AQ-0 | HCSB0379-SS-AA-AB-0 | HCSB0379-SS-AE-AF-0 | HCSB0379-SS-AI-AJ-0 | HCSB0379-SS-AM-AN-0 | MPSB0018-SS-AA-AB-0 | MPSB0018-SS-AD-AE-0 | MPSB0018-SS-AM-AN-0 | MPSB0018-SS-AP-AQ-0 | MPSB0026-SS-AA-AB-0 | MPSB0026-SS-AD-AE-0 | MPSB0026-SS-AJ-AK-0 | MPSB0026-SS-AL-AM-0 | MPSB0026-SS-AO-AP-0 | MPSB0036-SS-AA-AB-0 | MPSB0036-SS-AD-AE-0 | MPSB0036-SS-AL-AM-0 |
| | | Sample Date | 8/17/2006 | 8/17/2006 | 8/17/2006 | 8/17/2006 | 8/17/2006 | 2/27/2007 | 2/27/2007 | 7/30/2007 | 7/30/2007 | 7/30/2007 | 7/30/2007 | 12/8/2009 | 12/8/2009 | 12/8/2009 | 12/8/2009 | 12/16/2009 | 12/16/2009 | 12/16/2009 | 12/16/2009 | 12/16/2009 | 1/6/2010 | 1/6/2010 | 1/6/2010 |
| | | Depth (ft) | 6-6.5 | 0-0.5 | 0-0.5 | 3-3.5 | 5.5-6 | 7-7.5 | 7.5-8 | 0-0.5 | 2-2.5 | 4-4.5 | 6-6.5 | 0-0.5 | 1.5-2 | 6-6.5 | 7.5-8 | 0-0.5 | 1.5-2 | 4.5-5 | 5.5-6 | 7-7.5 | 0-0.5 | 1.5-2 | 5.5-6 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | 1680 J | 1380 J | 1400 J | 2390 J | 3460 J | 4510 | 654 | 1590 | 3120 | 189 | 327 | 3370 | | 1020 | 907 | 10100 | | 1620 | 1060 | 1510 | 4990 | | 1970 |
| METALS | ANTIMONY | MG/KG | 0.78 U | 0.59 U | 0.6 U | 0.64 U | 1 J | 1.7 J | 0.87 UJ | 0.91 J | 1.8 J | 0.83 UJ | 0.81 UJ | 6.1 UJ | | 6.3 UJ | 6.7 UJ | 5.4 UJ | | 5.6 UJ | 4.9 UJ | 5.5 UJ | 5.6 UJ | | 6.6 UJ |
| METALS | ARSENIC | MG/KG | 5 | 11.9 | 13 | 18.8 | 12 | 3.3 | 9.3 | 30.8 | 62.6 | 5.9 | 1 U | 2.7 | | 0.78 J | 0.82 J | 5.4 | | 0.82 J | 0.78 J | 0.83 J | 2.8 | | 1.7 |
| METALS | BARIUM | MG/KG | 34.2 J | 109 | 108 | 300 | 266 | 4630 | 135 | 342 | 191 | 72 | 4.4 J | 32.1 | | 6.9 J | 5.9 J | 84.8 | | 12.4 J | 18.1 | 5.9 J | 29.3 J | | 22 U |
| METALS | BERYLLIUM | MG/KG | 0.06 J | 0.07 J | 0.06 J | 0.36 J | 0.16 J | 0.03 U | 0.03 U | 0.06 J | 0.71 J | 0.02 U | 0.02 U | 0.088 J | | 0.52 U | 0.56 U | 0.59 | | 0.093 J | 0.061 J | 0.079 J | 0.47 U | | 0.55 U |
| METALS | CADMIUM | MG/KG | 0.23 J | 0.25 J | 0.27 J | 0.2 J | 0.38 J | 0.11 J | 0.08 U | 0.09 U | 0.11 U | 0.11 U | 0.11 U | 0.11 J | | 0.082 J | 0.086 J | 0.17 J | | 0.077 J | 0.12 J | 0.46 U | | | |
| METALS | CALCIUM | MG/KG | 483 J | 670 J | 663 J | 1370 J | 1680 J | 833 J | 1640 | 478 J | 1790 | 321 J | 130 J | 1750 | | 117 J | 102 J | 12100 | | 599 | 8470 | 67.8 J | 330 J | | 77.3 J |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 14 | 10.7 | 10.3 | 20.9 | 17.9 | 14.2 | 4 | 15.9 | 27.5 | 9.4 | 2.4 | 9.8 | | 4.3 | 5.1 | 22.2 | | 7.2 | 11.8 | 8.3 | 10.3 J | | 7.4 J |
| METALS | COBALT | MG/KG | 0.91 J | 0.83 J | 0.98 J | 2.1 J | 2 J | 7.2 J | 1.6 J | 1.3 J | 4.3 J | 1.1 J | 0.31 U | 1.2 J | | 5.2 U | 5.6 U | 5.6 | | 4.6 U | 4.1 U | 4.6 U | 0.69 J | | 5.5 U |
| METALS | COPPER | MG/KG | 6.7 | 10.6 | 10.2 | 25.5 | 25.4 | 187 | 7.4 | 21.7 | 40.5 | 15.8 | 0.73 J | 9.7 | | 0.86 J | 0.62 J | 22 | | 1.5 J | 3.4 | 1.3 J | 3.7 | | 1.6 J |
| METALS | CYANIDE | MG/KG | 3.6 | 13.9 | 13 | 19.2 | 6.9 | 0.07 U | 12.2 | 26.9 | 14.4 | 2.2 | 0.1 U | 0.057 J | | 3 U | 3.1 U | 2.6 U | | 3 U | 2.9 U | 3.1 U | 2.8 UJ | | 3.1 UJ |
| METALS | IRON | MG/KG | 1650 | 3500 | 3420 | 4760 | 8570 | 5600 | 1530 | 8290 | 9610 | 30500 | 885 | 5210 | | 1680 | 1850 | 14600 | | 2150 | 3030 | 3930 | 7810 | | 4530 |
| METALS | LEAD | MG/KG | 28.8 | 126 | 126 | 199 | 187 | 123 | 54.6 | 254 | 269 | 211 | 4.6 | 23 | | 2.6 | 2.5 | 26.1 | | 3.9 | 4.6 | 2.3 | 29.1 | | 3 |
| METALS | MAGNESIUM | MG/KG | 101 J | 194 J | 188 J | 253 J | 295 J | 125 J | 107 J | 258 J | 297 J | 37.2 J | 23.1 J | 1070 | | 27.5 J | 25.6 J | 6210 | | 334 J | 5100 | 23.9 J | 275 J | | 98.5 J |
| METALS | MANGANESE | MG/KG | 10.7 | 29.7 | 30 | 18.4 | 26.9 | 12 | 21.4 | 49.9 | 23.9 | 121 | 6.5 | 46.9 | | 6.3 | 7.2 | 232 | | 5.6 | 11.1 | 7.4 | 17.8 | | 5.5 |
| METALS | MERCURY | MG/KG | 0.077 J | 0.36 | 0.38 | 0.64 | 0.66 | 2.9 J | 0.23 J | 0.89 J | 0.76 J | 0.06 J | 0.06 U | 0.042 J | | 0.1 U | 0.1 U | 0.041 J | | 0.018 J | 0.017 J | 0.012 J | 0.096 U | | 0.095 U |
| METALS | NICKEL | MG/KG | 1.1 J | 2.5 J | 2.7 J | 3.4 J | 4.3 J | 14.5 J | 1.3 J | 2.7 J | 10 J | 3.2 J | 0.38 J | 2.5 J | | 4.2 U | 0.65 J | 12.5 | | 0.38 J | 0.27 J | 3.6 U | 1.7 J | | 0.37 J |
| METALS | POTASSIUM | MG/KG | 129 J | 139 J | 170 J | 202 J | 161 J | 115 J | 63.1 J | 130 J | 288 J | 42.8 J | 46.3 J | 649 U | | 521 U | 561 U | 1930 | | 76.5 J | 79.9 J | 96 J | 467 U | | 550 U |
| METALS | SELENIUM | MG/KG | 0.78 U | 0.59 U | 0.6 U | 2.2 | 0.7 U | 1.6 | 1.1 U | 0.84 U | 1 U | 0.97 U | 0.95 U | 3.6 UJ | | 3.6 UJ | 3.9 UJ | 3.2 UJ | | 3.2 UJ | 2.8 UJ | 3.2 UJ | 3.3 U | | 3.8 U |
| METALS | SILVER | MG/KG | 0.24 U | 0.18 U | 0.18 U | 0.2 U | 0.21 U | 0.22 U | 0.22 U | 0.12 U | 0.17 J | 0.14 U | 0.14 U | 1 U | | 1 U | 1.1 U | 0.91 U | | 0.93 U | 0.81 U | 0.91 U | 0.93 U | | 1.1 U |
| METALS | SODIUM | MG/KG | 63.5 U | 47.7 U | 48.3 U | 107 J | 102 J | 90.3 J | 190 J | 144 J | 1060 J | 307 J | 130 J | 789 | | 49.3 J | 131 J | 3430 | | 23.5 J | 19.7 J | 58.9 J | 467 U | | 550 U |
| METALS | THALLIUM | MG/KG | 1.6 U | 1.2 U | 1.2 U | 1.3 U | 1.4 U | 1.5 U | 1.5 U | 1.2 UJ | 1.4 UJ | 1.4 UJ | 1.3 UJ | 2.5 U | | 2.6 U | 2.8 U | 2.3 U | | 2.3 U | 2 U | 2.3 U | 2.3 U | | 2.7 U |
| METALS | VANADIUM | MG/KG | 5.3 J | 5.7 J | 5.7 J | 12.2 | 12.5 | 9.5 J | 2.9 J | 6.3 J | 15.7 | 1 J | 1 J | 11.4 | | 4 J | 4.7 J | 37.3 | | 5.4 | 6 | 6.8 | 12.9 | | 7.7 |
| METALS | ZINC | MG/KG | 86.2 J | 93 J | 94.6 J | 209 J | 375 J | 2270 | 161 | 159 | 287 | 226 | 7 | 26.1 | | 2.3 J | 2 J | 58.9 | | 12.8 | 13.3 | 2.5 J | 10.4 | | 2.9 J |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | 0.0038 U | | 0.0039 U | | 0.0097 | | 0.004 U | 0.0039 U | 0.0042 U | 0.0036 U | | 0.004 U |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | 0.0038 U | | 0.0039 U | | 0.018 | | 0.004 U | 0.0039 U | 0.0042 U | 0.0036 U | | 0.004 U |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | 0.0038 U | | 0.0039 U | | 0.005 | | 0.004 U | 0.0039 U | 0.0042 U | 0.0036 U | | 0.004 U |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | 0.0019 U | | 0.002 U | | 0.0018 U | | 0.002 U | 0.002 U | 0.0021 U | 0.0019 U | | 0.0021 U |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | 0.0019 U | | 0.002 U | | 0.0018 U | | 0.002 U | 0.002 U | 0.0021 U | 0.0019 U | | 0.0021 U |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | 0.0019 U | | 0.002 U | | 0.0018 U | | 0.002 U | 0.002 U | 0.0021 U | 0.0019 U | | 0.0021 U |
| PEST/PCB | AROCLOR-1016 | MG/KG | 0.023 U | 0.017 UJ | 0.017 U | 0.019 UJ | 0.02 U | 0.046 U | 0.048 U | 0.034 U | 0.041 U | 0.039 U | 0.038 U | 0.038 U | | 0.039 U | | 0.035 U | | 0.04 U | 0.039 U | 0.042 U | 0.036 U | | 0.04 U |
| PEST/PCB | AROCLOR-1221 | MG/KG | 0.023 U | 0.017 U | 0.017 U | 0.019 U | 0.02 U | 0.046 U | 0.048 U | 0.034 U | 0.041 U | 0.039 U | 0.038 U | 0.038 U | | 0.039 U | | 0.035 U | | 0.04 U | 0.039 U | 0.042 U | 0.036 U | | 0.04 U |
| PEST/PCB | AROCLOR-1232 | MG/KG | 0.023 U | 0.017 U | 0.017 U | 0.019 U | 0.02 U | 5 U | 0.048 U | 0.034 U | 0.041 U | 0.039 U | 0.038 U | 0.038 U | | 0.039 U | | 0.035 U | | 0.04 U | 0.039 U | 0.042 U | 0.036 U | | 0.04 U |
| PEST/PCB | AROCLOR-1242 | MG/KG | 0.023 U | 0.017 U | 0.017 U | 0.019 U | 0.02 U | 5 U | 0.048 U | 0.034 U | 0.041 U | 0.039 U | 0.038 U | 0.038 U | | 0.039 U | | 0.035 U | | 0.04 U | 0.039 U | 0.042 U | 0.036 U | | 0.04 U |
| PEST/PCB | AROCLOR-1248 | MG/KG | 0.023 U | 0.017 U | 0.017 U | 0.019 U | 0.02 U | 5 U | 0.048 U | 0.034 U | 0.041 U | 0.039 U | 0.038 U | 0.038 U | | 0.039 U | | 0.035 U | | 0.04 U | 0.039 U | 0.042 U | 0.036 U | | 0.04 U |
| PEST/PCB | AROCLOR-1254 | MG/KG | 0.023 U | 0.017 U | 0.017 U | 0.019 U | 0.061 | 0.046 U | 0.048 U | 0.034 U | 0.041 U | 0.039 U | 0.038 U | 0.038 U | | 0.039 U | | 0.035 U | | 0.04 U | 0.039 U | 0.042 U | 0.036 U | | 0.04 U |
| PEST/PCB | AROCLOR-1260 | MG/KG | 0.023 U | 0.017 U | 0.017 U | 0.019 U | 0.02 U | 0.046 U | 0.048 U | 0.034 U | 0.041 U | 0.039 U | 0.038 U | 0.022 J | | 0.039 U | | 0.035 U | | 0.04 U | 0.039 U | 0.042 U | 0.036 U | | 0.04 U |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | | | | 0.046 U | 0.048 U | | | | | 0.038 U | | 0.039 U | | 0.035 U | | 0.04 U | 0.039 U | 0.042 U | 0.036 U | | 0.04 U |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | | | | 0.046 U | 0.048 U | | | | | 0.038 U | | 0.039 U | | 0.035 U | | 0.04 U | 0.039 U | 0.042 U | 0.036 U | | 0.04 U |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | 0.0019 U | | 0.002 U | | 0.0018 U | | 0.002 U | 0.002 U | 0.0021 U | 0.0019 U | | 0.0021 U |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | 0.0019 U | | 0.002 U | | 0.0018 U | | 0.002 U | 0.002 U | 0.0021 U | 0.0019 U | | 0.0021 U |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | 0.0038 U | | 0.0039 U | | 0.004 | | 0.004 U | 0.0039 U | 0.0042 U | 0.0036 U | | 0.004 U |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | 0.0019 U | | 0.002 U | | 0.0018 U | | 0.002 U | 0.002 U | 0.0021 U | 0.0019 U | | 0.0021 U |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | 0.0038 U | | 0.0039 U | | 0.0035 U | | 0.004 U | 0.0039 U | 0.0042 U | 0.0036 U | | 0.004 U |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | 0.0038 U | | 0.0039 U | | 0.0035 U | | 0.004 U | 0.0039 U | 0.0042 U | 0.0036 U | | 0.004 U |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | 0.0038 U | | 0.0039 U | | 0.0035 U | | 0.004 U | 0.0039 U | 0.0042 U | 0.0036 U | | 0.004 U |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | 0.0038 U | | 0.0039 U | | 0.0035 U | | 0.004 U | 0.0039 U | 0.0042 U | 0.0036 U | | 0.004 U |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | 0.0038 U | | 0.0039 U | | 0.0035 U | | 0.004 U | 0.0039 U | 0.0042 U | 0.0036 U | | 0.004 U |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | 0.0019 U | | 0.002 U | | 0.0018 U | | 0.002 U | 0.002 U | 0.0021 U | 0.0019 U | | 0.0021 U |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | 0.0019 U | | 0.002 U | | 0.0011 J | | 0.002 U | 0.002 U | 0.0021 U | 0.0019 U | | 0.0021 U |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | 0.0019 U | | 0.002 U | | 0.0018 U | | 0.002 U | 0.002 U | 0.0021 U | 0.0019 U | | 0.0021 U |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | 0.0019 U | | 0.002 U | | 0.0018 U | | 0.002 U | 0.002 U | 0.0021 U | 0.0019 U | | 0.0021 U |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | 0.019 U | | 0.02 U | | 0.018 U | | 0.02 U | 0.02 U | 0.021 U | 0.019 U | | 0.021 U |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | 0.19 U | | 0.2 U | | 0.18 U | | 0.2 U | 0.2 U | 0.21 U | 0.19 U | | 0.21 U |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | HCSB0306 | HCSB0313 | HCSB0313 | HCSB0313 | HCSB0313 | HCSB0313 | HCSB0313 | HCSB0379 | HCSB0379 | HCSB0379 | HCSB0379 | MPSB0018 | MPSB0018 | MPSB0018 | MPSB0018 | MPSB0026 | MPSB0026 | MPSB0026 | MPSB0026 | MPSB0026 | MPSB0036 | MPSB0036 | MPSB0036 |
| | | Field Sample ID | HCSB0306-SS-AM-AN-0 | HCSB0313-SS-AA-AB-0 | HCSB0313-SS-AA-AB-1 | HCSB0313-SS-AG-AH-0 | HCSB0313-SS-AL-AM-0 | HCSB0313-SS-AO-AP-0 | HCSB0313-SS-AP-AQ-0 | HCSB0379-SS-AA-AB-0 | HCSB0379-SS-AE-AF-0 | HCSB0379-SS-AI-AJ-0 | HCSB0379-SS-AM-AN-0 | MPSB0018-SS-AA-AB-0 | MPSB0018-SS-AD-AE-0 | MPSB0018-SS-AM-AN-0 | MPSB0018-SS-AP-AQ-0 | MPSB0026-SS-AA-AB-0 | MPSB0026-SS-AD-AE-0 | MPSB0026-SS-AJ-AK-0 | MPSB0026-SS-AL-AM-0 | MPSB0026-SS-AO-AP-0 | MPSB0036-SS-AA-AB-0 | MPSB0036-SS-AD-AE-0 | MPSB0036-SS-AL-AM-0 |
| | | Sample Date | 8/17/2006 | 8/17/2006 | 8/17/2006 | 8/17/2006 | 8/17/2006 | 2/27/2007 | 2/27/2007 | 7/30/2007 | 7/30/2007 | 7/30/2007 | 7/30/2007 | 12/8/2009 | 12/8/2009 | 12/8/2009 | 12/8/2009 | 12/16/2009 | 12/16/2009 | 12/16/2009 | 12/16/2009 | 12/16/2009 | 1/6/2010 | 1/6/2010 | 1/6/2010 |
| | | Depth (ft) | 6-6.5 | 0-0.5 | 0-0.5 | 3-3.5 | 5.5-6 | 7-7.5 | 7.5-8 | 0-0.5 | 2-2.5 | 4-4.5 | 6-6.5 | 0-0.5 | 1.5-2 | 6-6.5 | 7.5-8 | 0-0.5 | 1.5-2 | 4.5-5 | 5.5-6 | 7-7.5 | 0-0.5 | 1.5-2 | 5.5-6 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.022 J | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | | | | | | | | | | | | 0.38 UJ | | 7.8 UJ | 2 UJ | 0.35 UJ | | 4 UJ | 1.9 UJ | 0.42 UJ | 0.36 UJ | | 0.41 UJ |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | | | | | | | | | | | | 0.2 UJ | | 4 UJ | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | | | | | | | | | | | | 0.054 J | | 12 | 4.3 | 0.049 J | | 2.3 | 4.4 | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | 2-METHYLPHENOL | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | 2-NITROANILINE | MG/KG | | | | | | | | | | | | 0.38 U | | 7.8 U | 2 U | 0.35 U | | 4 U | 1.9 U | 0.42 U | 0.36 U | | 0.41 U |
| SVOC | 2-NITROPHENOL | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | 3-NITROANILINE | MG/KG | | | | | | | | | | | | 0.38 U | | 7.8 U | 2 U | 0.35 U | | 4 U | 1.9 U | 0.42 U | 0.36 U | | 0.41 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | | | | | | | | | | | | 0.38 UJ | | 7.8 UJ | 2 UJ | 0.35 U | | 4 U | 1.9 U | 0.42 UJ | 0.36 UJ | | 0.41 UJ |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | 4-CHLOROANILINE | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | 4-METHYLPHENOL | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | 4-NITROANILINE | MG/KG | | | | | | | | | | | | 0.38 U | | 7.8 U | 2 U | 0.35 U | | 4 U | 1.9 U | 0.42 U | 0.36 U | | 0.41 U |
| SVOC | 4-NITROPHENOL | MG/KG | | | | | | | | | | | | 0.38 U | | 7.8 U | 2 U | 0.35 U | | 4 U | 1.9 U | 0.42 U | 0.36 U | | 0.41 U |
| SVOC | ACENAPHTHENE | MG/KG | 0.45 U | 0.22 J | 0.25 J | 0.022 J | 0.028 J | 9.1 U | 2.3 U | 0.052 J | 0.4 U | 0.39 U | 0.37 U | 0.14 J | | 4 U | 1 U | 0.24 | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.45 U | 1.7 U | 2.2 U | 0.37 U | 0.033 J | 9.1 U | 2.3 U | 0.67 U | 0.4 U | 0.39 U | 0.37 U | 0.2 U | | 4 U | 1 U | 0.065 J | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | ACETOPHENONE | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.17 J | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | ANTHRACENE | MG/KG | 0.45 U | 0.89 J | 1.2 J | 0.061 J | 0.1 J | 9.1 U | 2.3 U | 0.12 J | 0.01 J | 0.39 U | 0.37 U | 0.35 | | 4 U | 1 U | 0.32 | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | ATRAZINE | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | BENZALDEHYDE | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.45 U | 4.2 | 5.2 | 0.3 J | 0.45 | 9.1 U | 0.047 J | 0.84 | 0.052 J | 0.014 J | 0.37 U | 0.58 | | 4 U | 1 U | 2.3 | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.45 U | 4.6 | 5.3 | 0.3 J | 0.5 | 9.1 U | 0.058 J | 0.83 | 0.043 J | 0.014 J | 0.37 U | 0.48 | | 4 U | 1 U | 2.5 | | 0.04 U | 0.023 | 0.0068 | 0.19 U | | 0.0047 |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 0.45 U | 3.9 | 4.4 | 0.38 | 0.46 | 9.1 U | 0.052 J | 1.2 | 0.074 J | 0.012 J | 0.37 U | 0.44 | | 4 U | 1 U | 3.5 | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.45 U | 4.2 | 3 | 0.19 J | 0.18 J | 9.1 U | 0.051 J | 0.22 J | 0.014 J | 0.008 J | 0.37 U | 0.4 | | 4 U | 1 U | 0.6 | | 2.1 U | 1 U | 0.22 UJ | 0.19 UJ | | 0.21 UJ |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.45 U | 5.6 | 6.2 | 0.25 J | 0.62 | 9.1 U | 0.071 J | 1 | 0.042 J | 0.013 J | 0.37 U | 0.45 | | 4 U | 1 U | 2.4 | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | | | | | | | | | | | | 0.019 J | | 4 U | 1 U | 0.034 J | | 2.1 U | 1 U | 0.024 J | 0.19 U | | 0.21 U |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 1 | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | CAPROLACTAM | MG/KG | | | | | | | | | | | | 0.029 J | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.02 J | | 0.033 J |
| SVOC | CARBAZOLE | MG/KG | | | | | | | | | | | | 0.16 J | | 4 U | 1 U | 0.71 | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | CHRYSENE | MG/KG | 0.45 U | 5.6 | 6.6 | 0.49 | 0.62 | 9.1 U | 0.069 J | 1.1 | 0.13 J | 0.017 J | 0.37 U | 0.64 | | 4 U | 1 U | 3.5 | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.45 U | 0.84 J | 1.1 J | 0.075 J | 0.098 J | 9.1 U | 2.3 U | 0.089 J | 0.009 J | 0.39 U | 0.37 U | 0.11 J | | 4 U | 1 U | 0.2 | | 0.04 U | 0.0052 J | 0.0042 U | 0.19 U | | 0.0041 U |
| SVOC | DIBENZOFURAN | MG/KG | | | | | | | | | | | | 0.14 J | | 4 U | 1 U | 0.17 J | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | DIETHYLPHTHALATE | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.02 J | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | FLUORANTHENE | MG/KG | 0.45 U | 14 | 15 | 0.85 | 1.3 | 9.1 U | 0.081 J | 2.6 | 0.084 J | 0.026 J | 0.37 U | 1.1 | | 4 U | 1 U | 9.8 | | 2.1 U | 0.1 J | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | FLUORENE | MG/KG | 0.45 U | 0.24 J | 0.3 J | 0.026 J | 0.4 U | 9.1 U | 2.3 U | 0.052 J | 0.4 U | 0.39 U | 0.37 U | 0.2 | | 4 U | 1 U | 0.22 | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | HEXACHLOROBENZENE | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 UJ | 0.18 U | | 2.1 U | 1 U | 0.22 UJ | 0.19 UJ | | 0.21 UJ |
| SVOC | HEXACHLOROETHANE | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.45 U | 3.7 | 3 | 0.2 J | 0.2 J | 9.1 U | 0.043 J | 0.29 J | 0.013 J | 0.009 J | 0.37 U | 0.35 | | 4 U | 1 U | 0.72 | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | ISOPHORONE | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | NAPHTHALENE | MG/KG | 0.45 U | 1.7 U | 2.2 U | 0.026 J | 0.083 J | 2.4 J | 0.082 J | 0.007 J | 0.012 J | 0.39 U | 0.37 U | 0.08 J | | 53 | 6.9 | 0.018 J | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | NITROBENZENE | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | | | | | | | | | | | | 0.38 U | | 7.8 U | 2 U | 0.35 U | | 4 U | 1.9 U | 0.42 U | 0.36 U | | 0.41 U |
| SVOC | PHENANTHRENE | MG/KG | 0.45 U | 5.8 | 6.6 | 0.42 | 0.54 | 9.1 U | 2.3 U | 1.2 | 0.08 J | 0.017 J | 0.37 U | 1.7 | | 4 U | 1 U | 4.8 | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | PHENOL | MG/KG | | | | | | | | | | | | 0.2 U | | 4 U | 1 U | 0.18 U | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |
| SVOC | PYRENE | MG/KG | 0.45 U | 9.3 | 11 | 0.58 | 0.95 | 9.1 U | 0.072 J | 2.3 | 0.08 J | 0.025 J | 0.37 U | 1.3 | | 4 U | 1 U | 4.9 | | 2.1 U | 1 U | 0.22 U | 0.19 U | | 0.21 U |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | HCSB0306 | HCSB0313 | HCSB0313 | HCSB0313 | HCSB0313 | HCSB0313 | HCSB0313 | HCSB0379 | HCSB0379 | HCSB0379 | HCSB0379 | MPSB0018 | MPSB0018 | MPSB0018 | MPSB0018 | MPSB0026 | MPSB0026 | MPSB0026 | MPSB0026 | MPSB0026 | MPSB0036 | MPSB0036 | MPSB0036 |
| | | Field Sample ID | HCSB0306-SS-AM-AN-0 | HCSB0313-SS-AA-AB-0 | HCSB0313-SS-AA-AB-1 | HCSB0313-SS-AG-AH-0 | HCSB0313-SS-AL-AM-0 | HCSB0313-SS-AO-AP-0 | HCSB0313-SS-AP-AQ-0 | HCSB0379-SS-AA-AB-0 | HCSB0379-SS-AE-AF-0 | HCSB0379-SS-AI-AJ-0 | HCSB0379-SS-AM-AN-0 | MPSB0018-SS-AA-AB-0 | MPSB0018-SS-AD-AE-0 | MPSB0018-SS-AM-AN-0 | MPSB0018-SS-AP-AQ-0 | MPSB0026-SS-AA-AB-0 | MPSB0026-SS-AD-AE-0 | MPSB0026-SS-AJ-AK-0 | MPSB0026-SS-AL-AM-0 | MPSB0026-SS-AO-AP-0 | MPSB0036-SS-AA-AB-0 | MPSB0036-SS-AD-AE-0 | MPSB0036-SS-AL-AM-0 |
| | | Sample Date | 8/17/2006 | 8/17/2006 | 8/17/2006 | 8/17/2006 | 8/17/2006 | 2/27/2007 | 2/27/2007 | 7/30/2007 | 7/30/2007 | 7/30/2007 | 7/30/2007 | 12/8/2009 | 12/8/2009 | 12/8/2009 | 12/8/2009 | 12/16/2009 | 12/16/2009 | 12/16/2009 | 12/16/2009 | 12/16/2009 | 1/6/2010 | 1/6/2010 | 1/6/2010 |
| | | Depth (ft) | 6-6.5 | 0-0.5 | 0-0.5 | 3-3.5 | 5.5-6 | 7-7.5 | 7.5-8 | 0-0.5 | 2-2.5 | 4-4.5 | 6-6.5 | 0-0.5 | 1.5-2 | 6-6.5 | 7.5-8 | 0-0.5 | 1.5-2 | 4.5-5 | 5.5-6 | 7-7.5 | 0-0.5 | 1.5-2 | 5.5-6 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | | | | | | | | | | | | 0.0096 U | 0.01 U | 65 U | | 22 U | 28 U | 26 U | 0.63 U | | 0.01 U | 0.012 U |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | | | | | | | | | | | | 0.0096 U | 0.01 U | 65 U | | 22 U | 28 U | 26 U | 0.63 U | | 0.01 U | 0.012 U |
| VOC | ACETONE | MG/KG | | | | | | | | | | | | | 0.0096 U | 0.044 | 65 U | | 22 U | 28 U | 26 U | 0.63 U | | 0.0049 J | 0.012 U |
| VOC | BENZENE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | BROMODICHLOROMETHANE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | BROMOFORM | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | BROMOMETHANE | MG/KG | | | | | | | | | | | | | 0.0048 UJ | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | CARBON DISULFIDE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.0019 J | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | CARBON TETRACHLORIDE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | CHLOROBENZENE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | CHLOROETHANE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.0075 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | CHLOROFORM | MG/KG | | | | | | | | | | | | | 0.0088 | 0.0075 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | CHLOROMETHANE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | CYCLOHEXANE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.0066 | 16 J | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | DICHLOROMETHANE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | ETHYLBENZENE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 22 J | | 11 U | 14 U | 2.7 J | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | METHYL ACETATE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | METHYL ETHYL KETONE | MG/KG | | | | | | | | | | | | | 0.0096 U | 0.014 | 32 U | | 22 U | 28 U | 26 U | 0.63 U | | 0.01 U | 0.012 U |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.02 | 110 | | 11 U | 14 U | 7.8 J | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | TETRACHLOROETHENE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | TOLUENE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.005 U | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | XYLENES (TOTAL) | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.002 J | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | 0.0048 U | 0.002 J | 32 U | | 11 U | 14 U | 13 U | 0.32 U | | 0.0052 U | 0.0061 U |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0037 | MPSB0037 | MPSB0037 | MPSB0038 | MPSB0038 | MPSB0038 | MPSB0038 | MPSB0038 | MPSB0039 | MPSB0039 | MPSB0039 | MPSB0039 | MPSB0040 | MPSB0040 | MPSB0040 | MPSB0040 | MPSB0040 | MPSB0041 | MPSB0041 | MPSB0041 | MPSB0041 | MPSB0047 | MPSB0047 |
| | | Field Sample ID | MPSB0037-SS-AA-AB-0 | MPSB0037-SS-AD-AE-0 | MPSB0037-SS-AI-AJ-0 | MPSB0038-SS-AA-AB-0 | MPSB0038-SS-AD-AE-0 | MPSB0038-SS-AE-AF-0 | MPSB0038-SS-AH-AI-0 | MPSB0038-SS-AH-AI-1 | MPSB0039-SS-AA-AB-0 | MPSB0039-SS-AD-AE-0 | MPSB0039-SS-AH-AI-0 | MPSB0039-SS-AL-AM-0 | MPSB0040-SS-AA-AB-0 | MPSB0040-SS-AD-AE-0 | MPSB0040-SS-AL-AM-0 | MPSB0040-SS-AP-AQ-0 | MPSB0040-SS-AP-AQ-1 | MPSB0041-SS-AA-AB-0 | MPSB0041-SS-AD-AE-0 | MPSB0041-SS-AG-AH-0 | MPSB0041-SS-AT-AU-0 | MPSB0047-SS-AA-AB-0 | MPSB0047-SS-AD-AE-0 |
| | | Sample Date | 1/7/2010 | 1/7/2010 | 1/7/2010 | 1/7/2010 | 1/7/2010 | 1/7/2010 | 1/7/2010 | 1/7/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/13/2010 | 1/13/2010 |
| | | Depth (ft) | 0-0.5 | 1.5-2 | 4-4.5 | 0-0.5 | 1.5-2 | 2-2.5 | 3.5-4 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 5.5-6 | 0-0.5 | 1.5-2 | 5.5-6 | 7.5-8 | 7.5-8 | 0-0.5 | 1.5-2 | 3-3.5 | 9.5-10 | 0-0.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | 1990 | | 1080 | 3140 | | 2680 | 568 | 565 | 3170 J | | 2610 J | 3260 J | 1830 J | | 1980 J | 1530 J | 1200 J | 4970 J | 4110 J | 2620 J | 2340 J | 1700 | |
| METALS | ANTIMONY | MG/KG | 6 UJ | | 5.8 UJ | 0.53 J | | 1.5 J | 4.8 UJ | 6.6 UJ | 0.68 J | | 0.63 J | 5.2 UJ | 2.4 J | | 6.6 UJ | 7.3 UJ | 6 UJ | 6.3 UJ | 4.6 J | 1.7 J | 5.1 UJ | 5.7 UJ | |
| METALS | ARSENIC | MG/KG | 3.7 | | 0.96 U | 17.3 | | 138 | 7.8 J | 6.5 J | 30.6 J | | 23.2 J | 21.6 J | 5.6 J | | 33.3 J | 2.5 J | 2 J | 9.6 J | 49.9 J | 41.2 J | 2.6 J | 1 | |
| METALS | BARIUM | MG/KG | 70.1 J | | 19 U | 3060 J | | 711 J | 71.4 J | 51.5 J | 301 J | | 471 J | 194 J | 38.1 J | | 216 J | 24.7 J | 21.7 J | 107 J | 3980 J | 852 J | 17 U | 19 U | |
| METALS | BERYLLIUM | MG/KG | 0.5 U | | 0.48 U | 0.48 U | | 0.37 U | 0.4 U | 0.55 U | 0.23 J | | 0.16 J | 0.082 J | 0.42 U | | 0.09 J | 0.61 U | 0.5 U | 0.28 J | 0.38 J | 0.098 J | 0.053 J | 0.073 J | |
| METALS | CADMIUM | MG/KG | | | | | | | | | 0.5 | | 0.54 | 0.34 J | 0.067 J | | 1.2 | 0.097 J | 0.065 J | 0.22 J | 1.8 | 0.4 J | 0.43 U | 0.47 U | |
| METALS | CALCIUM | MG/KG | 2510 | | 146 J | 3650 | | 2660 | 1190 | 1410 | 4270 | | 1090 | 695 | 269 J | | 1520 | 2240 | 2170 | 3580 | 1970 | 737 | 426 U | 1140 | |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 9.7 J | | 4.5 J | 23.1 J | | 88.4 J | 6.5 J | 4.4 J | 25.9 J | | 38.7 J | 16.2 J | 11.6 J | | 63.3 J | 6.6 J | 5.5 J | 18.6 J | 430 J | 152 J | 13.9 J | 8.2 | |
| METALS | COBALT | MG/KG | 0.45 J | | 4.8 U | 2.4 J | | 2.8 J | 0.21 J | 0.16 J | 3.2 J | | 1.8 J | 1.1 J | 0.38 J | | 2.2 J | 0.43 J | 0.36 J | 2 J | 5.9 | 2.4 J | 0.44 J | 0.18 J | |
| METALS | COPPER | MG/KG | 6.7 | | 2.4 U | 22.2 | | 72.2 | 3.6 | 2.8 U | 49.6 | | 24.9 | 26.9 | 4.8 | | 47.2 | 3.1 U | 2.5 U | 14.6 | 119 | 97.3 | 2.4 | 2.1 J | |
| METALS | CYANIDE | MG/KG | 0.86 J | | 2.9 U | 2.2 J | | 6.1 | 0.43 J | 0.33 J | 32.8 J | | 7.9 J | 3.9 J | 3 J | | 21.8 J | 0.32 J | 0.26 J | 3.3 J | 32.6 J | 62.3 J | 2.6 U | 2.7 U | |
| METALS | IRON | MG/KG | 4770 | | 2040 | 7970 | | 8860 | 1460 J | 1300 J | 7700 J | | 6750 J | 5510 J | 4490 J | | 3470 J | 1280 J | 1090 J | 9280 J | 14900 J | 5640 J | 9360 J | 5170 | |
| METALS | LEAD | MG/KG | 76.2 | | 1.5 | 478 | | 1760 | 68 J | 39.5 J | 438 J | | 544 J | 388 J | 57.1 J | | 557 J | 10.5 J | 10.1 J | 81.3 J | 4190 J | 1540 J | 4.7 J | 7.9 | |
| METALS | MAGNESIUM | MG/KG | 504 J | | 61.3 J | 1110 J | | 1470 J | 119 J | 103 J | 1640 | | 216 J | 232 J | 177 J | | 128 J | 72.5 J | 67.3 J | 555 | 419 J | 167 J | 88.6 J | 677 | |
| METALS | MANGANESE | MG/KG | 22.2 | | 3.7 | 54.9 | | 32.3 | 21.8 | 26.1 | | | | | | | | | | | | | | 10.5 | |
| METALS | MERCURY | MG/KG | 0.03 J | | 0.011 J | 0.13 | | 0.25 | 0.13 | 0.032 J | 0.27 | | 0.35 | 0.19 | 0.1 | | 0.12 U | 0.12 U | 0.092 U | 0.15 | 0.84 | 0.6 | 0.16 | 0.088 U | |
| METALS | NICKEL | MG/KG | 1.3 J | | 0.32 J | 5.3 | | 9 | 0.63 J | 0.33 J | 5.3 | | 2.8 | 2.4 J | 0.8 J | | 7 | 1.4 J | 1.2 J | 7.2 | 9 | 4.4 J | 3.4 U | 0.18 J | |
| METALS | POTASSIUM | MG/KG | 496 U | | 481 U | 577 | | 370 U | 398 U | 552 U | 647 | | 254 J | 224 J | 195 J | | 145 J | 117 J | 86.9 J | 471 J | 371 J | 185 J | 326 J | 471 U | |
| METALS | SELENIUM | MG/KG | 3.5 U | | 3.4 U | 3.4 U | | 2.6 U | 2.8 U | 3.9 U | 0.57 J | | 0.43 J | 3 U | 2.9 U | | 1.1 J | 0.77 J | 3.5 U | 0.55 J | 0.82 J | 3.9 U | 3 U | 3.3 U | |
| METALS | SILVER | MG/KG | 0.99 U | | 0.96 U | 0.97 U | | 0.74 U | 0.8 U | 1.1 U | 0.79 U | | 0.66 U | 0.87 U | 0.83 U | | 1.1 U | 1.2 U | 0.99 U | 1.1 U | 1.1 U | 1.1 U | 0.85 U | 0.94 U | |
| METALS | SODIUM | MG/KG | 496 U | | 481 U | 484 U | | 370 U | 398 U | 552 U | 379 J | | 279 J | 255 J | 14.2 J | | 40.6 J | 17.8 J | 19.6 J | 67.3 J | 131 J | 62.8 J | 9.4 J | 19.7 J | |
| METALS | THALLIUM | MG/KG | 2.5 U | | 2.4 U | 2.4 U | | 1.8 U | 2 U | 2.8 U | 0.51 J | | 1.7 U | 2.2 U | 2.1 U | | 2.8 U | 3.1 U | 2.5 U | 2.6 U | 0.49 J | 2.8 U | 2.1 U | 2.4 UJ | |
| METALS | VANADIUM | MG/KG | 8.7 | | 4.8 U | 15.8 | | 11.8 | 4 U | 2.1 J | 18.2 | | 10.8 | 10.8 | 8.5 | | 9 | 6.1 U | 5 U | 45.4 | 21.4 | 9.4 | 9.6 | 4.8 | |
| METALS | ZINC | MG/KG | 81.9 | | 2.8 J | 198 | | 487 | 23.3 J | 14.9 J | 395 J | | 417 J | 348 J | 32.4 J | | 309 J | 10.2 J | 10.4 J | 58.4 J | 916 J | 538 J | 5.2 J | 9.5 | |
| PEST/PCB | 4,4'-DDD | MG/KG | 0.0036 U | | 0.0037 U | 0.0019 J | | 0.0025 J | 0.0041 U | 0.0041 U | 0.0037 U | | 0.0066 | | 0.0036 U | | | | | 0.0059 | | | | 0.0036 U | |
| PEST/PCB | 4,4'-DDE | MG/KG | 0.0036 U | | 0.0037 U | 0.0033 J | | 0.0038 U | 0.0041 U | 0.0041 U | 0.017 | | 0.0036 U | | 0.0036 U | | | | | 0.0061 | | | | 0.0036 U | |
| PEST/PCB | 4,4'-DDT | MG/KG | 0.0036 U | | 0.0037 U | | | 0.0038 U | 0.0041 U | 0.0041 U | 0.053 | | 0.0036 U | | 0.0036 U | | | | | 0.0044 U | | | | 0.0036 U | |
| PEST/PCB | ALDRIN | MG/KG | 0.0019 U | | 0.0019 U | 0.0019 U | | 0.002 U | 0.0021 U | 0.0021 U | 0.0019 U | | 0.0019 U | | 0.0018 U | | | | | 0.0023 U | | | | 0.0019 U | |
| PEST/PCB | ALPHA-BHC | MG/KG | 0.0019 U | | 0.0019 U | 0.0019 U | | 0.002 U | 0.0021 U | 0.0021 U | 0.0019 U | | 0.0019 U | | 0.0018 U | | | | | 0.0023 U | | | | 0.0019 U | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | 0.0019 U | | 0.0019 U | 0.0019 U | | 0.002 U | 0.0021 U | 0.0021 U | 0.0019 U | | 0.0019 U | | 0.0018 U | | | | | 0.0023 U | | | | 0.0019 U | |
| PEST/PCB | AROCLOR-1016 | MG/KG | 0.036 U | | 0.037 U | 0.037 U | | 0.038 U | 0.041 U | 0.041 U | 0.037 U | | 0.036 U | | 0.036 U | | | | | 0.044 U | | | | 0.036 U | |
| PEST/PCB | AROCLOR-1221 | MG/KG | 0.036 U | | 0.037 U | 0.037 U | | 0.038 U | 0.041 U | 0.041 U | 0.037 U | | 0.036 U | | 0.036 U | | | | | 0.044 U | | | | 0.036 U | |
| PEST/PCB | AROCLOR-1232 | MG/KG | 0.036 U | | 0.037 U | 0.037 U | | 0.038 U | 0.041 U | 0.041 U | 0.037 U | | 0.036 U | | 0.036 U | | | | | 0.044 U | | | | 0.036 U | |
| PEST/PCB | AROCLOR-1242 | MG/KG | 0.036 U | | 0.037 U | 0.037 U | | 0.038 U | 0.041 U | 0.041 U | 0.037 U | | 0.036 U | | 0.036 U | | | | | 0.044 U | | | | 0.036 U | |
| PEST/PCB | AROCLOR-1248 | MG/KG | 0.036 U | | 0.037 U | 0.037 U | | 0.038 U | 0.041 U | 0.041 U | 0.037 U | | 0.036 U | | 0.036 U | | | | | 0.044 U | | | | 0.036 U | |
| PEST/PCB | AROCLOR-1254 | MG/KG | 0.036 U | | 0.037 U | 0.097 | | 0.22 | 0.059 | 0.073 | 0.038 | | 0.09 | | 0.036 U | | | | | 0.041 J | | | | 0.036 U | |
| PEST/PCB | AROCLOR-1260 | MG/KG | 0.036 U | | 0.037 U | 0.035 J | | 0.028 J | 0.041 U | 0.041 U | 0.024 J | | 0.036 U | | 0.036 U | | | | | 0.042 J | | | | 0.036 U | |
| PEST/PCB | AROCLOR-1262 | MG/KG | 0.036 U | | 0.037 U | 0.037 U | | 0.038 U | 0.041 U | 0.041 U | 0.037 U | | 0.036 U | | 0.036 U | | | | | 0.044 U | | | | 0.036 U | |
| PEST/PCB | AROCLOR-1268 | MG/KG | 0.036 U | | 0.037 U | 0.037 U | | 0.038 U | 0.041 U | 0.041 U | 0.037 U | | 0.036 U | | 0.036 U | | | | | 0.044 U | | | | 0.036 U | |
| PEST/PCB | BETA-BHC | MG/KG | 0.0019 U | | 0.0019 U | 0.0019 U | | 0.0017 J | 0.0021 U | 0.0021 U | 0.0081 J | | 0.0019 U | | 0.0018 U | | | | | 0.0023 U | | | | 0.0019 U | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | 0.0019 U | | 0.0019 U | 0.0019 U | | 0.002 U | 0.0021 U | 0.0021 U | 0.0019 U | | 0.0019 U | | 0.0018 U | | | | | 0.0023 U | | | | 0.0019 U | |
| PEST/PCB | DIELDRIN | MG/KG | 0.0036 U | | 0.0037 U | 0.0037 U | | 0.0038 U | 0.0041 U | 0.0041 U | 0.0037 U | | 0.0036 U | | 0.0036 U | | | | | 0.0044 U | | | | 0.0036 U | |
| PEST/PCB | ENDOSULFAN I | MG/KG | 0.0019 U | | 0.0019 U | 0.0019 U | | 0.002 U | 0.0021 U | 0.0021 U | 0.0019 U | | 0.0019 U | | 0.0018 U | | | | | 0.0023 U | | | | 0.0019 U | |
| PEST/PCB | ENDOSULFAN II | MG/KG | 0.0036 U | | 0.0037 U | 0.0037 U | | 0.0038 U | 0.0041 U | 0.0041 U | 0.0037 U | | 0.0036 U | | 0.0036 U | | | | | 0.0044 U | | | | 0.0036 U | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | 0.0036 U | | 0.0037 U | 0.0037 U | | 0.0038 U | 0.0041 U | 0.0041 U | 0.0037 U | | 0.0036 U | | 0.0036 U | | | | | 0.0044 U | | | | 0.0036 U | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | 0.0036 U | | 0.0037 U | 0.0037 U | | 0.0038 U | 0.0041 U | 0.0041 U | 0.0037 U | | 0.0036 U | | 0.0036 U | | | | | 0.0033 J | | | | 0.0036 U | |
| PEST/PCB | ENDRIN KETONE | MG/KG | 0.0036 U | | 0.0037 U | 0.0023 J | | 0.0038 U | 0.0041 U | 0.0041 U | 0.0037 U | | 0.0036 U | | 0.0036 U | | | | | 0.0044 U | | | | 0.0036 U | |
| PEST/PCB | ENDRIN | MG/KG | 0.0036 U | | 0.0037 U | 0.0037 U | | 0.0038 U | 0.0041 U | 0.0041 U | 0.0037 U | | 0.0036 U | | 0.0036 U | | | | | 0.0044 U | | | | 0.0036 U | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | 0.0019 U | | 0.0019 U | 0.0019 U | | 0.002 U | 0.0021 U | 0.0021 U | 0.0019 U | | 0.0019 U | | 0.0018 U | | | | | 0.0023 U | | | | 0.0019 U | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | 0.0019 U | | 0.0019 U | 0.0019 U | | 0.002 U | 0.0021 U | 0.0021 U | 0.0019 U | | 0.0019 U | | 0.0018 U | | | | | 0.0023 U | | | | 0.0019 U | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | 0.0019 U | | 0.0019 U | 0.0019 U | | 0.002 U | 0.0021 U | 0.0021 U | 0.0019 U | | 0.0019 U | | 0.0018 U | | | | | 0.0023 U | | | | 0.0019 U | |
| PEST/PCB | HEPTACHLOR | MG/KG | 0.0019 U | | 0.0019 U | 0.0019 U | | 0.002 U | 0.0021 U | 0.0021 U | 0.0019 U | | 0.0019 U | | 0.0018 U | | | | | 0.0023 U | | | | 0.0019 U | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | 0.019 U | | 0.019 U | 0.019 U | | 0.02 U | 0.021 U | 0.021 U | 0.019 U | | 0.019 U | | 0.018 U | | | | | 0.023 U | | | | 0.019 U | |
| PEST/PCB | TOXAPHENE | MG/KG | 0.19 U | | 0.19 U | 0.19 U | | 0.2 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | | 0.18 U | | | | | 0.23 U | | | | 0.19 U | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0037 | MPSB0037 | MPSB0037 | MPSB0038 | MPSB0038 | MPSB0038 | MPSB0038 | MPSB0038 | MPSB0039 | MPSB0039 | MPSB0039 | MPSB0039 | MPSB0040 | MPSB0040 | MPSB0040 | MPSB0040 | MPSB0040 | MPSB0041 | MPSB0041 | MPSB0041 | MPSB0041 | MPSB0047 | MPSB0047 |
| | | Field Sample ID | MPSB0037-SS-AA-AB-0 | MPSB0037-SS-AD-AE-0 | MPSB0037-SS-AI-AJ-0 | MPSB0038-SS-AA-AB-0 | MPSB0038-SS-AD-AE-0 | MPSB0038-SS-AE-AF-0 | MPSB0038-SS-AH-AI-0 | MPSB0038-SS-AH-AI-1 | MPSB0039-SS-AA-AB-0 | MPSB0039-SS-AD-AE-0 | MPSB0039-SS-AH-AI-0 | MPSB0039-SS-AL-AM-0 | MPSB0040-SS-AA-AB-0 | MPSB0040-SS-AD-AE-0 | MPSB0040-SS-AL-AM-0 | MPSB0040-SS-AP-AQ-0 | MPSB0040-SS-AP-AQ-1 | MPSB0041-SS-AA-AB-0 | MPSB0041-SS-AD-AE-0 | MPSB0041-SS-AG-AH-0 | MPSB0041-SS-AT-AU-0 | MPSB0047-SS-AA-AB-0 | MPSB0047-SS-AD-AE-0 |
| | | Sample Date | 1/7/2010 | 1/7/2010 | 1/7/2010 | 1/7/2010 | 1/7/2010 | 1/7/2010 | 1/7/2010 | 1/7/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/13/2010 | 1/13/2010 |
| | | Depth (ft) | 0-0.5 | 1.5-2 | 4-4.5 | 0-0.5 | 1.5-2 | 2-2.5 | 3.5-4 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 5.5-6 | 0-0.5 | 1.5-2 | 5.5-6 | 7.5-8 | 7.5-8 | 0-0.5 | 1.5-2 | 3-3.5 | 9.5-10 | 0-0.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.055 J | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 0.36 UJ | | 0.38 UJ | 0.37 UJ | | 0.38 UJ | 0.41 UJ | 0.4 UJ | 0.36 U | | 0.36 U | 0.37 U | 0.35 U | | 0.45 U | 0.47 U | 0.4 U | 4.4 U | 8.2 U | 4 U | 0.35 U | 7.2 U | |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | 2-CHLOROPHENOL | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.036 J | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 0.7 J | 13 | 2.7 | 0.18 U | 6.7 | |
| SVOC | 2-METHYLPHENOL | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.024 J | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | 2-NITROANILINE | MG/KG | 0.36 U | | 0.38 U | 0.37 U | | 0.38 U | 0.41 U | 0.4 U | 0.36 U | | 0.36 U | 0.37 U | 0.35 U | | 0.45 U | 0.47 U | 0.4 U | 4.4 U | 8.2 U | 4 U | 0.35 U | 7.2 U | |
| SVOC | 2-NITROPHENOL | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | 3-NITROANILINE | MG/KG | 0.36 U | | 0.38 U | 0.37 U | | 0.38 U | 0.41 U | 0.4 U | 0.36 U | | 0.36 U | 0.37 U | 0.35 U | | 0.45 U | 0.47 U | 0.4 U | 4.4 U | 8.2 U | 4 U | 0.35 U | 7.2 U | |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 0.36 UJ | | 0.38 UJ | 0.37 UJ | | 0.38 UJ | 0.41 UJ | 0.4 UJ | 0.36 U | | 0.36 U | 0.37 U | 0.35 U | | 0.45 U | 0.47 U | 0.4 U | 4.4 U | 8.2 U | 4 U | 0.35 U | 7.2 U | |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | 4-CHLOROANILINE | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | 4-METHYLPHENOL | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | 4-NITROANILINE | MG/KG | 0.36 U | | 0.38 U | 0.37 U | | 0.38 U | 0.41 U | 0.4 U | 0.36 U | | 0.36 U | 0.37 U | 0.35 U | | 0.45 U | 0.47 U | 0.4 U | 4.4 U | 8.2 U | 4 U | 0.35 U | 7.2 U | |
| SVOC | 4-NITROPHENOL | MG/KG | 0.36 U | | 0.38 U | 0.37 U | | 0.38 U | 0.41 U | 0.4 U | 0.36 U | | 0.36 U | 0.37 U | 0.35 U | | 0.45 U | 0.47 U | 0.4 U | 4.4 U | 8.2 U | 4 U | 0.35 U | 7.2 U | |
| SVOC | ACENAPHTHENE | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.098 J | | 0.19 U | 0.021 J | 0.02 J | | 0.024 J | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 0.22 J | 0.18 U | 3.7 U | |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | ACETOPHENONE | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.044 J | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.31 | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | ANTHRACENE | MG/KG | 0.02 J | | 0.19 U | 0.027 J | | 0.19 U | 0.21 U | 0.21 U | 0.1 J | | 0.19 U | 0.04 J | 0.047 J | | 0.041 J | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 0.42 J | 0.18 U | 3.7 U | |
| SVOC | ATRAZINE | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | BENZALDEHYDE | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.035 J | 0.028 J | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.074 J | | 0.19 U | 0.21 | | 0.047 J | 0.21 U | 0.045 J | 0.34 | | 0.045 J | 0.19 | 0.5 | | 0.18 J | 0.24 U | 0.2 U | 0.41 J | 0.82 J | 1.3 J | 0.18 U | 3.7 U | |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.08 J | | 0.19 U | 0.23 | | 0.059 J | 0.016 | 0.049 J | 0.34 | | 0.055 J | 0.19 | 0.62 | | 0.19 J | 0.0082 | 0.0057 | 0.63 J | 0.88 J | 1.3 J | 0.0039 U | 3.7 U | |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 0.078 J | | 0.19 U | 0.28 | | 0.097 J | 0.21 U | 0.049 J | 0.37 | | 0.078 J | 0.21 | 0.69 | | 0.21 J | 0.24 U | 0.2 U | 0.62 J | 0.94 J | 1.7 J | 0.18 U | 3.7 U | |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.033 J | | 0.19 UJ | 0.086 J | | 0.031 J | 0.21 UJ | 0.032 J | 0.1 J | | 0.036 J | 0.11 J | 0.63 | | 0.087 J | 0.24 U | 0.2 U | 0.7 J | 0.73 J | 1.3 J | 0.18 U | 3.7 U | |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.09 J | | 0.19 U | 0.32 | | 0.065 J | 0.21 U | 0.037 J | 0.35 | | 0.049 J | 0.19 | 0.63 | | 0.17 J | 0.24 U | 0.2 U | 0.77 J | 0.83 J | 1.1 J | 0.18 U | 3.7 U | |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 0.02 J | | 0.19 U | 0.027 J | | 0.039 J | 0.21 U | 0.023 J | 0.033 J | | 0.039 J | 0.046 J | 0.032 J | | 0.036 J | 0.025 J | 0.2 U | 1 J | 4.2 U | 2.1 U | 0.018 J | 3.7 U | |
| SVOC | CAPROLACTAM | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | CARBAZOLE | MG/KG | 0.18 U | | 0.19 U | 0.033 J | | 0.19 U | 0.21 U | 0.21 U | 0.056 J | | 0.19 U | 0.034 J | 0.062 J | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | CHRYSENE | MG/KG | 0.12 J | | 0.19 U | 0.34 | | 0.092 J | 0.21 U | 0.055 J | 0.44 | | 0.074 J | 0.22 | 0.81 | | 0.24 | 0.24 U | 0.2 U | 0.7 J | 0.94 J | 1.5 J | 0.18 U | 3.7 U | |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.18 U | | 0.19 U | 0.025 J | | 0.19 U | 0.0022 J | 0.21 U | 0.038 J | | 0.19 U | 0.042 J | 0.12 J | | 0.035 J | 0.0047 U | 0.004 U | 2.3 U | 4.2 U | 0.39 J | 0.0035 U | 3.7 U | |
| SVOC | DIBENZOFURAN | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.041 J | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | DIETHYLPHTHALATE | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 0.18 U | | 0.19 U | 0.034 J | | 0.19 U | 0.21 U | 0.21 U | 0.025 J | | 0.19 U | 0.019 J | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | FLUORANTHENE | MG/KG | 0.2 | | 0.019 J | 0.6 | | 0.094 J | 0.031 J | 0.05 J | 0.69 | | 0.072 J | 0.36 | 1.4 | | 0.29 | 0.24 U | 0.2 U | 1.1 J | 1.1 J | 2.4 | 0.18 U | 3.7 U | |
| SVOC | FLUORENE | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.054 J | | 0.19 U | 0.024 J | 0.18 U | | 0.032 J | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 0.22 J | 0.18 U | 3.7 U | |
| SVOC | HEXACHLOROBENZENE | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 0.18 UJ | | 0.19 UJ | 0.19 UJ | | 0.19 UJ | 0.21 UJ | 0.21 UJ | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | HEXACHLOROETHANE | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.037 J | | 0.19 U | 0.081 J | | 0.025 J | 0.21 U | 0.033 J | 0.12 J | | 0.042 J | 0.12 J | 0.58 | | 0.098 J | 0.24 U | 0.2 U | 0.55 J | 0.73 J | 1.2 J | 0.18 U | 3.7 U | |
| SVOC | ISOPHORONE | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | NAPHTHALENE | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.04 J | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 21 | 5.3 | 0.18 U | 31 | |
| SVOC | NITROBENZENE | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | PENTACHLOROPHENOL | MG/KG | 0.36 U | | 0.38 U | 0.37 U | | 0.38 U | 0.41 U | 0.4 U | 0.36 U | | 0.36 U | 0.37 U | 0.13 J | | 0.092 J | 0.47 U | 0.4 U | 4.4 U | 8.2 U | 4 U | 0.35 U | 7.2 U | |
| SVOC | PHENANTHRENE | MG/KG | 0.17 J | | 0.19 U | 0.27 | | 0.079 J | 0.21 U | 0.21 U | 0.58 | | 0.05 J | 0.29 | 0.55 | | 0.2 J | 0.24 U | 0.2 U | 0.34 J | 1 J | 1.7 J | 0.18 U | 3.7 U | |
| SVOC | PHENOL | MG/KG | 0.18 U | | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.21 U | 0.19 U | | 0.19 U | 0.19 U | 0.18 U | | 0.23 U | 0.24 U | 0.2 U | 2.3 U | 4.2 U | 2.1 U | 0.18 U | 3.7 U | |
| SVOC | PYRENE | MG/KG | 0.16 J | | 0.19 U | 0.4 | | 0.068 J | 0.033 J | 0.063 J | 0.53 | | 0.065 J | 0.36 | 1.1 | | 0.29 | 0.24 U | 0.2 U | 0.98 J | 1.1 J | 2.1 | 0.18 UJ | 3.7 U | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0037 | MPSB0037 | MPSB0037 | MPSB0038 | MPSB0038 | MPSB0038 | MPSB0038 | MPSB0038 | MPSB0039 | MPSB0039 | MPSB0039 | MPSB0039 | MPSB0040 | MPSB0040 | MPSB0040 | MPSB0040 | MPSB0040 | MPSB0041 | MPSB0041 | MPSB0041 | MPSB0041 | MPSB0047 | MPSB0047 |
| | | Field Sample ID | MPSB0037-SS-AA-AB-0 | MPSB0037-SS-AD-AE-0 | MPSB0037-SS-AI-AJ-0 | MPSB0038-SS-AA-AB-0 | MPSB0038-SS-AD-AE-0 | MPSB0038-SS-AE-AF-0 | MPSB0038-SS-AH-AI-0 | MPSB0038-SS-AH-AI-1 | MPSB0039-SS-AA-AB-0 | MPSB0039-SS-AD-AE-0 | MPSB0039-SS-AH-AI-0 | MPSB0039-SS-AL-AM-0 | MPSB0040-SS-AA-AB-0 | MPSB0040-SS-AD-AE-0 | MPSB0040-SS-AL-AM-0 | MPSB0040-SS-AP-AQ-0 | MPSB0040-SS-AP-AQ-1 | MPSB0041-SS-AA-AB-0 | MPSB0041-SS-AD-AE-0 | MPSB0041-SS-AG-AH-0 | MPSB0041-SS-AT-AU-0 | MPSB0047-SS-AA-AB-0 | MPSB0047-SS-AD-AE-0 |
| | | Sample Date | 1/7/2010 | 1/7/2010 | 1/7/2010 | 1/7/2010 | 1/7/2010 | 1/7/2010 | 1/7/2010 | 1/7/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/11/2010 | 1/13/2010 | 1/13/2010 |
| | | Depth (ft) | 0-0.5 | 1.5-2 | 4-4.5 | 0-0.5 | 1.5-2 | 2-2.5 | 3.5-4 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 5.5-6 | 0-0.5 | 1.5-2 | 5.5-6 | 7.5-8 | 7.5-8 | 0-0.5 | 1.5-2 | 3-3.5 | 9.5-10 | 0-0.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 UJ | | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 UJ | 0.0093 U | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | 0.0093 U | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 UJ | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 UJ | 0.0093 U | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | | | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | | | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | | | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 UJ | | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | | | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 UJ | 0.0093 U | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | | | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | | | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | 0.01 U | 0.01 U | | 0.63 U | 0.66 U | 0.72 U | 0.76 U | | 0.62 U | 0.65 U | 0.65 U | | 0.011 U | 1.8 U | | 0.017 U | | 8.2 U | 6 U | 0.011 U | | 5 U |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | 0.01 U | 0.01 U | | 0.63 U | 0.66 U | 0.72 U | 0.76 U | | 0.62 U | 0.65 U | 0.65 U | | 0.011 U | 1.8 U | | 0.017 U | | 8.2 U | 6 U | 0.011 U | | 5 U |
| VOC | ACETONE | MG/KG | | 0.01 U | 0.01 U | | 0.63 U | 0.66 U | 0.72 U | 0.21 J | | 0.62 U | 0.65 U | 0.65 U | | 0.0095 J | 1.8 U | 0.032 J | 0.014 J | | 8.2 U | 6 U | 0.0067 J | | 5 U |
| VOC | BENZENE | MG/KG | | 0.0052 U | 0.005 U | | 0.12 J | 0.072 J | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | | 0.0086 U | | 1.2 J | 1.2 J | 0.0057 U | | 2.1 J |
| VOC | BROMOCHLOROMETHANE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | 0.0093 U | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | BROMODICHLOROMETHANE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | BROMOFORM | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | | | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | BROMOMETHANE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | 0.0093 U | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | CARBON DISULFIDE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | 0.0093 U | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | CARBON TETRACHLORIDE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 UJ | | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | CHLOROBENZENE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | CHLOROETHANE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | 0.0093 U | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | CHLOROFORM | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | 0.0093 U | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | CHLOROMETHANE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | 0.0093 U | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | 0.0093 U | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | CYCLOHEXANE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.2 J | 0.36 J | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | | 0.0086 U | | 8.2 | 5.7 | 0.0057 U | | 7.3 |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | 0.0093 U | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | DICHLOROMETHANE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 UJ | 0.0093 U | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | ETHYLBENZENE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 2.3 | 0.36 U | 0.38 U | | 0.058 J | 0.37 | 0.51 | | 0.0055 U | 0.89 U | | 0.0086 U | | 6.3 | 2.7 J | 0.0057 U | | 29 |
| VOC | ISOPROPYLBENZENE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.072 J | 0.4 J | 0.71 J | | 0.31 U | 0.068 J | 0.12 J | | 0.0055 U | 0.21 J | | 0.0086 U | | 19 | 6.2 | 0.0057 U | | 19 |
| VOC | METHYL ACETATE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.47 U | 0.56 U | | 0.12 J | 0.066 J | 0.26 J | | 0.0055 U | 0.64 J | 0.0093 U | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | METHYL ETHYL KETONE | MG/KG | | 0.01 U | 0.01 U | | 0.63 U | 0.66 U | 0.72 U | 0.76 U | | 0.62 U | 0.65 U | 0.65 U | | 0.011 U | 1.8 U | 0.017 J | 0.017 U | | 8.2 U | 6 U | 0.011 U | | 5 U |
| VOC | METHYLCYCLOHEXANE | MG/KG | | 0.0052 U | 0.005 U | | 1.2 | 1.7 | 8.9 J | 15 J | | 0.14 J | 0.19 J | 0.21 J | | 0.0055 U | 2 | 0.031 J | 0.0051 J | | 73 | 84 | 0.0057 U | | 50 |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 UJ | 0.0093 U | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | TETRACHLOROETHENE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | TOLUENE | MG/KG | | 0.0052 U | 0.005 U | | 0.067 J | 1 J | 0.36 U | 0.38 U | | 0.61 | 1.7 | 0.35 | | 0.0055 U | 2.4 J | | 0.0086 U | | 4.1 U | 1.1 J | 0.0057 U | | 2.5 U |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | 0.0093 U | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 UJ | 0.0093 U | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 0.33 U | 0.36 U | 0.38 U | | 0.31 U | 0.33 U | 0.33 U | | 0.0055 U | 0.89 U | 0.0093 U | 0.0086 U | | 4.1 U | 3 U | 0.0057 U | | 2.5 U |
| VOC | XYLENE, O- | MG/KG | | 0.0052 U | 0.005 U | | 0.31 U | 2.8 | 0.36 U | 0.38 U | | 0.35 | 3 | 1.3 | | 0.0055 U | 0.89 U | | 0.0086 U | | 4.1 U | 0.58 J | 0.0057 U | | 2.5 U |
| VOC | XYLENES (TOTAL) | MG/KG | | 0.0052 U | 0.005 U | | 0.34 | 24.8 | 0.35 J | 0.23 J | | 1.1 | 10.3 | 13.3 | | 0.0055 U | 0.58 J | | 0.0086 U | | 6.8 | 6.08 J | 0.0057 U | | 2.5 U |
| VOC | XYLENES, M & P | MG/KG | | 0.0052 U | 0.005 U | | 0.34 | 22 | 0.35 J | 0.23 J | | 0.75 | 7.3 | 12 | | 0.0055 U | 0.58 J | | 0.0086 U | | 6.8 | 5.5 | 0.0057 U | | 2.5 U |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0047 | MPSB0047 | MPSB0047 | MPSB0048 | MPSB0048 | MPSB0048 | MPSB0048 | MPSB0051 | MPSB0051 | MPSB0051 | MPSB0109 | MPSB0110 | MPSB0111 | MPSB0112 | MPSB0112 | MPSB0128 | MPSB0128 | MPSB0128 | MPSB0128 | MPSB0129 | MPSB0129 | MPSB0129 | MPSB0206 |
| | | Field Sample ID | MPSB0047-SS-AH-AI-0 | MPSB0047-SS-AJ-AK-0 | MPSB0047-SS-AP-AQ-0 | MPSB0048-SS-AA-AB-0 | MPSB0048-SS-AD-AE-0 | MPSB0048-SS-AH-AI-0 | MPSB0048-SS-AL-AM-0 | MPSB0051-SS-AA-AB-0 | MPSB0051-SS-AD-AE-0 | MPSB0051-SS-AJ-AK-0 | MPSB0109-SS-AP-AR-0 | MPSB0110-SS-AE-AF-0 | MPSB0111-SS-AI-AK-0 | MPSB0112-SS-AK-AM-0 | MPSB0112-SS-AK-AM-1 | MPSB0128-SS-AA-AB-0 | MPSB0128-SS-AE-AF-0 | MPSB0128-SS-AH-AI-0 | MPSB0128-SS-AH-AI-1 | MPSB0129-SS-AA-AB-0 | MPSB0129-SS-AE-AF-0 | MPSB0129-SS-AH-AI-0 | MPSB0206-SS-AA-AE-0 |
| | | Sample Date | 1/13/2010 | 1/13/2010 | 1/13/2010 | 1/14/2010 | 1/14/2010 | 1/14/2010 | 1/14/2010 | 1/18/2010 | 1/18/2010 | 1/18/2010 | 7/26/2012 | 7/30/2012 | 7/31/2012 | 8/2/2012 | 8/2/2012 | 9/17/2012 | 9/17/2012 | 9/17/2012 | 9/17/2012 | 9/17/2012 | 9/17/2012 | 9/17/2012 | 9/18/2015 |
| | | Depth (ft) | 3.5-4 | 4.5-5 | 7.5-8 | 0-0.5 | 1.5-2 | 3.5-4 | 5.5-6 | 0-0.5 | 1.5-2 | 4.5-5 | 7.5-8.5 | 2-2.5 | 4-5 | 5-6 | 5-6 | 0-0.5 | 2-2.5 | 3.5-4 | 3.5-4 | 0-0.5 | 2-2.5 | 3.5-4 | 0-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 2.4 U |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 2.4 U |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 2.4 U |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 2.4 U |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 2.4 U |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 2.4 U |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 2.4 U |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | 2.4 U |
| METALS | ALUMINUM | MG/KG | 4650 | 1650 | 2920 | 6810 J | | 1890 J | 3420 J | 7100 | | 3620 | | | | | | 1680 | 2160 | 1720 | 1790 | 2540 | 390 | 136 | 2400 |
| METALS | ANTIMONY | MG/KG | 6.3 UJ | 6.4 UJ | 7 UJ | 4.4 UJ | | 6.1 UJ | 6.4 UJ | 5.1 UJ | | 6.1 UJ | | | | | | 5.6 UJ | 5.6 UJ | 4.5 UJ | 4.5 UJ | 4.7 UJ | 4.5 UJ | 4.8 UJ | 6 UJ |
| METALS | ARSENIC | MG/KG | 2.7 | 1.3 | 3.9 | 4.7 | | 1.3 | 1.6 | 3.7 | | 0.98 J | | | | | | | | | | | | | 5 J |
| METALS | BARIUM | MG/KG | 21 U | 21 U | 23 U | 130 J | | 20 U | 21 U | 51.3 | | 20 U | | | | | | 191 | 147 | 10.4 J | 10.6 J | 219 | 17.7 | 4 J | |
| METALS | BERYLLIUM | MG/KG | 0.082 J | 0.085 J | 0.078 J | 0.89 | | 0.1 J | 0.098 J | 0.57 | | 0.12 J | | | | | | 0.057 J | 0.067 J | 0.38 U | 0.37 U | 0.24 J | 0.37 U | 0.4 U | 0.043 J |
| METALS | CADMIUM | MG/KG | 0.53 U | 0.53 U | 0.59 U | 0.11 J | | 0.083 J | 0.54 U | 0.22 J | | 0.51 U | | | | | | 0.3 J | 0.17 J | 0.04 J | 0.37 U | 0.5 | 0.049 J | 0.4 U | 0.11 J |
| METALS | CALCIUM | MG/KG | 176 J | 88.8 J | 185 J | 56200 | | 281 J | 169 J | 128000 | | 206 J | | | | | | 411 J | 522 | 104 J | 98 J | 18000 | 212 J | 42.8 J | 304 J |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 11.3 | 6.7 | 10.9 | 26.1 J | | 11 J | 14 J | 18.7 | | 13.6 | | | | | | 18.4 | 18.7 | 4.2 | 4.5 | 28.4 | 3.2 | 1 | 11.1 |
| METALS | COBALT | MG/KG | 5.3 U | 5.3 U | 5.9 U | 6.9 J | | 0.4 J | 5.4 U | 4.8 | | 5.1 U | | | | | | 1.5 J | 1.2 J | 0.67 J | 0.78 J | 2.6 J | 0.23 J | 0.21 J | 0.36 J |
| METALS | COPPER | MG/KG | 2.1 J | 1.3 J | 1.7 J | 17.7 J | | 2.6 U | 2.7 U | 14 | | 1.9 J | | | | | | 18.8 J | 10.9 J | 1.1 J | 1 J | 21.5 J | 6.2 J | 2 U | 7.2 |
| METALS | CYANIDE | MG/KG | 3 U | 3.1 U | 3.3 U | 2.6 U | | 2.9 U | 3 U | 0.34 J | | 2.9 U | | | | | | | | | | | | | 1.4 |
| METALS | IRON | MG/KG | 9440 | 4120 | 7210 | 21500 J | | 4230 J | 6990 J | 13800 | | 2620 | | | | | | 4530 | 5030 | 2950 | 2890 | 7060 | 788 | 117 | 4720 |
| METALS | LEAD | MG/KG | 3 | 3.1 | 3.9 | 40.4 | | 47.8 | 4.1 | 31.3 | | 4.4 | | | | | | 830 J | 405 J | 4.1 J | 4.7 J | 913 J | 181 J | 29.1 J | 74.9 |
| METALS | MAGNESIUM | MG/KG | 87.6 J | 29.9 J | 93.6 J | 12100 J | | 119 J | 142 J | 75600 | | 182 J | | | | | | 156 J | 172 J | 80.4 J | 86.8 J | 8980 | 63.2 J | 403 U | 188 J |
| METALS | MANGANESE | MG/KG | 9.4 | 7 | 13.2 | 524 J | | 22.6 J | 7.3 J | 272 | | 8.2 | | | | | | 35.6 J | 22 J | 14.5 J | 16.9 J | 63.6 J | 15.1 J | 5.4 J | 18 |
| METALS | MERCURY | MG/KG | 0.095 U | 0.1 U | 0.11 U | 0.062 J | | 0.1 U | 0.053 J | 0.066 J | | 0.11 U | | | | | | 0.11 J | 0.1 U | 0.11 U | 0.1 U | 0.095 U | 0.1 U | 0.1 U | 0.066 J |
| METALS | NICKEL | MG/KG | 4.2 U | 4.2 U | 4.7 U | 11.9 J | | 0.44 J | 4.3 U | 9.7 | | 0.22 J | | | | | | 3.4 J | 2.6 J | 3 U | 3 U | 6.4 | 3 U | 3.2 U | 1.6 J |
| METALS | POTASSIUM | MG/KG | 528 U | 530 U | 586 U | 3050 J | | 107 J | 312 J | 2080 | | 348 J | | | | | | 97.7 J | 209 J | 67.4 J | 71.9 J | 362 J | 88.2 J | 11.3 J | 198 J |
| METALS | SELENIUM | MG/KG | 3.7 U | 3.7 U | 4.1 U | 2.6 U | | 3.6 U | 3.8 U | 3 U | | 3.6 U | | | | | | 3.2 U | 0.26 J | 2.6 U | 2.6 U | 0.4 J | 2.6 U | 0.26 J | 3.5 U |
| METALS | SILVER | MG/KG | 1.1 U | 1.1 U | 1.2 U | 0.74 U | | 1 U | 1.1 U | 0.86 U | | 1 U | | | | | | 0.93 U | 0.93 U | 0.76 U | 0.74 U | 0.78 U | 0.75 U | 0.81 U | 1 U |
| METALS | SODIUM | MG/KG | 125 J | 92.2 J | 84.9 J | 241 J | | 22.1 J | 22.8 J | 2510 | | 400 J | | | | | | 23.1 J | 21.2 J | 53.8 J | 53.1 J | 382 J | 74 J | 65.9 J | 501 U |
| METALS | THALLIUM | MG/KG | 2.6 UJ | 2.7 UJ | 2.9 UJ | 1.8 UJ | | 2.6 UJ | 2.7 UJ | 2.1 UJ | | 2.6 UJ | | | | | | 2.3 U | 2.3 U | 1.9 U | 1.9 U | 2 U | 1.9 U | 2 U | 2.5 U |
| METALS | VANADIUM | MG/KG | 12.6 | 5.6 | 8.3 | 34.6 J | | 5 J | 9.9 J | 29.3 | | 11.6 | | | | | | 7.5 | 7.5 | 4.3 | 4.3 | 11.6 | 3.5 J | 1.2 J | 7 |
| METALS | ZINC | MG/KG | 2.1 J | 1.6 J | 1.5 J | 55.1 J | | 19.9 J | 1.9 J | 53 | | 1.7 J | | | | | | 84 | 43.4 | 13.3 | 13.4 | 178 | 38.2 | 4.4 J | 65.5 J |
| PEST/PCB | 4,4'-DDD | MG/KG | 0.0039 U | 0.004 U | | 0.0035 U | | 0.0038 U | 0.0039 U | 0.0035 U | | 0.0038 U | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | 0.0039 U | 0.004 U | | 0.0035 U | | 0.0038 U | 0.0039 U | 0.0038 J | | 0.0038 U | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | 0.0039 U | 0.004 U | | 0.0035 U | | 0.0038 U | 0.0039 U | 0.0035 J | | 0.0041 | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | 0.002 U | 0.0021 U | | 0.0018 U | | 0.002 U | 0.002 U | 0.0018 U | | 0.0019 U | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | 0.002 U | 0.0021 U | | 0.0018 U | | 0.002 U | 0.002 U | 0.0018 U | | 0.0019 U | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | 0.002 U | 0.0021 U | | 0.0018 U | | 0.002 U | 0.002 U | 0.0018 U | | 0.0019 U | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | 0.039 U | 0.04 U | | 0.035 U | | 0.038 U | 0.039 U | 0.035 U | | 0.038 U | | | | | | 0.034 U | 0.034 U | 0.035 U | 0.035 U | 0.035 U | 0.035 U | 0.038 U | 0.035 U |
| PEST/PCB | AROCLOR-1221 | MG/KG | 0.039 U | 0.04 U | | 0.035 U | | 0.038 U | 0.039 U | 0.035 U | | 0.038 U | | | | | | 0.034 U | 0.034 U | 0.035 U | 0.035 U | 0.035 U | 0.035 U | 0.038 U | 0.035 U |
| PEST/PCB | AROCLOR-1232 | MG/KG | 0.039 U | 0.04 U | | 0.035 U | | 0.038 U | 0.039 U | 0.035 U | | 0.038 U | | | | | | 0.034 U | 0.034 U | 0.035 U | 0.035 U | 0.035 U | 0.035 U | 0.038 U | 0.035 U |
| PEST/PCB | AROCLOR-1242 | MG/KG | 0.039 U | 0.04 U | | 0.035 U | | 0.038 U | 0.039 U | 0.035 U | | 0.038 U | | | | | | 0.034 U | 0.034 U | 0.035 U | 0.035 U | 0.035 U | 0.035 U | 0.038 U | 0.035 U |
| PEST/PCB | AROCLOR-1248 | MG/KG | 0.039 U | 0.04 U | | 0.035 U | | 0.038 U | 0.039 U | 0.035 U | | 0.038 U | | | | | | 0.034 U | 0.034 U | 0.035 U | 0.035 U | 0.035 U | 0.035 U | 0.038 U | 0.035 U |
| PEST/PCB | AROCLOR-1254 | MG/KG | 0.039 U | 0.04 U | | 0.035 U | | 0.029 J | 0.039 U | 0.035 U | | 0.038 U | | | | | | 0.17 | 0.07 | 0.035 U | 0.035 U | 0.49 | 0.028 J | 0.25 | 0.011 J |
| PEST/PCB | AROCLOR-1260 | MG/KG | 0.039 U | 0.04 U | | 0.035 U | | 0.038 U | 0.039 U | 0.035 U | | 0.038 U | | | | | | 0.077 | 0.039 | 0.035 U | 0.035 U | 0.12 | 0.0069 J | 0.059 | 0.005 J |
| PEST/PCB | AROCLOR-1262 | MG/KG | 0.039 U | 0.04 U | | 0.035 U | | 0.038 U | 0.039 U | 0.035 U | | 0.038 U | | | | | | 0.034 U | 0.034 U | 0.035 U | 0.035 U | 0.035 U | 0.035 U | 0.038 U | 0.035 U |
| PEST/PCB | AROCLOR-1268 | MG/KG | 0.039 U | 0.04 U | | 0.035 U | | 0.038 U | 0.039 U | 0.035 U | | 0.038 U | | | | | | 0.034 U | 0.034 U | 0.035 U | 0.035 U | 0.035 U | 0.035 U | 0.038 U | 0.035 U |
| PEST/PCB | BETA-BHC | MG/KG | 0.002 U | 0.0021 U | | 0.0018 U | | 0.002 U | 0.002 U | 0.0018 U | | 0.0019 U | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | 0.002 U | 0.0021 U | | 0.0018 U | | 0.002 U | 0.002 U | 0.0018 U | | 0.0019 U | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | 0.0039 U | 0.004 U | | 0.0035 U | | 0.0038 U | 0.0039 U | 0.0035 U | | 0.0038 U | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | 0.002 U | 0.0021 U | | 0.0018 U | | 0.002 U | 0.002 U | 0.0018 U | | 0.0019 U | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | 0.0039 U | 0.004 U | | 0.0035 U | | 0.0038 U | 0.0039 U | 0.0035 U | | 0.0038 U | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | 0.0039 U | 0.004 U | | 0.0035 U | | 0.0038 U | 0.0039 U | 0.0035 U | | 0.0038 U | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | 0.0039 U | 0.004 U | | 0.0035 U | | 0.0038 U | 0.0039 U | 0.0035 U | | 0.0038 U | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | 0.0039 U | 0.004 U | | 0.0035 U | | 0.0038 U | 0.0039 U | 0.0022 J | | 0.0038 U | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | 0.0039 U | 0.004 U | | 0.0035 U | | 0.0038 U | 0.0039 U | 0.0035 U | | 0.0038 U | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | 0.002 U | 0.0021 U | | 0.0018 U | | 0.002 U | 0.002 U | 0.0018 U | | 0.0019 U | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | 0.002 U | 0.0021 U | | 0.0018 U | | 0.002 U | 0.002 U | 0.0018 U | | 0.0019 U | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | 0.002 U | 0.0021 U | | 0.0018 U | | 0.002 U | 0.002 U | 0.0018 U | | 0.0019 U | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | 0.002 U | 0.0021 U | | 0.0018 U | | 0.002 U | 0.002 U | 0.0018 U | | 0.0019 U | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | 0.02 U | 0.021 U | | 0.018 U | | 0.02 U | 0.02 U | 0.018 U | | 0.019 U | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | 0.2 U | 0.21 U | | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0047 | MPSB0047 | MPSB0047 | MPSB0048 | MPSB0048 | MPSB0048 | MPSB0048 | MPSB0051 | MPSB0051 | MPSB0051 | MPSB0109 | MPSB0110 | MPSB0111 | MPSB0112 | MPSB0112 | MPSB0128 | MPSB0128 | MPSB0128 | MPSB0128 | MPSB0129 | MPSB0129 | MPSB0129 | MPSB0206 |
| | | Field Sample ID | MPSB0047-SS-AH-AI-0 | MPSB0047-SS-AJ-AK-0 | MPSB0047-SS-AP-AQ-0 | MPSB0048-SS-AA-AB-0 | MPSB0048-SS-AD-AE-0 | MPSB0048-SS-AH-AI-0 | MPSB0048-SS-AL-AM-0 | MPSB0051-SS-AA-AB-0 | MPSB0051-SS-AD-AE-0 | MPSB0051-SS-AJ-AK-0 | MPSB0109-SS-AP-AR-0 | MPSB0110-SS-AE-AF-0 | MPSB0111-SS-AI-AK-0 | MPSB0112-SS-AK-AM-0 | MPSB0112-SS-AK-AM-1 | MPSB0128-SS-AA-AB-0 | MPSB0128-SS-AE-AF-0 | MPSB0128-SS-AH-AI-0 | MPSB0128-SS-AH-AI-1 | MPSB0129-SS-AA-AB-0 | MPSB0129-SS-AE-AF-0 | MPSB0129-SS-AH-AI-0 | MPSB0206-SS-AA-AE-0 |
| | | Sample Date | 1/13/2010 | 1/13/2010 | 1/13/2010 | 1/14/2010 | 1/14/2010 | 1/14/2010 | 1/14/2010 | 1/18/2010 | 1/18/2010 | 1/18/2010 | 7/26/2012 | 7/30/2012 | 7/31/2012 | 8/2/2012 | 8/2/2012 | 9/17/2012 | 9/17/2012 | 9/17/2012 | 9/17/2012 | 9/17/2012 | 9/17/2012 | 9/17/2012 | 9/18/2015 |
| | | Depth (ft) | 3.5-4 | 4.5-5 | 7.5-8 | 0-0.5 | 1.5-2 | 3.5-4 | 5.5-6 | 0-0.5 | 1.5-2 | 4.5-5 | 7.5-8.5 | 2-2.5 | 4-5 | 5-6 | 5-6 | 0-0.5 | 2-2.5 | 3.5-4 | 3.5-4 | 0-0.5 | 2-2.5 | 3.5-4 | 0-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.0044 J | 0.18 U | 0.19 U | 0.18 U |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 2.6 U | 0.41 U | 0.43 U | 0.35 U | | 0.38 U | 0.4 U | 0.35 U | | 0.38 U | 0.4 U | 3.6 U | 0.39 U | 0.39 U | 0.41 U | 0.34 U | 0.34 U | 0.34 U | 0.34 U | 0.34 U | 0.35 U | 0.37 U | 0.35 U |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 UJ | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 2.3 | 0.28 | 0.22 U | 0.18 U | | 0.028 J | 0.2 U | 0.023 J | | 0.19 U | 0.23 | 1.7 J | 0.031 J | 0.2 U | 0.21 U | 0.011 J | 0.17 U | 0.18 U | 0.18 U | 0.016 J | 0.18 U | 0.19 U | 0.18 U |
| SVOC | 2-METHYLPHENOL | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | 2-NITROANILINE | MG/KG | 2.6 U | 0.41 U | 0.43 U | 0.35 U | | 0.38 U | 0.4 U | 0.35 U | | 0.38 U | 0.4 U | 3.6 U | 0.39 U | 0.39 U | 0.41 U | 0.34 U | 0.34 U | 0.34 U | 0.34 U | 0.34 U | 0.35 U | 0.37 U | 0.35 U |
| SVOC | 2-NITROPHENOL | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | 3-NITROANILINE | MG/KG | 2.6 U | 0.41 U | 0.43 U | 0.35 U | | 0.38 U | 0.4 U | 0.35 U | | 0.38 U | 0.4 U | 3.6 U | 0.39 U | 0.39 U | 0.41 U | 0.34 U | 0.34 U | 0.34 U | 0.34 U | 0.34 U | 0.35 U | 0.37 U | 0.35 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 2.6 U | 0.41 U | 0.43 U | 0.35 U | | 0.38 U | 0.4 U | 0.35 U | | 0.38 U | 0.4 U | 3.6 U | 0.39 U | 0.39 U | 0.41 U | 0.34 U | 0.34 U | 0.34 U | 0.34 U | 0.34 U | 0.35 U | 0.37 U | 0.35 U |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | 4-CHLOROANILINE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | 4-METHYLPHENOL | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | 4-NITROANILINE | MG/KG | 2.6 U | 0.41 U | 0.43 U | 0.35 U | | 0.38 U | 0.4 U | 0.35 U | | 0.38 U | 0.4 U | 3.6 U | 0.39 U | 0.39 U | 0.41 U | 0.34 U | 0.34 U | 0.34 U | 0.34 U | 0.34 U | 0.35 U | 0.37 U | 0.35 U |
| SVOC | 4-NITROPHENOL | MG/KG | 2.6 U | 0.41 U | 0.43 U | 0.35 U | | 0.38 U | 0.4 U | 0.35 U | | 0.38 U | 0.4 U | 3.6 U | 0.39 U | 0.39 U | 0.41 U | 0.34 U | 0.34 U | 0.34 U | 0.34 U | 0.34 U | 0.35 U | 0.37 U | 0.35 U |
| SVOC | ACENAPHTHENE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.034 J | | 0.19 U | 0.021 J | 0.34 J | 0.2 U | 0.2 U | 0.21 U | 0.025 J | 0.005 J | 0.18 U | 0.18 U | 0.024 J | 0.18 U | 0.19 U | 0.18 U |
| SVOC | ACENAPHTHYLENE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.04 J | 0.18 U | 0.19 U | 0.18 U |
| SVOC | ACETOPHENONE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 UJ |
| SVOC | ANTHRACENE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.057 J | 0.2 U | 0.059 J | | 0.19 U | 0.026 J | 0.17 J | 0.2 U | 0.0029 J | 0.0024 J | 0.05 J | 0.014 J | 0.18 U | 0.18 U | 0.043 J | 0.18 U | 0.19 U | 0.012 J |
| SVOC | ATRAZINE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | BENZALDEHYDE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.011 J |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.043 J | | 0.14 J | 0.2 U | 1 | | 0.19 U | 0.051 J | 0.14 J | 0.2 U | 0.0077 J | 0.0092 J | 0.2 | 0.064 J | 0.18 U | 0.18 U | 0.46 | 0.0058 J | 0.19 U | 0.12 J |
| SVOC | BENZO(A)PYRENE | MG/KG | 1.3 U | 0.0054 | 0.0062 | 0.048 J | | 0.12 J | 0.0065 | 1.5 | | 0.19 U | 0.035 J | 0.22 | 0.004 | 0.0047 J | 0.01 J | 0.21 | 0.059 J | 0.18 U | 0.18 U | 0.7 J | 0.0095 J | 0.19 U | 0.14 J |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.042 J | | 0.099 J | 0.2 U | 2.1 | | 0.19 U | 0.034 J | 0.18 | 0.2 U | 0.2 U | 0.012 J | 0.23 | 0.054 J | 0.18 U | 0.18 U | 0.63 J | 0.18 U | 0.19 U | 0.22 J |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.058 J | | 0.11 J | 0.2 U | 0.55 J | | 0.19 UJ | 0.023 J | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.13 J | 0.04 J | 0.18 U | 0.18 U | 0.32 J | 0.18 U | 0.19 U | 0.056 J |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.042 J | | 0.13 J | 0.2 U | 1.8 | | 0.19 U | 0.037 J | 1.8 U | 0.2 U | 0.2 U | 0.0093 J | 0.22 | 0.082 J | 0.18 U | 0.18 U | 0.87 J | 0.18 U | 0.19 U | 0.12 J |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | CAPROLACTAM | MG/KG | 1.3 U | 0.21 U | 0.036 J | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.024 J | 0.21 U | 0.17 U | 0.17 U | 0.023 J | 0.18 U | 0.053 J | 0.013 J | 0.19 U | 0.037 J |
| SVOC | CARBAZOLE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.062 J | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.033 J | 0.0066 J | 0.18 U | 0.18 U | 0.027 J | 0.18 U | 0.19 U | 0.015 J |
| SVOC | CHRYSENE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.06 J | | 0.16 J | 0.2 U | 1.8 | | 0.19 U | 0.067 J | 0.14 J | 0.2 U | 0.012 J | 0.015 J | 0.28 | 0.09 J | 0.18 U | 0.18 U | 0.58 | 0.0088 J | 0.19 U | 0.18 J |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 1.3 U | 0.0041 U | 0.0043 U | 0.18 U | | 0.024 | 0.004 U | 0.18 | | 0.19 U | 0.01 J | 0.053 | 0.00017 J | 0.0013 J | 0.0026 J | 0.058 J | 0.017 J | 0.18 U | 0.18 U | 0.16 J | 0.18 U | 0.19 U | 0.016 J |
| SVOC | DIBENZOFURAN | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.066 J | 0.2 U | 0.021 J | | 0.19 U | 0.013 J | 0.21 J | 0.2 U | 0.2 U | 0.21 U | 0.014 J | 0.17 U | 0.18 U | 0.18 U | 0.017 J | 0.18 U | 0.19 U | 0.18 U |
| SVOC | DIETHYLPHTHALATE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.0066 J | 0.18 U | 0.18 U | 0.0072 J | 0.18 U | 0.19 U | 0.18 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 0.017 J | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | | 0.18 U | 0.025 J | 0.18 UJ |
| SVOC | FLUORANTHENE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.058 J | | 0.4 | 0.2 U | 2.7 | | 0.19 U | 0.16 J | 0.44 J | 0.2 UJ | 0.015 J | 0.02 J | 0.43 | 0.12 J | 0.18 U | 0.18 U | 0.54 | 0.014 J | 0.19 U | 0.35 |
| SVOC | FLUORENE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.11 J | 0.2 U | 0.02 J | | 0.19 U | 0.03 J | 0.29 J | 0.2 U | 0.2 U | 0.21 U | 0.024 J | 0.005 J | 0.18 U | 0.18 U | 0.023 J | 0.18 U | 0.19 U | 0.0059 J |
| SVOC | HEXACHLOROBENZENE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | HEXACHLOROETHANE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.046 J | | 0.088 J | 0.2 U | 0.59 | | 0.19 U | 0.021 J | 0.15 | 0.2 U | 0.2 U | 0.21 U | 0.1 J | 0.037 J | 0.18 U | 0.18 U | 0.31 J | 0.18 U | 0.19 U | 0.054 J |
| SVOC | ISOPHORONE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | NAPHTHALENE | MG/KG | 13 | 0.74 | 0.22 U | 0.18 U | | 0.024 J | 0.2 U | 0.047 J | | 0.19 U | 0.21 U | 1.7 J | 0.048 J | 0.2 U | 0.0015 J | 0.013 J | 0.17 U | 0.18 U | 0.18 U | 0.021 J | 0.18 U | 0.19 U | 0.18 U |
| SVOC | NITROBENZENE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.21 U | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | 2.6 U | 0.41 U | 0.43 U | 0.35 U | | 0.38 U | 0.4 U | 0.35 U | | 0.38 U | 0.4 U | 3.6 U | 0.39 U | 0.39 U | 0.41 U | 0.34 U | 0.34 U | 0.34 U | 0.34 U | 0.34 U | 0.35 U | 0.37 U | 0.35 U |
| SVOC | PHENANTHRENE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.042 J | | 0.45 | 0.2 U | 0.35 | | 0.19 U | 0.13 J | 0.8 J | 0.013 J | 0.017 J | 0.017 J | 0.3 | 0.074 J | 0.18 U | 0.18 U | 0.29 | 0.0079 J | 0.19 U | 0.13 J |
| SVOC | PHENOL | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.18 U | | 0.2 U | 0.2 U | 0.18 U | | 0.19 U | 0.034 J | 1.8 U | 0.2 U | 0.2 U | 0.21 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.18 U |
| SVOC | PYRENE | MG/KG | 1.3 U | 0.21 U | 0.22 U | 0.08 J | | 0.4 | 0.2 U | 1.3 | | 0.19 U | 0.13 J | 0.42 J | 0.2 U | 0.02 J | 0.022 J | 0.42 | 0.13 J | 0.0047 J | 0.18 U | 0.69 | 0.015 J | 0.19 U | 0.25 |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0047 | MPSB0047 | MPSB0047 | MPSB0048 | MPSB0048 | MPSB0048 | MPSB0048 | MPSB0051 | MPSB0051 | MPSB0051 | MPSB0109 | MPSB0110 | MPSB0111 | MPSB0112 | MPSB0112 | MPSB0128 | MPSB0128 | MPSB0128 | MPSB0128 | MPSB0129 | MPSB0129 | MPSB0129 | MPSB0206 |
| | | Field Sample ID | MPSB0047-SS-AH-AI-0 | MPSB0047-SS-AJ-AK-0 | MPSB0047-SS-AP-AQ-0 | MPSB0048-SS-AA-AB-0 | MPSB0048-SS-AD-AE-0 | MPSB0048-SS-AH-AI-0 | MPSB0048-SS-AL-AM-0 | MPSB0051-SS-AA-AB-0 | MPSB0051-SS-AD-AE-0 | MPSB0051-SS-AJ-AK-0 | MPSB0109-SS-AP-AR-0 | MPSB0110-SS-AE-AF-0 | MPSB0111-SS-AI-AK-0 | MPSB0112-SS-AK-AM-0 | MPSB0112-SS-AK-AM-1 | MPSB0128-SS-AA-AB-0 | MPSB0128-SS-AE-AF-0 | MPSB0128-SS-AH-AI-0 | MPSB0128-SS-AH-AI-1 | MPSB0129-SS-AA-AB-0 | MPSB0129-SS-AE-AF-0 | MPSB0129-SS-AH-AI-0 | MPSB0206-SS-AA-AE-0 |
| | | Sample Date | 1/13/2010 | 1/13/2010 | 1/13/2010 | 1/14/2010 | 1/14/2010 | 1/14/2010 | 1/14/2010 | 1/18/2010 | 1/18/2010 | 1/18/2010 | 7/26/2012 | 7/30/2012 | 7/31/2012 | 8/2/2012 | 8/2/2012 | 9/17/2012 | 9/17/2012 | 9/17/2012 | 9/17/2012 | 9/17/2012 | 9/17/2012 | 9/17/2012 | 9/18/2015 |
| | | Depth (ft) | 3.5-4 | 4.5-5 | 7.5-8 | 0-0.5 | 1.5-2 | 3.5-4 | 5.5-6 | 0-0.5 | 1.5-2 | 4.5-5 | 7.5-8.5 | 2-2.5 | 4-5 | 5-6 | 5-6 | 0-0.5 | 2-2.5 | 3.5-4 | 3.5-4 | 0-0.5 | 2-2.5 | 3.5-4 | 0-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | 1,1-DICHLOROETHANE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | 1,1-DICHLOROETHENE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | | | | | | | | | | 0.0052 U |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | | | | | | | | | | 0.0052 U |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | | | | | | | | | | 0.0052 U |
| VOC | 1,2-DIBROMOETHANE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | | | | | | | | | | 0.0052 U |
| VOC | 1,2-DICHLOROETHANE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | | | | | | | | | | 0.0052 U |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | | | | | | | | | | 0.0052 U |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | 4.5 U | 0.74 U | 0.012 U | | 0.0091 U | 0.011 U | 0.01 U | | 4.8 U | 0.01 U | 58 U | 26 U | 4.2 U | 0.012 U | 0.011 U | | | | | | | | 0.01 U |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | 4.5 U | 0.74 U | 0.012 U | | 0.0091 U | 0.0048 J | 0.01 U | | 4.8 U | 0.01 U | 58 U | 26 U | 4.2 U | 0.012 U | 0.011 U | | | | | | | | 0.01 U |
| VOC | ACETONE | MG/KG | 4.5 U | 0.74 U | 0.022 | | 0.0035 J | 0.036 | 0.039 | | 4.8 U | 0.016 | 58 U | 26 U | 4.2 U | 0.016 J | 0.045 J | | | | | | | | 0.01 U |
| VOC | BENZENE | MG/KG | 1 J | 0.13 J | 0.081 | | 0.0039 J | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | BROMOCHLOROMETHANE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | BROMODICHLOROMETHANE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | BROMOFORM | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | | | | | | | | | | 0.0052 U |
| VOC | BROMOMETHANE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 UJ | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | CARBON DISULFIDE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0046 J | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0073 | | | | | | | | 0.0052 U |
| VOC | CARBON TETRACHLORIDE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | CHLOROBENZENE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | CHLOROETHANE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | CHLOROFORM | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 UJ | 0.0022 J | 0.0029 J | | | | | | | | 0.0052 U |
| VOC | CHLOROMETHANE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | CYCLOHEXANE | MG/KG | 11 | 0.37 U | 0.0048 J | | 0.0045 U | 0.0057 U | 0.0037 J | | 2.1 J | 0.005 U | 29 U | 13 U | 8.1 | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 0.5 J | 2.1 U | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | DICHLOROMETHANE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 0.075 J | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | ETHYLBENZENE | MG/KG | 9.4 | 0.089 J | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 1.3 J | 2.1 U | 0.0032 J | 0.016 J | | | | | | | | 0.0052 U |
| VOC | ISOPROPYLBENZENE | MG/KG | 11 | 0.081 J | 0.013 | | 0.0045 U | 0.0057 U | 0.0051 U | | 1.9 J | 0.005 U | 6 J | 20 | 3.8 | 0.009 J | 0.022 J | | | | | | | | 0.0052 U |
| VOC | METHYL ACETATE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | METHYL ETHYL KETONE | MG/KG | 4.5 U | 0.74 U | 0.012 U | | 0.0091 U | 0.0056 J | 0.01 U | | 4.8 U | 0.01 U | 58 U | 26 U | 4.2 U | 0.0061 J | 0.019 J | | | | | | | | 0.01 U |
| VOC | METHYLCYCLOHEXANE | MG/KG | 57 | 0.24 J | 0.0087 | | 0.0045 U | 0.0057 U | 0.0051 U | | 37 | 0.005 U | 100 | 610 J | 76 | 0.015 J | 0.081 J | | | | | | | | 0.0052 U |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | TETRACHLOROETHENE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | TOLUENE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0022 J | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0052 J | | | | | | | | 0.0052 U |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | 2.3 U | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0061 U | 0.0056 U | | | | | | | | 0.0052 U |
| VOC | XYLENE, O- | MG/KG | 1.2 J | 0.37 U | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 13 U | 2.1 U | 0.0018 J | 0.011 J | | | | | | | | 0.0052 U |
| VOC | XYLENES (TOTAL) | MG/KG | 48.2 J | 0.16 J | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 0.41 J | 2.1 U | 0.0084 J | 0.064 J | | | | | | | | 0.0052 U |
| VOC | XYLENES, M & P | MG/KG | 47 | 0.16 J | 0.0059 U | | 0.0045 U | 0.0057 U | 0.0051 U | | 2.4 U | 0.005 U | 29 U | 0.41 J | 2.1 U | 0.0066 | 0.053 J | | | | | | | | 0.0052 U |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0206 | MPSB0206 | MPSB0206 | MPSB0206 | MPSB0206 | MPSB0207 | MPSB0207 | MPSB0207 | MPSB0207 | MPSB0207 | MPSB0208 | MPSB0208 | MPSB0208 | MPSB0208 | MPSB0208 | MPSB0213 | MPSB0213 | MPSB0213 | MPSB0214 | MPSB0214 | MPSB0214 | MPSB0215 | MPSB0215 |
| | | Field Sample ID | MPSB0206-SS-AE-AI-0 | MPSB0206-SS-AI-AM-0 | MPSB0206-SS-AM-AP-0 | MPSB0206-SS-AP-AU-0 | MPSB0206-SS-AP-AU-1 | MPSB0207-SS-AA-AE-0 | MPSB0207-SS-AE-AI-0 | MPSB0207-SS-AI-AM-0 | MPSB0207-SS-AM-AQ-0 | MPSB0207-SS-AQ-AU-0 | MPSB0208-SS-AA-AE-0 | MPSB0208-SS-AE-AI-0 | MPSB0208-SS-AI-AM-0 | MPSB0208-SS-AM-AQ-0 | MPSB0208-SS-AQ-AU-0 | MPSB0213-SS-AA-AB-0 | MPSB0213-SS-AD-AE-0 | MPSB0213-SS-AH-AI-0 | MPSB0214-SS-AA-AB-0 | MPSB0214-SS-AD-AE-0 | MPSB0214-SS-AH-AI-0 | MPSB0215-SS-AA-AB-0 | MPSB0215-SS-AD-AE-0 |
| | | Sample Date | 9/18/2015 | 9/18/2015 | 9/18/2015 | 9/18/2015 | 9/18/2015 | 9/21/2015 | 9/21/2015 | 9/21/2015 | 9/21/2015 | 9/21/2015 | 9/21/2015 | 9/21/2015 | 9/21/2015 | 9/21/2015 | 9/21/2015 | 12/1/2015 | 12/1/2015 | 12/1/2015 | 12/1/2015 | 12/1/2015 | 12/1/2015 | 12/2/2015 | 12/2/2015 |
| | | Depth (ft) | 2-4 | 4-6 | 6-7.5 | 7.5-10 | 7.5-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | 2.3 U | 2.2 U | 14 J | 30 | 19 | 15 | 17 | 15 | 2.3 U | 2.5 U | 19 | 2.6 U | 2.4 U | 3 U | 2.6 U | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | 2.3 U | 2.2 U | 7.1 J | 14 | 12 | 2.9 | 7.6 | 12 | 2.3 U | 2.5 U | 5.8 | 2.6 U | 4.5 | 3 U | 2.6 U | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | 2.3 U | 2.2 U | 6.7 J | 16 | 11 | 6 | 8.2 | 7 | 2.3 U | 2.5 U | 9.4 | 2.6 U | 2.4 U | 3 U | 2.6 U | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | 2.3 U | 2.2 U | 23 J | 28 | 23 | 12 | 12 | 7.9 | 2.3 U | 2.5 U | 4.7 | 2.6 U | 4.5 | 3 U | 2.6 U | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | 2.3 U | 2.2 U | 98 J | 170 J | 150 | 17 | 24 | 16 | 2.3 U | 2.5 U | 11 | 2.6 U | 2.4 U | 3 U | 2.6 U | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | 2.3 U | 2.2 U | 260 J | 300 | 210 | 88 | 51 | 50 | 2.3 U | 2.5 U | 12 | 2.6 U | 2.4 U | 3 U | 2.6 U | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | 2.3 U | 2.2 U | 27 | 16 | 15 | 140 | 69 | 81 | 2.3 U | 2.5 U | 21 | 2.6 U | 15 | 3 U | 2.6 U | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | 2.3 U | 2.2 U | 6.8 J | 19 J | 6.9 J | 8 | 37 | 46 | 2.3 U | 2.5 U | 16 | 2.6 U | 14 | 3 U | 2.6 UJ | | | | | | | | |
| METALS | ALUMINUM | MG/KG | 2120 | 2030 | 6310 | 2290 | 1960 | 2400 | 3160 | 1830 | 1190 | 2960 | 995 | 1410 | 1390 | 1740 | 1350 | 1530 | 573 | 593 | 2080 | 1130 | 746 | 1620 J | 593 J |
| METALS | ANTIMONY | MG/KG | 5.8 UJ | 5.7 UJ | 5.6 UJ | 6.4 UJ | 5.1 UJ | 1.1 J | 1.2 J | 0.74 J | 4.6 UJ | 6.7 UJ | 6 UJ | 5.7 UJ | 5.9 UJ | 6.3 UJ | 7 UJ | 5.6 U | 5.3 U | 6 U | 0.38 J | 0.32 J | 4.6 U | 0.31 J | 0.3 J |
| METALS | ARSENIC | MG/KG | 2.8 | 5.3 J | 8.1 J | 8.7 J | 15.2 J | 15.8 J | 24.6 J | 8.7 J | 0.52 J | 0.96 J | 1.7 J | 1.5 J | 1.5 J | 1.7 J | 1.9 J | 1.8 | 0.7 J | 1.2 | 6.4 | 1 | 0.99 | 5.8 | 3.6 |
| METALS | BARIUM | MG/KG | | | | | | 762 | 965 | 288 | 6.9 J | 7.6 J | 25 | 5.5 J | 6.2 J | 4.6 J | 3.7 J | 61.3 | 4.5 J | 4.7 J | 30.1 | 11.3 J | 4.1 J | 29.1 | 24.6 |
| METALS | BERYLLIUM | MG/KG | 0.48 U | 0.015 J | 0.1 J | 0.052 J | 0.041 J | 0.4 U | 0.49 U | 0.43 U | 0.39 U | 0.55 U | 0.5 U | 0.48 U | 0.49 U | 0.53 U | 0.58 U | 0.47 U | 0.44 U | 0.5 U | 0.54 U | 0.43 U | 0.38 U | 0.4 U | 0.49 U |
| METALS | CADMIUM | MG/KG | 0.1 J | 0.15 J | 0.34 J | 0.41 J | 0.61 | 0.32 J | 0.51 | 0.29 J | 0.39 U | 0.067 J | 0.13 J | 0.053 J | 0.12 J | 0.072 J | 0.062 J | 0.11 J | 0.042 J | 0.1 J | 0.11 J | 0.041 J | 0.05 J | 0.069 J | 0.05 J |
| METALS | CALCIUM | MG/KG | 298 J | 353 J | 1050 | 1160 | 1070 | 4870 | 7330 | 3570 | 387 U | 554 U | 8850 | 475 U | 5810 | 529 U | 580 U | 2950 | 113 J | 501 U | 2650 J | 1270 | 383 U | 1520 | 217 J |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 7.9 | 12.7 | 17.8 | 5.7 | 6.5 | 62.5 | 36.9 | 29.4 | 4.3 | 10.7 | 6.3 | 8.5 | 13.7 | 8.4 | 7.7 | 7.2 | 3.9 | 7 | 12.1 | 5.7 | 5.2 | 6.8 | 4.5 |
| METALS | COBALT | MG/KG | 0.31 J | 0.31 J | 2 J | 0.8 J | 0.81 J | 1.7 J | 3.2 J | 1.1 J | 3.9 U | 5.5 U | 0.22 J | 0.071 J | 4.9 U | 5.3 U | 5.8 U | 4.7 U | 4.4 U | 5 U | 5.4 U | 4.3 U | 3.8 U | 0.49 J | 0.14 J |
| METALS | COPPER | MG/KG | 2.8 | 3.8 | 13.8 | 10.8 J | 17.1 J | 34.8 | 57.9 | 34 | 0.47 J | 2.1 J | 4.7 | 1.2 J | 1.6 J | 1.2 J | 0.9 J | 3.3 | 2.2 U | 1 J | 6.9 | 1.5 J | 0.79 J | 4 | 3.6 |
| METALS | CYANIDE | MG/KG | 0.49 | 5.2 | 1.3 | 0.43 J | 0.2 J | 20.1 | 18.3 | 11.4 | 0.41 U | 0.58 U | 0.49 U | 0.49 U | 0.39 U | 0.53 U | 0.5 U | 0.49 U | 0.5 U | 0.56 U | 0.54 J | 0.4 U | 0.48 U | 1.4 | 7.4 |
| METALS | IRON | MG/KG | 3780 | 4520 | 10000 | 3670 | 3930 | 5860 | 5870 | 3940 | 705 | 2280 | 2860 | 3790 | 4540 | 5220 | 5060 | 2970 | 915 | 2190 | 5180 | 2320 | 2570 | 3260 | 1900 |
| METALS | LEAD | MG/KG | 51.8 | 79 | 98.2 | 69.6 J | 211 J | 490 | 441 | 241 | 3.2 | 3.5 | 43.6 | 2.5 | 4.1 | 2.7 | 2.4 | 46.5 | 1.7 | 1.9 | 33.6 | 5.4 | 1.7 | 25.5 | 20.8 |
| METALS | MAGNESIUM | MG/KG | 67.3 J | 61.3 J | 336 J | 180 J | 226 J | 2460 | 1270 | 933 | 48.7 J | 121 J | 5090 | 46.1 J | 3280 | 40.1 J | 30 J | 1630 | 84.5 J | 28 J | 351 J | 111 J | 30.1 J | 728 | 74.6 J |
| METALS | MANGANESE | MG/KG | 11.2 | 8.4 | 38.4 | 25.9 | 23.1 | 31.8 | 64.8 | 53.5 | 8.7 | 10.6 | 20.4 | 10.1 | 16.9 | 13.5 | 12.4 | 23.1 | 6.7 | 9.1 | 31.3 | 8.6 | 5.3 | 19.6 | 22.1 |
| METALS | MERCURY | MG/KG | 0.026 J | 0.062 J | 0.091 | 0.38 J | 0.066 J | 2 | 0.88 | 0.42 | 0.099 U | 0.063 J | 0.039 J | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.089 J | 0.1 U | 0.098 U | 0.041 J | 0.097 U | 0.11 U | 0.037 J | 0.037 J |
| METALS | NICKEL | MG/KG | 0.52 J | 0.67 J | 3.2 J | 1.7 J | 2.3 J | 3.9 | 5.9 | 2.9 J | 0.24 J | 0.42 J | 0.84 J | 0.55 J | 0.73 J | 0.2 J | 4.6 U | 1.3 J | 0.41 J | 0.31 J | 1.5 J | 0.59 J | 0.3 J | 0.79 J | 0.29 J |
| METALS | POTASSIUM | MG/KG | 76.2 J | 82.1 J | 249 J | 151 J | 149 J | 151 J | 264 J | 194 J | 121 J | 344 J | 65.4 J | 103 J | 113 J | 125 J | 99.6 J | 134 J | 57 J | 39.2 J | 382 J | 42 J | 38.3 J | 161 J | 78.4 J |
| METALS | SELENIUM | MG/KG | 0.5 J | 0.41 J | 3.3 U | 3.7 U | 3 U | 2.8 UJ | 1.1 J | 3 UJ | 2.7 UJ | 0.83 J | 3.5 UJ | 3.3 UJ | 0.45 J | 3.7 UJ | 4.1 UJ | 3.3 U | 3.1 U | 3.5 U | 3.7 U | 3 U | 2.7 U | 2.8 U | 3.5 U |
| METALS | SILVER | MG/KG | 0.97 U | 0.95 U | 0.94 U | 1.1 U | 0.85 U | 0.81 U | 0.98 U | 0.85 U | 0.77 U | 1.1 U | 1 U | 0.95 U | 0.98 U | 1.1 U | 1.2 U | 0.93 U | 0.88 U | 1 U | 1.1 U | 0.86 U | 0.77 U | 0.8 U | 0.99 U |
| METALS | SODIUM | MG/KG | 484 U | 477 U | 471 U | 531 U | 427 U | 405 U | 530 | 426 U | 387 U | 554 U | 500 U | 475 U | 490 U | 529 U | 580 U | 114 J | 64.9 J | 501 U | 535 U | 72.1 J | 115 J | 311 J | 232 J |
| METALS | THALLIUM | MG/KG | 2.4 U | 2.4 U | 2.4 U | 2.7 U | 2.1 U | 2 U | 2.5 U | 2.1 U | 1.9 U | 2.8 U | 2.5 U | 2.4 U | 2.4 U | 2.6 U | 2.9 U | 2.3 U | 2.2 U | 2.5 U | 2.7 U | 2.1 U | 1.9 U | 2 U | 2.5 U |
| METALS | VANADIUM | MG/KG | 7.3 | 7.8 | 16.5 | 6.5 | 6.5 | 14.1 | 10.5 | 9.5 | 3.9 U | 7.6 | 5.3 | 5.1 | 6.2 | 6.8 | 6.5 | 7 | 2.5 J | 4 J | 7.3 | 3.6 J | 4.1 | 5.2 | 2.6 J |
| METALS | ZINC | MG/KG | 34.8 J | 48.8 J | 337 J | 142 J | 194 J | 365 | 887 | 278 | 4.1 J | 2.2 J | 34.6 | 8.8 | 8.1 | 3.7 J | 2.4 J | 37.9 | 6.8 | 13 | 30.8 | 3.8 J | 4.3 J | 22.2 | 23.3 |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | 0.035 U | 0.036 U | 0.036 UJ | 0.042 U | 0.041 U | 0.07 U | 0.18 U | 0.12 U | 0.038 U | 0.041 U | 0.035 U | 0.036 U | 0.038 U | 0.04 U | 0.041 U | | | | | | | | |
| PEST/PCB | AROCLOR-1221 | MG/KG | 0.035 U | 0.036 U | 0.036 U | 0.042 U | 0.041 U | 0.07 U | 0.18 U | 0.12 U | 0.038 U | 0.041 U | 0.035 U | 0.036 U | 0.038 U | 0.04 U | 0.041 U | | | | | | | | |
| PEST/PCB | AROCLOR-1232 | MG/KG | 0.035 U | 0.036 U | 0.036 U | 0.042 U | 0.041 U | 0.07 U | 0.18 U | 0.12 U | 0.038 U | 0.041 U | 0.035 U | 0.036 U | 0.038 U | 0.04 U | 0.041 U | | | | | | | | |
| PEST/PCB | AROCLOR-1242 | MG/KG | 0.035 U | 0.036 U | 0.036 U | 0.042 U | 0.041 U | 0.07 U | 0.18 U | 0.12 U | 0.038 U | 0.041 U | 0.035 U | 0.036 U | 0.038 U | 0.04 U | 0.041 U | | | | | | | | |
| PEST/PCB | AROCLOR-1248 | MG/KG | 0.035 U | 0.036 U | 0.036 U | 0.042 U | 0.041 U | 0.07 U | 0.18 U | 0.12 U | 0.038 U | 0.041 U | 0.035 U | 0.036 U | 0.038 U | 0.04 U | 0.041 U | | | | | | | | |
| PEST/PCB | AROCLOR-1254 | MG/KG | 0.012 J | 0.036 U | 0.036 U | 0.042 U | 0.041 U | 0.057 J | 0.055 J | 0.023 J | 0.038 U | 0.041 U | 0.02 J | 0.036 U | 0.038 U | 0.04 U | 0.041 U | | | | | | | | |
| PEST/PCB | AROCLOR-1260 | MG/KG | 0.0089 J | 0.018 J | 0.036 UJ | 0.042 U | 0.041 U | 0.07 U | 0.18 U | 0.12 U | 0.038 U | 0.041 U | 0.01 J | 0.036 U | 0.038 U | 0.04 U | 0.041 U | | | | | | | | |
| PEST/PCB | AROCLOR-1262 | MG/KG | 0.035 U | 0.036 U | 0.036 U | 0.042 U | 0.041 U | 0.07 U | 0.18 U | 0.12 U | 0.038 U | 0.041 U | 0.035 U | 0.036 U | 0.038 U | 0.04 U | 0.041 U | | | | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | 0.035 U | 0.036 U | 0.036 U | 0.042 U | 0.041 U | 0.07 U | 0.18 U | 0.12 U | 0.038 U | 0.041 U | 0.035 U | 0.036 U | 0.038 U | 0.04 U | 0.041 U | | | | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0206 | MPSB0206 | MPSB0206 | MPSB0206 | MPSB0206 | MPSB0207 | MPSB0207 | MPSB0207 | MPSB0207 | MPSB0207 | MPSB0208 | MPSB0208 | MPSB0208 | MPSB0208 | MPSB0208 | MPSB0213 | MPSB0213 | MPSB0213 | MPSB0214 | MPSB0214 | MPSB0214 | MPSB0215 | MPSB0215 |
| | | Field Sample ID | MPSB0206-SS-AE-AI-0 | MPSB0206-SS-AI-AM-0 | MPSB0206-SS-AM-AP-0 | MPSB0206-SS-AP-AU-0 | MPSB0206-SS-AP-AU-1 | MPSB0207-SS-AA-AE-0 | MPSB0207-SS-AE-AI-0 | MPSB0207-SS-AI-AM-0 | MPSB0207-SS-AM-AQ-0 | MPSB0207-SS-AQ-AU-0 | MPSB0208-SS-AA-AE-0 | MPSB0208-SS-AE-AI-0 | MPSB0208-SS-AI-AM-0 | MPSB0208-SS-AM-AQ-0 | MPSB0208-SS-AQ-AU-0 | MPSB0213-SS-AA-AB-0 | MPSB0213-SS-AD-AE-0 | MPSB0213-SS-AH-AI-0 | MPSB0214-SS-AA-AB-0 | MPSB0214-SS-AD-AE-0 | MPSB0214-SS-AH-AI-0 | MPSB0215-SS-AA-AB-0 | MPSB0215-SS-AD-AE-0 |
| | | Sample Date | 9/18/2015 | 9/18/2015 | 9/18/2015 | 9/18/2015 | 9/18/2015 | 9/21/2015 | 9/21/2015 | 9/21/2015 | 9/21/2015 | 9/21/2015 | 9/21/2015 | 9/21/2015 | 9/21/2015 | 9/21/2015 | 9/21/2015 | 12/1/2015 | 12/1/2015 | 12/1/2015 | 12/1/2015 | 12/1/2015 | 12/1/2015 | 12/2/2015 | 12/2/2015 |
| | | Depth (ft) | 2-4 | 4-6 | 6-7.5 | 7.5-10 | 7.5-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 UJ | 0.025 J | 0.0058 J | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 UJ | 0.18 U |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.044 J | 0.59 J | 0.19 J | 0.19 J | 0.21 U | 0.17 UJ | 0.19 U | 0.19 UJ | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 UJ | 0.18 U |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.024 J | 0.025 J | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 UJ | 0.18 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.015 J | 0.021 J | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 UJ | 0.18 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 UJ | 0.18 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 0.34 U | 0.36 U | 1.2 U | 1.5 U | 1.4 U | 0.35 U | 1.9 U | 0.39 U | 0.38 U | 0.41 U | 0.34 U | 0.37 U | 0.37 U | 0.4 U | 0.41 U | 0.35 U | 0.35 U | 0.38 U | 4 U | 0.35 U | 0.37 U | 0.51 U | 0.35 U |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.17 U | 0.0025 J | 0.044 J | 0.28 J | 0.2 J | 0.022 J | 0.014 J | 0.013 J | 0.016 J | 0.21 U | 0.17 U | 0.19 U | 0.0044 J | 0.21 U | 0.21 U | 0.007 J | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | 2-METHYLPHENOL | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | 2-NITROANILINE | MG/KG | 0.34 U | 0.36 U | 1.2 U | 1.5 U | 1.4 U | 0.35 U | 1.9 U | 0.39 U | 0.38 U | 0.41 U | 0.34 U | 0.37 U | 0.37 U | 0.4 U | 0.41 U | 0.35 U | 0.35 U | 0.38 U | 4 U | 0.35 U | 0.37 U | 0.51 U | 0.35 U |
| SVOC | 2-NITROPHENOL | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | | 0.97 U | | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | | 0.18 U | 0.19 U | | |
| SVOC | 3-NITROANILINE | MG/KG | 0.34 U | 0.36 U | 1.2 U | 1.5 U | 1.4 U | 0.35 U | 1.9 U | 0.39 U | 0.38 U | 0.41 U | 0.34 U | 0.37 U | 0.37 U | 0.4 U | 0.41 U | 0.35 U | 0.35 U | 0.38 U | 4 U | 0.35 U | 0.37 U | 0.51 U | 0.35 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 0.34 U | 0.36 U | 1.2 U | 1.5 U | 1.4 U | 0.35 U | 1.9 U | 0.39 U | 0.38 U | 0.41 U | 0.34 U | 0.37 U | 0.37 U | 0.4 U | 0.41 U | 0.35 U | 0.35 U | 0.38 U | | 0.35 U | 0.37 U | 0.51 U | 0.35 U |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 UJ | 0.18 U |
| SVOC | 4-CHLOROANILINE | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | | 0.18 U | 0.19 U | | |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | 4-METHYLPHENOL | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | 4-NITROANILINE | MG/KG | 0.34 U | 0.36 U | 1.2 U | 1.5 U | 1.4 U | 0.35 U | 1.9 U | 0.39 U | 0.38 U | 0.41 U | 0.34 U | 0.37 U | 0.37 U | 0.4 U | 0.41 U | 0.35 U | 0.35 U | 0.38 U | 4 U | 0.35 U | 0.37 U | 0.51 U | 0.35 U |
| SVOC | 4-NITROPHENOL | MG/KG | 0.34 U | 0.36 U | 1.2 U | 1.5 U | 1.4 U | 0.35 U | 1.9 U | 0.39 U | 0.38 U | 0.41 U | 0.34 U | 0.37 U | 0.37 U | 0.4 U | 0.41 U | 0.35 U | 0.35 U | 0.38 U | 4 U | 0.35 U | 0.37 U | 0.51 U | 0.35 U |
| SVOC | ACENAPHTHENE | MG/KG | 0.0088 J | 0.028 J | 0.35 J | 1.7 | 1.5 | 0.091 J | 0.97 U | 0.033 J | 0.051 J | 0.21 U | 0.17 U | 0.19 U | 0.028 J | 0.21 U | 0.21 U | 0.017 J | 0.18 U | 0.2 U | 0.45 J | 0.18 U | 0.19 U | 0.026 J | 0.18 U |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.17 U | 0.18 U | 0.059 J | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.041 J |
| SVOC | ACETOPHENONE | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | ANTHRACENE | MG/KG | 0.0078 J | 0.031 J | 1.8 J | 3.7 J | 3.8 J | 0.14 J | 0.97 U | 0.042 J | 0.061 J | 0.21 U | 0.0033 J | 0.19 U | 0.017 J | 0.21 U | 0.21 U | 0.021 J | 0.18 U | 0.2 U | 0.76 J | 0.18 U | 0.19 U | 0.16 J | 0.023 J |
| SVOC | ATRAZINE | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | BENZALDEHYDE | MG/KG | 0.011 J | 0.18 U | 0.015 J | 0.18 J | 0.7 UJ | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.025 J | 0.11 J | 8.7 | 8 | 8.5 | 0.62 J | 0.11 J | 0.12 J | 0.34 J | 0.21 U | 0.029 J | 0.19 U | 0.089 J | 0.21 U | 0.21 U | 0.11 J | 0.18 U | 0.2 U | 8.4 | 0.014 J | 0.19 U | 1.5 | 0.11 J |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.021 J | 0.096 J | 6.5 J | 5.5 J | 5.9 J | 0.62 J | 0.11 J | 0.11 J | 0.35 J | 0.0041 U | 0.035 J | 0.19 U | 0.091 J | 0.004 U | 0.0041 U | 0.12 J | 0.18 U | 0.2 U | 8.7 | 0.017 J | 0.19 U | 1.2 | 0.23 |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 0.032 J | 0.14 J | 6.9 | 8.3 J | 6.7 J | 0.92 J | 0.14 J | 0.18 J | 0.69 J | 0.21 U | 0.051 J | 0.19 U | 0.16 J | 0.21 U | 0.21 U | 0.19 | 0.18 U | 0.2 U | 15 | 0.024 J | 0.19 U | 2.4 | 0.28 |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.17 UJ | 0.036 J | 1.6 J | 1.1 J | 1.8 J | 0.35 J | 0.97 U | 0.068 J | 0.2 J | 0.21 U | | 0.19 U | 0.029 J | 0.21 U | 0.21 U | 0.064 J | 0.18 U | 0.2 U | 6.3 | 0.18 U | 0.19 U | 0.63 | 0.27 |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.015 J | 0.07 J | 4.7 J | 3.5 J | 4.3 J | 0.59 J | 0.098 J | 0.098 J | 0.36 J | 0.21 U | 0.03 J | 0.19 U | 0.073 J | 0.21 U | 0.21 U | 0.086 J | 0.18 U | 0.2 U | 6.7 | 0.015 J | 0.19 U | 0.99 | 0.093 J |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | | 0.97 U | 0.42 | 0.35 | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | CAPROLACTAM | MG/KG | 0.052 J | 0.024 J | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | CARBAZOLE | MG/KG | 0.17 U | 0.018 J | 0.22 J | 0.12 J | 0.15 J | 0.17 J | 0.97 U | 0.022 J | 0.096 J | 0.21 U | 0.17 U | 0.19 U | 0.028 J | 0.21 U | 0.21 U | 0.015 J | 0.18 U | 0.2 U | 1.1 J | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | CHRYSENE | MG/KG | 0.025 J | 0.12 J | 8.2 | 8 | 7.7 | 0.85 J | 0.15 J | 0.17 J | 0.57 J | 0.21 U | 0.044 J | 0.19 U | 0.15 J | 0.21 U | 0.21 U | 0.12 J | 0.18 U | 0.2 U | 11 | 0.021 J | 0.19 U | 1.7 | 0.11 J |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.17 UJ | 0.013 J | 0.59 J | 0.49 J | 0.73 J | 0.12 J | 0.017 J | 0.017 J | 0.057 J | 0.0041 U | 0.0046 | 0.19 U | 0.19 U | 0.004 U | 0.0041 U | 0.021 J | 0.18 U | 0.2 U | 1.8 J | 0.18 U | 0.19 U | 0.22 J | 0.049 J |
| SVOC | DIBENZOFURAN | MG/KG | 0.17 U | 0.0066 J | 0.11 J | 0.76 U | 0.7 U | 0.036 J | 0.97 U | 0.015 J | 0.024 J | 0.21 U | 0.17 U | 0.19 U | 0.013 J | 0.21 U | 0.21 U | 0.0065 J | 0.18 U | 0.2 U | 0.16 J | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | DIETHYLPHTHALATE | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.013 J |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.015 J | 0.011 J |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 0.17 UJ | 0.18 UJ | 0.082 J | | | | 0.97 UJ | | | 0.21 U | | 0.19 U | 0.19 UJ | 0.21 U | 0.21 U | 0.0069 J | 0.18 U | 0.077 J | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | FLUORANTHENE | MG/KG | 0.049 J | 0.24 | 11 | 11 | 14 | 1.6 J | 0.17 J | 0.38 J | 1.2 J | 0.21 U | 0.048 J | 0.19 U | 0.25 | 0.21 U | 0.21 U | 0.27 | 0.18 U | 0.2 U | 24 | 0.028 J | 0.19 U | 2.8 | 0.16 J |
| SVOC | FLUORENE | MG/KG | 0.17 U | 0.016 J | 0.37 J | 1.6 | 1.5 | 0.054 J | 0.97 U | 0.019 J | 0.033 J | 0.21 U | 0.17 U | 0.19 U | 0.027 J | 0.21 U | 0.21 U | 0.013 J | 0.18 U | 0.2 U | 0.44 J | 0.18 U | 0.19 U | 0.027 J | 0.18 U |
| SVOC | HEXACHLOROBENZENE | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 UJ | 0.18 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | | 0.18 U | 0.19 U | | |
| SVOC | HEXACHLOROETHANE | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.0072 J | 0.037 J | 1.3 J | 0.97 J | 1.4 J | 0.3 J | 0.97 U | 0.056 J | 0.17 J | 0.21 U | | 0.19 U | 0.029 J | 0.21 U | 0.21 U | 0.059 J | 0.18 U | 0.2 U | 5.9 | 0.18 U | 0.19 U | 0.58 | 0.19 J |
| SVOC | ISOPHORONE | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | NAPHTHALENE | MG/KG | 0.17 U | 0.0055 J | 0.04 J | 0.026 J | 0.7 UJ | 0.012 J | 0.022 J | 0.013 J | 0.016 J | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | NITROBENZENE | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 UJ | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 UJ |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | 0.34 U | 0.36 U | 1.2 U | 1.5 U | 1.4 U | 0.4 J | 15 J | 2.7 J | 2.7 J | 0.41 U | 0.34 UJ | 0.37 U | 0.37 UJ | 0.4 U | 0.41 U | 0.35 U | 0.35 U | 0.38 U | 4 U | 0.35 U | 0.37 U | 0.51 U | 0.35 U |
| SVOC | PHENANTHRENE | MG/KG | 0.034 J | 0.16 J | 7.2 | 17 | 19 | 1.1 | 0.1 J | 0.26 | 0.78 | 0.21 U | 0.02 J | 0.19 U | 0.28 | 0.21 U | 0.21 U | 0.16 J | 0.18 U | 0.2 U | 11 | 0.0095 J | 0.19 U | 0.97 | 0.067 J |
| SVOC | PHENOL | MG/KG | 0.17 U | 0.18 U | 0.61 U | 0.76 U | 0.7 U | 0.18 U | 0.97 U | 0.2 U | 0.19 U | 0.21 U | 0.17 U | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.18 U | 0.18 U | 0.2 U | 2.1 U | 0.18 U | 0.19 U | 0.26 U | 0.18 U |
| SVOC | PYRENE | MG/KG | 0.039 J | 0.19 | 12 | 14 | 17 | 2.6 J | 0.19 J | 0.59 J | 1.9 J | 0.21 U | 0.067 J | 0.19 U | 0.26 | 0.21 U | 0.21 U | 0.24 | 0.18 U | 0.2 U | 22 | 0.029 J | 0.19 U | 2.4 | 0.16 J |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0206 | MPSB0206 | MPSB0206 | MPSB0206 | MPSB0206 | MPSB0207 | MPSB0207 | MPSB0207 | MPSB0207 | MPSB0207 | MPSB0208 | MPSB0208 | MPSB0208 | MPSB0208 | MPSB0208 | MPSB0213 | MPSB0213 | MPSB0213 | MPSB0214 | MPSB0214 | MPSB0214 | MPSB0215 | MPSB0215 |
| | | Field Sample ID | MPSB0206-SS-AE-AI-0 | MPSB0206-SS-AI-AM-0 | MPSB0206-SS-AM-AP-0 | MPSB0206-SS-AP-AU-0 | MPSB0206-SS-AP-AU-1 | MPSB0207-SS-AA-AE-0 | MPSB0207-SS-AE-AI-0 | MPSB0207-SS-AI-AM-0 | MPSB0207-SS-AM-AQ-0 | MPSB0207-SS-AQ-AU-0 | MPSB0208-SS-AA-AE-0 | MPSB0208-SS-AE-AI-0 | MPSB0208-SS-AI-AM-0 | MPSB0208-SS-AM-AQ-0 | MPSB0208-SS-AQ-AU-0 | MPSB0213-SS-AA-AB-0 | MPSB0213-SS-AD-AE-0 | MPSB0213-SS-AH-AI-0 | MPSB0214-SS-AA-AB-0 | MPSB0214-SS-AD-AE-0 | MPSB0214-SS-AH-AI-0 | MPSB0215-SS-AA-AB-0 | MPSB0215-SS-AD-AE-0 |
| | | Sample Date | 9/18/2015 | 9/18/2015 | 9/18/2015 | 9/18/2015 | 9/18/2015 | 9/21/2015 | 9/21/2015 | 9/21/2015 | 9/21/2015 | 9/21/2015 | 9/21/2015 | 9/21/2015 | 9/21/2015 | 9/21/2015 | 9/21/2015 | 12/1/2015 | 12/1/2015 | 12/1/2015 | 12/1/2015 | 12/1/2015 | 12/1/2015 | 12/2/2015 | 12/2/2015 |
| | | Depth (ft) | 2-4 | 4-6 | 6-7.5 | 7.5-10 | 7.5-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | 0.0053 U | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | 0.0053 U | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | 0.0053 U | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | | 0.0048 U | | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | | 0.0048 U | | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | | 0.0048 U | | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | | 0.0048 U | | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | 0.0053 U | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | | 0.0048 U | | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | | 0.00024 J | | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | 0.01 U | 0.01 U | 0.025 U | 0.012 U | 0.012 U | 0.011 U | 0.0096 U | | 0.0092 U | 0.01 U | 0.0091 U | 0.011 U | 0.0085 U | 0.01 U | 0.017 U | | | | | | | | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | 0.01 U | 0.01 U | 0.025 U | 0.012 U | 0.012 U | 0.011 U | 0.0096 U | | 0.0092 U | 0.01 U | 0.0091 U | 0.011 U | 0.0085 U | 0.01 U | 0.017 U | | | | | | | | |
| VOC | ACETONE | MG/KG | 0.01 U | 0.01 U | 0.025 U | 0.012 U | 0.012 U | 0.071 | 0.0092 J | 0.083 | 0.0092 J | 0.003 J | 0.0091 U | 0.011 U | 0.0025 J | 0.0038 J | 0.0071 J | | | | | | | | |
| VOC | BENZENE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | BROMOCHLOROMETHANE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | 0.0053 U | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | BROMOFORM | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | | 0.0048 U | | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | BROMOMETHANE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | 0.0053 U | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | CARBON DISULFIDE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | 0.0086 | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | CARBON TETRACHLORIDE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | CHLOROBENZENE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | CHLOROETHANE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | 0.0053 U | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | CHLOROFORM | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | 0.0053 U | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | CHLOROMETHANE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | 0.0053 U | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | 0.0053 U | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | CYCLOHEXANE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | 0.0053 U | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | 0.0053 U | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | ETHYLBENZENE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | ISOPROPYLBENZENE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | 0.026 J | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | METHYL ACETATE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | 0.0053 U | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | 0.01 U | 0.01 U | 0.025 U | 0.012 U | 0.012 U | 0.02 | 0.0096 U | 0.019 | 0.0092 U | 0.01 U | 0.0091 U | 0.011 U | 0.0085 U | 0.01 U | 0.017 U | | | | | | | | |
| VOC | METHYLCYCLOHEXANE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | 0.017 J | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | 0.0053 U | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | TETRACHLOROETHENE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0011 J | 0.0094 J | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | TOLUENE | MG/KG | 0.00027 J | 0.0052 U | 0.00069 J | 0.0059 U | 0.0058 U | 0.0053 U | 0.0009 J | | 0.0046 U | 0.0051 U | 0.00042 J | 0.0054 U | 0.0042 U | 0.0001 J | 0.0084 U | | | | | | | | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | 0.0053 U | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | 0.0053 U | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | 0.0053 U | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | XYLENE, O- | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | 0.025 J | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | 0.049 J | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |
| VOC | XYLENES, M & P | MG/KG | 0.0052 U | 0.0052 U | 0.012 U | 0.0059 U | 0.0058 U | 0.0053 U | 0.0048 U | 0.024 J | 0.0046 U | 0.0051 U | 0.0045 U | 0.0054 U | 0.0042 U | 0.0051 U | 0.0084 U | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0215 | MPSB0216 | MPSB0216 | MPSB0216 | MPSB0217 | MPSB0217 | MPSB0217 | MPSB0217 | MPSB0219 | MPSB0219 | MPSB0219 | MPSB0220 | MPSB0220 | MPSB0220 | MPSB0301 | MPSB0301 | MPSB0301 | MPSB0304 | MPSB0304 | MPSB0304 | MPSB0304 | MPSB0305 | MPSB0305 |
| | | Field Sample ID | MPSB0215-SS-AH-AI-0 | MPSB0216-SS-AA-AB-0 | MPSB0216-SS-AD-AE-0 | MPSB0216-SS-AH-AI-0 | MPSB0217-SS-AA-AB-0 | MPSB0217-SS-AD-AE-0 | MPSB0217-SS-AF-AG-0 | MPSB0217-SS-AH-AI-0 | MPSB0219-SS-AA-AB-0 | MPSB0219-SS-AD-AE-0 | MPSB0219-SS-AH-AI-0 | MPSB0220-SS-AA-AB-0 | MPSB0220-SS-AD-AE-0 | MPSB0220-SS-AH-AI-0 | MPSB0301-SS-AA-AB-0 | MPSB0301-SS-AD-AE-0 | MPSB0301-SS-AE-AF-0 | MPSB0304-SS-AA-AB-0 | MPSB0304-SS-AD-AE-0 | MPSB0304-SS-AE-AF-0 | MPSB0304-SS-AI-AJ-0 | MPSB0305-SS-AA-AB-0 | MPSB0305-SS-AD-AE-0 |
| | | Sample Date | 12/2/2015 | 12/2/2015 | 12/2/2015 | 12/2/2015 | 12/2/2015 | 12/2/2015 | 12/2/2015 | 12/2/2015 | 12/2/2015 | 12/2/2015 | 12/2/2015 | 12/3/2015 | 12/3/2015 | 12/3/2015 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/5/2016 | 10/5/2016 | 10/5/2016 | 10/5/2016 | 10/5/2016 | 10/5/2016 |
| | | Depth (ft) | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 2.5-3 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 2-2.5 | 0-0.5 | 1.5-2 | 2-2.5 | 4-4.5 | 0-0.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | 2.9 U | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | 6.8 | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | 2.9 U | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | 7.4 | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | 2.9 U | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | 2.9 U | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | 8.4 | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | 17 | | |
| METALS | ALUMINUM | MG/KG | 1420 J | 902 | 516 | 602 | 1380 | 2140 | 1620 | 1010 | 1260 | 2820 | 1470 | 2060 | 3070 | 5450 | | | | | | | | | |
| METALS | ANTIMONY | MG/KG | 6.5 U | 5.6 U | 6.3 U | 7 U | 0.43 J | 0.65 J | 8.3 | 0.47 J | 0.93 J | 1.2 J | 7.3 U | 0.51 J | 1.1 J | 6.1 U | | | | | | | | | |
| METALS | ARSENIC | MG/KG | 1.9 J | 1.3 J | 1.1 U | 1.3 J | 7.2 | 8.3 | 1.1 | 1 U | 14.9 | 103 | 18.2 | 11.7 | 11.4 | 4 | | | | | | | | | |
| METALS | BARIUM | MG/KG | 20.1 J | 19.2 | 3.3 J | 3.5 J | 79.4 | 91.4 | 50.3 | 6.4 J | 208 | 1060 | 1520 | 256 | 369 | 584 | | | | | | | | | |
| METALS | BERYLLIUM | MG/KG | 0.02 J | 0.47 U | 0.53 U | 0.59 U | 0.02 J | 0.036 J | 0.47 U | 0.52 U | 0.034 J | 0.16 J | 0.61 U | 0.082 J | 0.14 J | 0.14 J | | | | | | | | | |
| METALS | CADMIUM | MG/KG | 0.053 J | 0.064 J | 0.034 J | 0.07 J | 0.16 J | 0.28 J | 0.32 J | 0.096 J | 0.32 J | 0.77 | 0.77 | 0.44 J | 2.1 | 1.8 | | | | | | | | | |
| METALS | CALCIUM | MG/KG | 546 U | 640 | 528 U | 587 U | 1190 | 370 J | 842 | 84.4 J | 1330 | 2700 | 865 | 3140 | 7050 | 45300 | | | | | | | | | |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | 1.5 | 6.2 | 1.1 | 0.46 U | 0.56 | 1.6 | | 0.52 | 0.51 |
| METALS | CHROMIUM | MG/KG | 5.3 | 5.3 | 4.6 | 5 | 10.3 | 12.4 | 198 | 4.9 | 15.6 | 64.6 | 8.4 | 22.4 | 40.9 | 17.3 | 20.1 | 136 | 18.9 | 27.1 | 31.3 | 260 | | 24.2 | 17.2 |
| METALS | COBALT | MG/KG | 0.14 J | 0.19 J | 0.069 J | 5.9 U | 0.6 J | 0.97 J | 1.9 J | 0.77 J | 2.6 J | 5.6 J | 2 J | 1.8 J | 3.3 J | 4.5 J | | | | | | | | | |
| METALS | COPPER | MG/KG | 2.1 J | 1.9 J | 2.6 U | 2.9 U | 10.5 | 10.8 | 2.2 J | 2.6 U | 17.2 | 60.3 | 48.8 | 18.9 | 33 | 24.8 | | | | | | | | | |
| METALS | CYANIDE | MG/KG | 1.6 | 0.47 U | 0.46 U | 0.43 U | 0.95 | 1.5 | 52 | 0.46 U | 1.5 | 24.7 | 0.82 | 3.9 | 4.5 | 3.7 | | | | | | | | | |
| METALS | IRON | MG/KG | 2250 | 1790 | 1480 | 1900 | 3260 | 9790 | 2090 | 1830 | 14200 | 9120 | 3890 | 5110 | 9180 | 6330 | | | | | | | | | |
| METALS | LEAD | MG/KG | 9.1 | 24.1 | 1.7 | 2.2 | 99.1 | 117 | 958 | 9.3 | 156 | 3050 | 110 | 258 | 736 | 494 | | | | | | | | | |
| METALS | MAGNESIUM | MG/KG | 53.1 J | 319 J | 528 U | 587 U | 292 J | 84.8 J | 57.1 J | 37.1 J | 350 J | 594 | 90.8 J | 949 | 961 | 1820 | | | | | | | | | |
| METALS | MANGANESE | MG/KG | 7 | 10.2 | 6.9 | 7.6 | 41.9 | 34 | 13 | 10.1 | 85.8 | 94.2 | 18.2 | 78.8 | 64.5 | 105 | | | | | | | | | |
| METALS | MERCURY | MG/KG | 0.1 U | 0.038 J | 0.11 U | 0.12 U | 0.2 | 0.18 | 0.037 J | 0.1 U | 0.27 | 0.78 | 0.4 | 1.5 | 0.78 | 4.1 | | | | | | | | | |
| METALS | NICKEL | MG/KG | 0.82 J | 0.6 J | 0.52 J | 0.22 J | 1.8 J | 2.8 J | 0.68 J | 0.95 J | 4.1 J | 6.8 | 3.8 J | 3.8 J | 4.7 | 6.2 | | | | | | | | | |
| METALS | POTASSIUM | MG/KG | 72.2 J | 67.9 J | 40.9 J | 55.8 J | 140 J | 145 J | 44.4 J | 30 J | 153 J | 205 J | 78 J | 292 J | 338 J | 255 J | | | | | | | | | |
| METALS | SELENIUM | MG/KG | 3.8 U | 3.3 U | 3.7 U | 4.1 U | 3.9 U | 0.55 J | 3.3 U | 3.6 U | 0.75 J | 0.88 J | 0.66 J | 5.3 U | 0.46 J | 3.6 U | | | | | | | | | |
| METALS | SILVER | MG/KG | 1.1 U | 0.94 U | 1.1 U | 1.2 U | 1.1 U | 1 U | 0.94 U | 1 U | 1.2 U | 1.1 U | 1.2 U | 1.5 U | 1.1 U | 1 U | | | | | | | | | |
| METALS | SODIUM | MG/KG | 397 J | 170 J | 39.8 J | 587 U | 251 J | 191 J | 157 J | 132 J | 64.4 J | 112 J | 264 J | 762 U | 533 U | 511 U | | | | | | | | | |
| METALS | THALLIUM | MG/KG | 2.7 U | 2.3 U | 2.6 U | 2.9 U | 2.8 U | 2.5 U | 2.4 U | 2.6 U | 2.9 U | 2.8 U | 3 U | 3.8 U | 2.7 U | 2.6 U | | | | | | | | | |
| METALS | VANADIUM | MG/KG | 3.7 J | 3.6 J | 3 J | 3.7 J | 6.3 | 6.5 | 3.3 J | 3.1 J | 6.5 | 16 | 7.5 | 10.5 | 15.3 | 12.1 | | | | | | | | | |
| METALS | ZINC | MG/KG | 14.6 | 18.1 | 6.3 U | 8.7 | 89.4 | 96.7 | 128 | 33.3 | 126 | 373 | 835 | 199 | 437 | 449 | | | | | | | | | |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1221 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1232 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1242 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1248 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1254 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1260 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0215 | MPSB0216 | MPSB0216 | MPSB0216 | MPSB0217 | MPSB0217 | MPSB0217 | MPSB0217 | MPSB0219 | MPSB0219 | MPSB0219 | MPSB0220 | MPSB0220 | MPSB0220 | MPSB0301 | MPSB0301 | MPSB0301 | MPSB0304 | MPSB0304 | MPSB0304 | MPSB0304 | MPSB0305 | MPSB0305 |
| | | Field Sample ID | MPSB0215-SS-AH-AI-0 | MPSB0216-SS-AA-AB-0 | MPSB0216-SS-AD-AE-0 | MPSB0216-SS-AH-AI-0 | MPSB0217-SS-AA-AB-0 | MPSB0217-SS-AD-AE-0 | MPSB0217-SS-AF-AG-0 | MPSB0217-SS-AH-AI-0 | MPSB0219-SS-AA-AB-0 | MPSB0219-SS-AD-AE-0 | MPSB0219-SS-AH-AI-0 | MPSB0220-SS-AA-AB-0 | MPSB0220-SS-AD-AE-0 | MPSB0220-SS-AH-AI-0 | MPSB0301-SS-AA-AB-0 | MPSB0301-SS-AD-AE-0 | MPSB0301-SS-AE-AF-0 | MPSB0304-SS-AA-AB-0 | MPSB0304-SS-AD-AE-0 | MPSB0304-SS-AE-AF-0 | MPSB0304-SS-AI-AJ-0 | MPSB0305-SS-AA-AB-0 | MPSB0305-SS-AD-AE-0 |
| | | Sample Date | 12/2/2015 | 12/2/2015 | 12/2/2015 | 12/2/2015 | 12/2/2015 | 12/2/2015 | 12/2/2015 | 12/2/2015 | 12/2/2015 | 12/2/2015 | 12/2/2015 | 12/3/2015 | 12/3/2015 | 12/3/2015 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/5/2016 | 10/5/2016 | 10/5/2016 | 10/5/2016 | 10/5/2016 | 10/5/2016 |
| | | Depth (ft) | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 2.5-3 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 2-2.5 | 0-0.5 | 1.5-2 | 2-2.5 | 4-4.5 | 0-0.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | 0.19 U | | | | | | | | | |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | | | | | | | | | | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | 0.19 U | | | | | | | | | |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.2 J | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.04 J | 0.071 J | | | | | | | | | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.011 J | | | | | | | | | | |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | | | | | | | | | | |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | | | | | | | | | | |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | 0.19 U | | | | | | | | | |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 0.38 U | 0.34 U | 0.38 U | 0.4 U | 7.6 U | 0.36 U | 0.35 U | 0.35 U | 10 U | 2 U | 0.44 U | 11 U | 0.37 U | 0.36 U | | | | | | | | | |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | 0.019 J | | | | | | | | | |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | 0.19 U | | | | | | | | | |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | 0.19 U | | | | | | | | | |
| SVOC | 2-CHLOROPHENOL | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | 0.19 U | | | | | | | | | |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 0.14 J | 0.23 U | 0.1 J | 0.015 J | 0.59 | | | | | | | | | |
| SVOC | 2-METHYLPHENOL | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | 0.19 U | | | | | | | | | |
| SVOC | 2-NITROANILINE | MG/KG | 0.38 U | 0.34 U | 0.38 U | 0.4 U | 7.6 U | 0.36 U | 0.35 U | 0.35 U | 10 U | 2 U | 0.44 U | 11 U | 0.37 U | 0.36 U | | | | | | | | | |
| SVOC | 2-NITROPHENOL | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | 0.19 UJ | | | | | | | | | |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | | | | | | | | | | |
| SVOC | 3-NITROANILINE | MG/KG | 0.38 U | 0.34 U | 0.38 U | 0.4 U | 7.6 U | 0.36 U | 0.35 U | 0.35 U | 10 U | 2 U | 0.44 U | 11 U | 0.37 U | 0.36 U | | | | | | | | | |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 0.38 U | 0.34 U | 0.38 U | 0.4 U | 7.6 U | 0.36 U | 0.35 U | 0.35 U | 10 U | 2 U | 0.44 U | 11 U | 0.37 U | 0.36 U | | | | | | | | | |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | 0.19 U | | | | | | | | | |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | | | | | | | | | | |
| SVOC | 4-CHLOROANILINE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | | | | | | | | | | |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | 0.19 U | | | | | | | | | |
| SVOC | 4-METHYLPHENOL | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | 0.12 J | | | | | | | | | |
| SVOC | 4-NITROANILINE | MG/KG | 0.38 U | 0.34 U | 0.38 U | 0.4 U | 7.6 U | 0.36 U | 0.35 U | 0.35 U | 10 U | 2 U | 0.44 U | 11 U | 0.37 U | 0.36 U | | | | | | | | | |
| SVOC | 4-NITROPHENOL | MG/KG | 0.38 U | 0.34 U | 0.38 U | 0.4 U | 7.6 U | 0.36 U | 0.35 U | 0.35 U | 10 U | 2 U | 0.44 U | 11 U | 0.37 U | 0.36 U | | | | | | | | | |
| SVOC | ACENAPHTHENE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 0.99 J | 0.19 U | 0.18 U | 0.18 U | 1.7 J | 0.59 J | 0.23 U | 1.3 J | 0.019 J | 0.19 U | | | | | | | | | |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.015 J | 0.018 J | | | | | | | | | |
| SVOC | ACETOPHENONE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | 0.075 J | | | | | | | | | |
| SVOC | ANTHRACENE | MG/KG | 0.2 U | 0.0066 J | 0.19 U | 0.21 U | 2 J | 0.0091 J | 0.18 U | 0.18 U | 3.5 J | 1.3 | 0.013 J | 3.4 J | 0.05 J | 0.015 J | | | | | | | | | |
| SVOC | ATRAZINE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | 0.19 U | | | | | | | | | |
| SVOC | BENZALDEHYDE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | 0.19 U | | | | | | | | | |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.2 U | 0.017 J | 0.19 U | 0.21 U | 14 | 0.088 J | 0.054 J | 0.18 U | 23 | 3.8 | 0.084 J | 21 | 0.26 J | 0.11 J | | | | | | | | | |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.2 U | 0.012 J | 0.19 U | 0.004 U | 13 | 0.086 J | 0.054 J | 0.18 U | 22 | 3.9 | 0.071 J | 22 | 0.3 | 0.13 J | | | | | | | | | |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 0.2 U | 0.016 J | 0.19 U | 0.21 U | 21 | 0.14 J | 0.094 J | 0.18 U | 35 | 5 | 0.11 J | 30 | 0.42 | 0.22 | | | | | | | | | |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 7.1 | 0.05 J | 0.052 J | 0.18 U | 15 | 1.8 | 0.039 J | 12 J | 0.27 J | 0.11 J | | | | | | | | | |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.2 U | 0.0087 J | 0.19 U | 0.21 U | 10 | 0.081 J | 0.038 J | 0.18 U | 18 | 2.6 | 0.064 J | 26 | 0.32 | 0.15 J | | | | | | | | | |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | 0.19 U | | | | | | | | | |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | 0.19 U | | | | | | | | | |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | 0.19 U | | | | | | | | | |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.2 U | 0.34 U | | | | | | | | | |
| SVOC | CAPROLACTAM | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | 0.19 U | | | | | | | | | |
| SVOC | CARBAZOLE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 1.6 J | 0.19 U | 0.18 U | 0.18 U | 3.5 J | 0.29 J | 0.23 U | 3.3 J | 0.028 J | 0.0095 J | | | | | | | | | |
| SVOC | CHRYSENE | MG/KG | 0.2 U | 0.019 J | 0.19 U | 0.21 U | 17 | 0.093 J | 0.073 J | 0.18 U | 28 | 3.8 | 0.093 J | 29 | 0.34 J | 0.16 J | | | | | | | | | |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.004 U | 2.2 J | 0.19 U | 0.18 U | 0.18 U | 4.1 J | 0.46 J | 0.01 | 3.6 J | 0.085 J | 0.036 J | | | | | | | | | |
| SVOC | DIBENZOFURAN | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 0.68 J | 0.2 J | 0.23 U | 0.56 J | 0.012 J | 0.017 J | | | | | | | | | |
| SVOC | DIETHYLPHTHALATE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | 0.19 U | | | | | | | | | |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | 0.094 J | | | | | | | | | |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 0.2 U | 0.17 U | 0.0096 J | 0.21 U | 3.9 U | 0.012 J | 0.011 J | 0.18 U | 5.3 U | 0.32 J | 0.039 J | 5.5 U | 0.31 | 0.23 | | | | | | | | | |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | 0.19 U | | | | | | | | | |
| SVOC | FLUORANTHENE | MG/KG | 0.2 U | 0.05 J | 0.19 U | 0.21 U | 40 | 0.13 J | 0.074 J | 0.18 U | 70 | 9.7 | 0.15 J | 59 | 0.56 | 0.18 J | | | | | | | | | |
| SVOC | FLUORENE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 0.94 J | 0.19 U | 0.18 U | 0.18 U | 1.7 J | 0.43 J | 0.23 U | 1.4 J | 0.016 J | 0.19 U | | | | | | | | | |
| SVOC | HEXACHLOROBENZENE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | 0.19 U | | | | | | | | | |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | | | | | | | | | | |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | | | | | | | | | | |
| SVOC | HEXACHLOROETHANE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | 0.19 U | | | | | | | | | |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 6.8 | 0.043 J | 0.04 J | 0.18 U | 13 | 1.6 | 0.035 J | 13 | 0.2 | 0.1 J | | | | | | | | | |
| SVOC | ISOPHORONE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | 0.19 UJ | | | | | | | | | |
| SVOC | NAPHTHALENE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 0.14 J | 0.23 U | 5.5 U | 0.023 J | 0.32 | | | | | | | | | |
| SVOC | NITROBENZENE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | 0.19 U | | | | | | | | | |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 UJ | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | 0.19 U | | | | | | | | | |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | 0.19 U | | | | | | | | | |
| SVOC | PENTACHLOROPHENOL | MG/KG | 0.38 U | 0.34 U | 0.38 U | 0.4 U | 7.6 U | 0.36 U | 0.049 J | 0.35 U | 10 U | 2 U | 0.26 J | 11 U | 0.49 J | 0.51 J | | | | | | | | | |
| SVOC | PHENANTHRENE | MG/KG | 0.2 U | 0.051 J | 0.19 U | 0.21 U | 19 | 0.044 J | 0.035 J | 0.18 U | 36 J | 7.3 | 0.084 J | 33 | 0.23 | 0.081 J | | | | | | | | | |
| SVOC | PHENOL | MG/KG | 0.2 U | 0.17 U | 0.19 U | 0.21 U | 3.9 U | 0.19 U | 0.18 U | 0.18 U | 5.3 U | 1 U | 0.23 U | 5.5 U | 0.19 U | 0.19 U | | | | | | | | | |
| SVOC | PYRENE | MG/KG | 0.013 J | 0.047 J | 0.19 UJ | 0.21 UJ | 32 | 0.14 J | 0.091 J | 0.18 U | 61 | 8.7 | 0.15 J | 51 | 0.41 J | 0.16 J | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0215 | MPSB0216 | MPSB0216 | MPSB0216 | MPSB0217 | MPSB0217 | MPSB0217 | MPSB0217 | MPSB0219 | MPSB0219 | MPSB0219 | MPSB0220 | MPSB0220 | MPSB0220 | MPSB0301 | MPSB0301 | MPSB0301 | MPSB0304 | MPSB0304 | MPSB0304 | MPSB0304 | MPSB0305 | MPSB0305 |
| | | Field Sample ID | MPSB0215-SS-AH-AI-0 | MPSB0216-SS-AA-AB-0 | MPSB0216-SS-AD-AE-0 | MPSB0216-SS-AH-AI-0 | MPSB0217-SS-AA-AB-0 | MPSB0217-SS-AD-AE-0 | MPSB0217-SS-AF-AG-0 | MPSB0217-SS-AH-AI-0 | MPSB0219-SS-AA-AB-0 | MPSB0219-SS-AD-AE-0 | MPSB0219-SS-AH-AI-0 | MPSB0220-SS-AA-AB-0 | MPSB0220-SS-AD-AE-0 | MPSB0220-SS-AH-AI-0 | MPSB0301-SS-AA-AB-0 | MPSB0301-SS-AD-AE-0 | MPSB0301-SS-AE-AF-0 | MPSB0304-SS-AA-AB-0 | MPSB0304-SS-AD-AE-0 | MPSB0304-SS-AE-AF-0 | MPSB0304-SS-AI-AJ-0 | MPSB0305-SS-AA-AB-0 | MPSB0305-SS-AD-AE-0 |
| | | Sample Date | 12/2/2015 | 12/2/2015 | 12/2/2015 | 12/2/2015 | 12/2/2015 | 12/2/2015 | 12/2/2015 | 12/2/2015 | 12/2/2015 | 12/2/2015 | 12/2/2015 | 12/3/2015 | 12/3/2015 | 12/3/2015 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/5/2016 | 10/5/2016 | 10/5/2016 | 10/5/2016 | 10/5/2016 | 10/5/2016 |
| | | Depth (ft) | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 2.5-3 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 2-2.5 | 0-0.5 | 1.5-2 | 2-2.5 | 4-4.5 | 0-0.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ACETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOFORM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CARBON DISULFIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CARBON TETRACHLORIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROFORM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ETHYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TETRACHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TOLUENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0305 | MPSB0305 | MPSB0306 | MPSB0306 | MPSB0306 | MPSB0307 | MPSB0307 | MPSB0307 | MPSB0308 | MPSB0308 | MPSB0308 | MPSB0308 | MPSB0308 | MPSB0309 | MPSB0309 | MPSB0309 | MPSB0310 | MPSB0310 | MPSB0310 | MPSB0310 | MPSB0316 | MPSB0316 | MPSB0316 |
| | | Field Sample ID | MPSB0305-SS-AF-AG-0 | MPSB0305-SS-AN-AO-0 | MPSB0306-SS-AA-AB-0 | MPSB0306-SS-AD-AE-0 | MPSB0306-SS-AM-AN-0 | MPSB0307-SS-AA-AB-0 | MPSB0307-SS-AD-AE-0 | MPSB0307-SS-AF-AG-0 | MPSB0308-SS-AA-AB-0 | MPSB0308-SS-AD-AE-0 | MPSB0308-SS-AE-AF-0 | MPSB0308-SS-AE-AF-1 | MPSB0308-SS-AG-AH-0 | MPSB0309-SS-AA-AB-0 | MPSB0309-SS-AD-AE-0 | MPSB0309-SS-AE-AF-0 | MPSB0310-SS-AA-AB-0 | MPSB0310-SS-AD-AE-0 | MPSB0310-SS-AL-AM-0 | MPSB0310-SS-AL-AM-1 | MPSB0316-SS-AA-AB-0 | MPSB0316-SS-AD-AE-0 | MPSB0316-SS-AE-AF-0 |
| | | Sample Date | 10/5/2016 | 10/5/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/5/2016 | 10/5/2016 | 10/4/2016 | 10/5/2016 | 10/5/2016 | 10/5/2016 | 10/5/2016 | 10/5/2016 | 10/5/2016 | 10/5/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 |
| | | Depth (ft) | 2.5-3 | 6.5-7 | 0-0.5 | 1.5-2 | 6-6.5 | 0-0.5 | 1.5-2 | 2.5-3 | 0-0.5 | 1.5-2 | 2-2.5 | 2-2.5 | 3-3.5 | 0-0.5 | 1.5-2 | 2-2.5 | 0-0.5 | 1.5-2 | 5.5-6 | 5.5-6 | 0-0.5 | 1.5-2 | 2-2.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | 2.5 U | | | | | | | | | 500 J | 290 J | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | 2.5 U | | | | | | | | | 520 J | 310 J | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | 2.5 U | | | | | | | | | 140 | 93 | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | 2.5 U | | | | | | | | | 320 J | 170 J | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | 2.5 U | | | | | | | | | 170 J | 47 J | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | 2.5 U | | | | | | | | | 170 J | 74 J | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | 2.5 U | | | | | | | | | 330 | 220 | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | 2.5 U | | | | | | | | | 3300 | 2200 | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ANTIMONY | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ARSENIC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | BARIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | BERYLLIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CADMIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CALCIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | 0.62 | | 0.53 | 0.43 U | 1.1 | 0.45 | 0.43 | 0.43 U | 0.51 U | 0.94 | | | 0.54 U | 0.47 U | 0.45 U | 0.76 | 0.65 | 0.6 J | 0.52 U | 0.54 U | 0.47 U | 0.44 U | 0.44 U |
| METALS | CHROMIUM | MG/KG | 12.4 | | 13.8 | 7.5 | 19.6 | 5.6 | 11.9 | 4 | 30.9 | 178 | | | 229 | 2.4 | 4.7 | 10.5 | 13.3 | 12.1 | 25.4 | 20.7 | 20.5 | 16.2 | 14.8 |
| METALS | COBALT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | COPPER | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CYANIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | IRON | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | LEAD | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | MAGNESIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | MANGANESE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | MERCURY | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | NICKEL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | POTASSIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | SELENIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | SILVER | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | SODIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | THALLIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | VANADIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ZINC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1221 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1232 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1242 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1248 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1254 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1260 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0305 | MPSB0305 | MPSB0306 | MPSB0306 | MPSB0306 | MPSB0307 | MPSB0307 | MPSB0307 | MPSB0308 | MPSB0308 | MPSB0308 | MPSB0308 | MPSB0308 | MPSB0309 | MPSB0309 | MPSB0309 | MPSB0310 | MPSB0310 | MPSB0310 | MPSB0310 | MPSB0316 | MPSB0316 | MPSB0316 |
| | | Field Sample ID | MPSB0305-SS-AF-AG-0 | MPSB0305-SS-AN-AO-0 | MPSB0306-SS-AA-AB-0 | MPSB0306-SS-AD-AE-0 | MPSB0306-SS-AM-AN-0 | MPSB0307-SS-AA-AB-0 | MPSB0307-SS-AD-AE-0 | MPSB0307-SS-AF-AG-0 | MPSB0308-SS-AA-AB-0 | MPSB0308-SS-AD-AE-0 | MPSB0308-SS-AE-AF-0 | MPSB0308-SS-AE-AF-1 | MPSB0308-SS-AG-AH-0 | MPSB0309-SS-AA-AB-0 | MPSB0309-SS-AD-AE-0 | MPSB0309-SS-AE-AF-0 | MPSB0310-SS-AA-AB-0 | MPSB0310-SS-AD-AE-0 | MPSB0310-SS-AL-AM-0 | MPSB0310-SS-AL-AM-1 | MPSB0316-SS-AA-AB-0 | MPSB0316-SS-AD-AE-0 | MPSB0316-SS-AE-AF-0 |
| | | Sample Date | 10/5/2016 | 10/5/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/5/2016 | 10/5/2016 | 10/4/2016 | 10/5/2016 | 10/5/2016 | 10/5/2016 | 10/5/2016 | 10/5/2016 | 10/5/2016 | 10/5/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 |
| | | Depth (ft) | 2.5-3 | 6.5-7 | 0-0.5 | 1.5-2 | 6-6.5 | 0-0.5 | 1.5-2 | 2.5-3 | 0-0.5 | 1.5-2 | 2-2.5 | 2-2.5 | 3-3.5 | 0-0.5 | 1.5-2 | 2-2.5 | 0-0.5 | 1.5-2 | 5.5-6 | 5.5-6 | 0-0.5 | 1.5-2 | 2-2.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DINITROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-CHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-NITROANILINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-NITROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 3-NITROANILINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLOROANILINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-NITROANILINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-NITROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ACENAPHTHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ACENAPHTHYLENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ACETOPHENONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ANTHRACENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ATRAZINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(A)PYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | CAPROLACTAM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | CARBAZOLE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | CHRYSENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DIBENZOFURAN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DIETHYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DIMETHYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | FLUORANTHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | FLUORENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ISOPHORONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | NITROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | PENTACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | PHENANTHRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | PHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | PYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0305 | MPSB0305 | MPSB0306 | MPSB0306 | MPSB0306 | MPSB0307 | MPSB0307 | MPSB0307 | MPSB0308 | MPSB0308 | MPSB0308 | MPSB0308 | MPSB0308 | MPSB0309 | MPSB0309 | MPSB0309 | MPSB0310 | MPSB0310 | MPSB0310 | MPSB0310 | MPSB0316 | MPSB0316 | MPSB0316 |
| | | Field Sample ID | MPSB0305-SS-AF-AG-0 | MPSB0305-SS-AN-AO-0 | MPSB0306-SS-AA-AB-0 | MPSB0306-SS-AD-AE-0 | MPSB0306-SS-AM-AN-0 | MPSB0307-SS-AA-AB-0 | MPSB0307-SS-AD-AE-0 | MPSB0307-SS-AF-AG-0 | MPSB0308-SS-AA-AB-0 | MPSB0308-SS-AD-AE-0 | MPSB0308-SS-AE-AF-0 | MPSB0308-SS-AE-AF-1 | MPSB0308-SS-AG-AH-0 | MPSB0309-SS-AA-AB-0 | MPSB0309-SS-AD-AE-0 | MPSB0309-SS-AE-AF-0 | MPSB0310-SS-AA-AB-0 | MPSB0310-SS-AD-AE-0 | MPSB0310-SS-AL-AM-0 | MPSB0310-SS-AL-AM-1 | MPSB0316-SS-AA-AB-0 | MPSB0316-SS-AD-AE-0 | MPSB0316-SS-AE-AF-0 |
| | | Sample Date | 10/5/2016 | 10/5/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 | 10/5/2016 | 10/5/2016 | 10/4/2016 | 10/5/2016 | 10/5/2016 | 10/5/2016 | 10/5/2016 | 10/5/2016 | 10/5/2016 | 10/5/2016 | 10/4/2016 | 10/4/2016 | 10/4/2016 |
| | | Depth (ft) | 2.5-3 | 6.5-7 | 0-0.5 | 1.5-2 | 6-6.5 | 0-0.5 | 1.5-2 | 2.5-3 | 0-0.5 | 1.5-2 | 2-2.5 | 2-2.5 | 3-3.5 | 0-0.5 | 1.5-2 | 2-2.5 | 0-0.5 | 1.5-2 | 5.5-6 | 5.5-6 | 0-0.5 | 1.5-2 | 2-2.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ACETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOFORM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CARBON DISULFIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CARBON TETRACHLORIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROFORM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ETHYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TETRACHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TOLUENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0323 | MPSB0323 | MPSB0323 | MW-13 | MW-13 | MW-14 | MW-14 | MW-14 | MW-16 | MW-16 | MW-17 | MW-17 | MW-18 | MW-18 | PWSB0014 | PWSB0014 | PWSB0014 | PWSB0014 | SGW-266 | SGW-278 | TB-05 | TB-05 | TB-05 |
| | | Field Sample ID | MPSB0323-SS-AA-AB-0 | MPSB0323-SS-AD-AE-0 | MPSB0323-SS-AP-AQ-0 | 013-B001 | 013-B002 | 014-B001 | 014-B002 | W-7 | 016-B001 | 016-B002 | 017-B001 | 017-B002 | 018-B001 | 018-B002 | PWSB0014-SS-AJ-AK-0 | PWSB0014-SS-AM-AN-0 | PWSB0014-SS-AP-AQ-0 | PWSB0014-SS-AP-AQ-1 | 266A-B001 | 278-B001 | 005-B001 | 005-B002 | 005-B102 |
| | | Sample Date | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/28/1991 | 10/28/1991 | 10/28/1991 | 10/28/1991 | 5/20/1994 | 10/18/1991 | 10/18/1991 | 10/18/1991 | 10/18/1991 | 10/18/1991 | 10/18/1991 | 10/9/2006 | 10/9/2006 | 10/9/2006 | 10/9/2006 | 7/7/1993 | 7/8/1993 | 10/18/1991 | 10/18/1991 | 10/18/1991 |
| | | Depth (ft) | 0-0.5 | 1.5-2 | 7.5-8 | 0-2 | 2-4 | 0-2 | 2-4 | 0-0.5 | 0-2 | 2-4 | 2-4 | 4-6 | 0-2 | 6-8 | 4.5-5 | 6-6.5 | 7.5-8 | 7.5-8 | 1-1.5 | 4.5-5.2 | 4-6 | 6-8 | 6-8 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | | | | | | | | 920 | | | | | | | 2320 | 1370 | 2350 | 1590 | | 1690 | | | |
| METALS | ANTIMONY | MG/KG | | | | | | | | 42.3 | | | | | | | 3.7 J | 1.4 UJ | 1.6 UJ | 1.5 UJ | | 4.7 U | | | |
| METALS | ARSENIC | MG/KG | | | | | | | | 108 | | | | | | | 3.4 | 1.5 | 2 | 1.1 J | | 1.2 | | | |
| METALS | BARIUM | MG/KG | | | | 37.5 | 68.1 | 67.3 | 9.1 | 1040 | 10.9 | 4.3 | 165 | 89.7 | 44.4 | 379 | 298 J | 26.6 J | 16.4 J | 13.2 J | 46.9 | 8.1 | 293 | 202 | 126 |
| METALS | BERYLLIUM | MG/KG | | | | | | | | 0.14 U | | | | | | | 0.11 J | 0.073 U | 0.081 U | 0.078 U | | 0.11 U | | | |
| METALS | CADMIUM | MG/KG | | | | | | | | 401 | | | | | | | 0.13 J | 0.097 U | 0.11 U | 0.1 U | | 0.42 U | | | |
| METALS | CALCIUM | MG/KG | | | | | | | | 31900 | | | | | | | 652 J | 102 J | 168 J | 112 J | | 200 | | | |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | 0.44 U | 0.77 | 0.46 U | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 8.6 | 12.6 | 6 | 6.9 | 7 | 15.6 | 2.2 | 1070 | 1.7 | 3.3 | 21.2 | 14.5 | 4 | 39.2 | 13.4 | 7.3 | 9.3 | 5.3 | 10 U | 10.1 | 31.8 | 12.9 | 12.4 |
| METALS | COBALT | MG/KG | | | | | | | | 3 B | | | | | | | 1.7 J | 0.42 J | 0.46 U | 0.44 U | | 0.39 U | | | |
| METALS | COPPER | MG/KG | | | | | | | | 76.5 | | | | | | | 13.5 J | 1.3 J | 1.3 J | 0.96 U | | 1.9 U | | | |
| METALS | CYANIDE | MG/KG | | | | 10 U | 10 U | 10 U | 10 U | 3.7 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 2.7 U | 2.7 U | 10 U | 10 U | 10 U |
| METALS | IRON | MG/KG | | | | | | | | 28100 | | | | | | | 6340 | 2140 | 5480 | 3060 | | 4520 | | | |
| METALS | LEAD | MG/KG | | | | 27.5 | 22.4 | 24.6 | 2.1 | 103000 | 14.8 | 3.5 U | 634 | 171 | 17.8 | 660 | 104 J | 7.3 J | 3.4 J | 2.7 J | 11.2 | 10 U | 415 | 164 | 151 |
| METALS | MAGNESIUM | MG/KG | | | | | | | | 7900 | | | | | | | 207 J | 35.7 J | 45.7 J | 33.1 J | | 77 | | | |
| METALS | MANGANESE | MG/KG | | | | | | | | 327 | | | | | | | 12.8 | 7.2 | 25.5 | 16.8 | | 12.8 | | | |
| METALS | MERCURY | MG/KG | | | | | | | | 0.06 U | | | | | | | 0.09 | 0.04 J | 0.03 J | 0.03 J | | 0.11 U | | | |
| METALS | NICKEL | MG/KG | | | | | | | | 2.8 B | | | | | | | 2.9 J | 0.58 U | 0.65 U | 0.62 U | | 1.9 U | | | |
| METALS | POTASSIUM | MG/KG | | | | | | | | 140 U | | | | | | | 378 J | 266 J | 380 J | 328 J | | 261 | | | |
| METALS | SELENIUM | MG/KG | | | | | | | | 0.78 B | | | | | | | 1 U | 1 U | 1.1 U | 1.1 U | | 0.45 | | | |
| METALS | SILVER | MG/KG | | | | | | | | 28.1 | | | | | | | 0.34 U | 0.34 U | 0.38 U | 0.36 U | | 0.53 | | | |
| METALS | SODIUM | MG/KG | | | | | | | | 13.5 B | | | | | | | 96.8 U | 94.9 J | 106 U | 102 U | | 28.5 | | | |
| METALS | THALLIUM | MG/KG | | | | | | | | 0.57 U | | | | | | | 1.2 U | 1.1 U | 1.3 U | 1.2 U | | 0.26 U | | | |
| METALS | VANADIUM | MG/KG | | | | | | | | 11 B | | | | | | | 7.7 J | 5.1 J | 7.7 J | 5 J | | 7.8 | | | |
| METALS | ZINC | MG/KG | | | | | | | | 12300 | | | | | | | 73.5 J | 15.5 J | 3.1 J | 2.6 J | | 2.6 | | | |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | 0.0038 U | | | | | | | 0.0082 U | 0.0081 U | 0.009 U | 0.0086 U | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | 0.0038 U | | | | | | | 0.0082 U | 0.0081 U | 0.009 U | 0.0086 U | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | 0.0038 U | | | | | | | 0.0082 U | 0.0081 U | 0.009 U | 0.0086 U | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | 0.0019 U | | | | | | | 0.0082 U | 0.0081 U | 0.009 U | 0.0086 U | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | 0.0019 U | | | | | | | 0.0082 U | 0.0081 U | 0.009 U | 0.0086 U | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | 0.0019 U | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | | | | | | | | 0.038 U | | | | | | | 0.082 U | 0.081 U | 0.09 U | 0.086 U | | | | | |
| PEST/PCB | AROCLOR-1221 | MG/KG | | | | | | | | 0.075 U | | | | | | | 0.082 U | 0.081 U | 0.09 U | 0.086 U | | | | | |
| PEST/PCB | AROCLOR-1232 | MG/KG | | | | | | | | 0.038 U | | | | | | | 0.082 U | 0.081 U | 0.09 U | 0.086 U | | | | | |
| PEST/PCB | AROCLOR-1242 | MG/KG | | | | | | | | | | | | | | | 0.082 U | 0.081 U | 0.09 U | 0.086 U | | | | | |
| PEST/PCB | AROCLOR-1248 | MG/KG | | | | | | | | 0.038 U | | | | | | | 0.082 U | 0.081 U | 0.09 U | 0.086 U | | | | | |
| PEST/PCB | AROCLOR-1254 | MG/KG | | | | | | | | 0.038 U | | | | | | | 0.082 U | 0.081 U | 0.09 U | 0.086 U | | | | | |
| PEST/PCB | AROCLOR-1260 | MG/KG | | | | | | | | 0.038 U | | | | | | | 0.082 U | 0.081 U | 0.09 U | 0.086 U | | | | | |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | | | | | | | | | | | | | 0.082 U | 0.081 U | 0.09 U | 0.086 U | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | | | | | | | | | | | | | 0.082 U | 0.081 U | 0.09 U | 0.086 U | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | 0.0019 U | | | | | | | 0.0082 U | 0.0081 U | 0.009 U | 0.0086 U | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | 0.082 U | 0.081 U | 0.09 U | 0.086 U | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | 0.0019 U | | | | | | | 0.0082 U | 0.0081 U | 0.009 U | 0.0086 U | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | 0.0038 U | | | | | | | 0.0082 U | 0.0081 U | 0.009 U | 0.0086 U | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | 0.0019 U | | | | | | | 0.0082 U | 0.0081 U | 0.009 U | 0.0086 U | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | 0.0038 U | | | | | | | 0.0082 U | 0.0081 U | 0.009 U | 0.0086 U | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | 0.0038 U | | | | | | | 0.0082 U | 0.0081 U | 0.009 U | 0.0086 U | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | 0.0038 U | | | | | | | 0.0082 U | 0.0081 U | 0.009 U | 0.0086 U | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | 0.0038 U | | | | | | | 0.0082 U | 0.0081 U | 0.009 U | 0.0086 U | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | 0.0038 U | | | | | | | 0.0082 U | 0.0081 U | 0.009 U | 0.0086 U | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | 0.0019 U | | | | | | | 0.0082 U | 0.0081 U | 0.009 U | 0.0086 U | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | 0.0019 U | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | 0.0019 U | | | | | | | 0.0082 U | 0.0081 U | 0.009 U | 0.0086 U | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | 0.0019 U | | | | | | | 0.0082 U | 0.0081 U | 0.009 U | 0.0086 U | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | 0.038 U | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | 0.019 U | | | | | | | 0.0082 U | 0.0081 U | 0.009 U | 0.0086 U | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | 0.19 U | | | | | | | 0.082 U | 0.081 U | 0.09 U | 0.086 U | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0323 | MPSB0323 | MPSB0323 | MW-13 | MW-13 | MW-14 | MW-14 | MW-14 | MW-16 | MW-16 | MW-17 | MW-17 | MW-18 | MW-18 | PWSB0014 | PWSB0014 | PWSB0014 | PWSB0014 | SGW-266 | SGW-278 | TB-05 | TB-05 | TB-05 |
| | | Field Sample ID | MPSB0323-SS-AA-AB-0 | MPSB0323-SS-AD-AE-0 | MPSB0323-SS-AP-AQ-0 | 013-B001 | 013-B002 | 014-B001 | 014-B002 | W-7 | 016-B001 | 016-B002 | 017-B001 | 017-B002 | 018-B001 | 018-B002 | PWSB0014-SS-AJ-AK-0 | PWSB0014-SS-AM-AN-0 | PWSB0014-SS-AP-AQ-0 | PWSB0014-SS-AP-AQ-1 | 266A-B001 | 278-B001 | 005-B001 | 005-B002 | 005-B102 |
| | | Sample Date | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/28/1991 | 10/28/1991 | 10/28/1991 | 10/28/1991 | 5/20/1994 | 10/18/1991 | 10/18/1991 | 10/18/1991 | 10/18/1991 | 10/18/1991 | 10/18/1991 | 10/9/2006 | 10/9/2006 | 10/9/2006 | 10/9/2006 | 7/7/1993 | 7/8/1993 | 10/18/1991 | 10/18/1991 | 10/18/1991 |
| | | Depth (ft) | 0-0.5 | 1.5-2 | 7.5-8 | 0-2 | 2-4 | 0-2 | 2-4 | 0-0.5 | 0-2 | 2-4 | 2-4 | 4-6 | 0-2 | 6-8 | 4.5-5 | 6-6.5 | 7.5-8 | 7.5-8 | 1-1.5 | 4.5-5.2 | 4-6 | 6-8 | 6-8 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | | | | | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | | | | | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | | | | | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 4.1 U | 0.4 U | 0.0092 J | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 4.1 U | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | | | | 4 U | 39 U | 18 U | 1.9 U | 0.95 U | 1.9 U | 2 U | 1.8 U | 1.9 U | 0.66 U | 1.9 U | 4.1 U | 0.4 U | 0.45 U | 0.43 U | | 0.98 U | 1.9 U | 0.66 U | 2 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 4.1 U | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 4.1 U | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | | | | 4.1 | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.042 J | 0.38 U | 0.33 U | 0.37 U | 3.9 J | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | | | | 4 U | 39 U | 18 U | 1.9 U | 0.95 U | 1.9 U | 2 U | 1.8 U | 1.9 U | 0.66 U | 1.9 U | 12 U | 1.2 U | 1.3 U | 1.3 U | | 0.98 U | 1.9 U | 0.66 U | 2 U |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 0.82 U | 0.081 U | 0.09 U | 0.086 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 0.82 U | 0.081 U | 0.09 U | 0.086 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 4.1 U | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 4.1 U | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | | | | 3.1 | 10 | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 0.2 J | 0.015 J | 0.45 U | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | 2-METHYLPHENOL | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 4.1 U | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | 2-NITROANILINE | MG/KG | | | | 4 U | 39 U | 18 U | 1.9 U | 0.95 U | 1.9 U | 2 U | 1.8 U | 1.9 U | 0.66 U | 1.9 U | 8.2 U | 0.81 U | 0.9 U | 0.86 U | | 0.98 U | 1.9 U | 0.66 U | 2 U |
| SVOC | 2-NITROPHENOL | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 4.1 U | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 8.2 U | 0.81 U | 0.9 U | 0.86 U | | 0.39 U | 0.77 U | 0.33 U | 0.8 U |
| SVOC | 3-NITROANILINE | MG/KG | | | | 4 U | 39 U | 18 U | 1.9 U | 0.95 U | 1.9 U | 2 U | 1.8 U | 1.9 U | 0.66 U | 1.9 U | 8.2 U | 0.81 U | 0.9 U | 0.86 U | | 0.98 U | 1.9 U | 0.66 U | 2 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | | | | 4 U | 39 U | 18 U | 1.9 U | 0.95 U | 1.9 U | 2 U | 1.8 U | 1.9 U | 0.66 U | 1.9 U | 12 U | 1.2 U | 1.3 U | 1.3 U | | 0.98 U | 1.9 U | 0.66 U | 2 U |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 4.1 U | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 4.1 U | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | 4-CHLOROANILINE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 4.1 U | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 4.1 U | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | 4-METHYLPHENOL | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 4.1 U | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | 4-NITROANILINE | MG/KG | | | | 4 U | 39 U | 18 U | 1.9 U | 0.95 U | 1.9 U | 2 U | 1.8 U | 1.9 U | 0.66 U | 1.9 U | 8.2 U | 0.81 U | 0.9 U | 0.86 U | | 0.98 U | 1.9 U | 0.66 U | 2 U |
| SVOC | 4-NITROPHENOL | MG/KG | | | | 4 U | 39 U | 18 U | 1.9 U | 0.95 U | 1.9 U | 2 U | 1.8 U | 1.9 U | 0.66 U | 1.9 U | 12 U | 1.2 U | 1.3 U | 1.3 U | | 0.98 U | 1.9 U | 0.66 U | 2 U |
| SVOC | ACENAPHTHENE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 0.084 J | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | ACENAPHTHYLENE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.04 J | 4.1 U | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | ACETOPHENONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ANTHRACENE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.058 J | 0.12 J | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | ATRAZINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.27 J | 0.21 J | 0.04 U | 0.045 U | 0.043 U | | 0.39 U | 0.055 J | 0.055 J | 0.042 J |
| SVOC | BENZO(A)PYRENE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.14 J | 0.38 U | 0.33 U | 0.28 J | 0.14 J | 0.016 J | 0.045 U | 0.043 U | | 0.39 U | 0.059 J | 0.059 J | 0.4 U |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.1 J | 0.38 U | 0.33 U | 0.37 | 0.16 J | 0.04 U | 0.045 U | 0.043 U | | 0.39 U | 0.069 J | 0.069 J | 0.065 J |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 4.1 U | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.1 J | 0.38 U | 0.33 U | 0.27 J | 0.15 J | 0.04 U | 0.045 U | 0.043 U | | 0.39 U | 0.055 J | 0.055 J | 0.043 J |
| SVOC | BENZOIC ACID | MG/KG | | | | 2 U | 39 U | 18 U | 1.9 U | | 1.9 U | 2 U | 1.8 U | 1.9 U | 0.33 U | 0.073 J | | | | | | 0.39 U | 1.9 U | 0.33 U | 2 U |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | | | | | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 4.1 U | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 4.1 U | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 0.41 U | 0.04 U | 0.045 U | 0.043 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | | | | 7.8 | 7.7 U | 3.6 U | 0.094 J | 0.38 U | 0.099 J | 0.079 J | 0.48 J | 0.49 J | 3.6 J | 3.1 J | 4.1 U | 0.09 J | 0.45 U | 0.42 J | | 0.39 U | 0.18 J | 0.33 U | 2.1 |
| SVOC | CAPROLACTAM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | CARBAZOLE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 4.1 U | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | CHRYSENE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.11 J | 0.053 J | 0.33 U | 0.27 J | 0.34 J | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 9.1 U | 0.073 J | 0.058 J |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 0.41 U | 0.04 U | 0.045 U | 0.043 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | DIBENZOFURAN | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 4.1 U | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | DIETHYLPHTHALATE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 4.1 U | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 4.1 U | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.096 J | 0.38 U | 0.33 U | 0.042 J | 4.1 U | 0.4 U | 0.45 U | 0.43 U | | 0.14 J | 0.053 J | 0.053 J | 0.048 J |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 4.1 U | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | FLUORANTHENE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.065 J | 0.38 U | 0.33 U | 0.38 | 0.8 J | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 0.079 J | 0.079 J | 0.049 J |
| SVOC | FLUORENE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 4.1 U | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | HEXACHLOROBENZENE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 0.41 U | 0.04 U | 0.045 U | 0.043 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 0.82 U | 0.081 U | 0.09 U | 0.086 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 4.1 U | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | HEXACHLOROETHANE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 0.41 U | 0.04 U | 0.045 U | 0.043 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.087 J | 0.41 U | 0.04 U | 0.045 U | 0.043 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | ISOPHORONE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 4.1 U | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | NAPHTHALENE | MG/KG | | | | 10 | 42 | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 4.1 U | 0.4 U | 0.011 J | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | NITROBENZENE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 0.41 U | 0.04 U | 0.045 U | 0.043 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 0.41 U | 0.04 U | 0.045 U | 0.043 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 4.1 U | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | | | | 4 U | 39 U | 18 U | 1.9 U | 0.95 U | 1.9 U | 2 U | 1.8 U | 1.9 U | 0.33 J | 1.9 U | 12 U | 1.2 U | 1.3 U | 1.3 U | | 0.98 U | 1.9 U | 0.66 U | 2 U |
| SVOC | PHENANTHRENE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.052 J | 0.38 U | 0.33 U | 0.19 J | 0.56 J | 0.016 J | 0.45 U | 0.43 U | | 0.39 U | 0.07 J | 0.07 J | 0.052 J |
| SVOC | PHENOL | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.36 U | 0.38 U | 0.33 U | 0.37 U | 4.1 U | 0.4 U | 0.45 U | 0.43 U | | 0.39 U | 0.38 U | 0.33 U | 0.4 U |
| SVOC | PYRENE | MG/KG | | | | 2 U | 7.7 U | 3.6 U | 0.38 U | 0.38 U | 0.39 U | 0.4 U | 0.094 J | 0.38 U | 0.33 U | 0.41 | 0.6 J | 0.02 J | 0.45 U | 0.43 U | | 0.39 U | 0.08 J | 0.08 J | 0.07 J |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0323 | MPSB0323 | MPSB0323 | MW-13 | MW-13 | MW-14 | MW-14 | MW-14 | MW-16 | MW-16 | MW-17 | MW-17 | MW-18 | MW-18 | PWSB0014 | PWSB0014 | PWSB0014 | PWSB0014 | SGW-266 | SGW-278 | TB-05 | TB-05 | TB-05 |
| | | Field Sample ID | MPSB0323-SS-AA-AB-0 | MPSB0323-SS-AD-AE-0 | MPSB0323-SS-AP-AQ-0 | 013-B001 | 013-B002 | 014-B001 | 014-B002 | W-7 | 016-B001 | 016-B002 | 017-B001 | 017-B002 | 018-B001 | 018-B002 | PWSB0014-SS-AJ-AK-0 | PWSB0014-SS-AM-AN-0 | PWSB0014-SS-AP-AQ-0 | PWSB0014-SS-AP-AQ-1 | 266A-B001 | 278-B001 | 005-B001 | 005-B002 | 005-B102 |
| | | Sample Date | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/28/1991 | 10/28/1991 | 10/28/1991 | 10/28/1991 | 5/20/1994 | 10/18/1991 | 10/18/1991 | 10/18/1991 | 10/18/1991 | 10/18/1991 | 10/18/1991 | 10/9/2006 | 10/9/2006 | 10/9/2006 | 10/9/2006 | 7/7/1993 | 7/8/1993 | 10/18/1991 | 10/18/1991 | 10/18/1991 |
| | | Depth (ft) | 0-0.5 | 1.5-2 | 7.5-8 | 0-2 | 2-4 | 0-2 | 2-4 | 0-0.5 | 0-2 | 2-4 | 2-4 | 4-6 | 0-2 | 6-8 | 4.5-5 | 6-6.5 | 7.5-8 | 7.5-8 | 1-1.5 | 4.5-5.2 | 4-6 | 6-8 | 6-8 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | | | 1.2 U | 6 U | 0.006 U | 0.006 U | 0.011 U | 0.006 | 0.006 U | 0.017 | 0.011 | 0.006 U | 0.013 | 0.57 U | 0.6 U | 0.0067 U | 0.0066 U | | 0.012 U | 0.009 | 0.003 J | 0.006 U |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | | | 1.2 U | 6 U | 0.006 U | 0.006 U | 0.011 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.11 U | 0.12 U | 0.0013 U | 0.0013 U | | 0.012 U | 0.006 U | 0.006 U | 0.006 U |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | | | 1.2 U | 6 U | 0.006 U | 0.006 U | 0.011 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.34 U | 0.36 U | 0.004 U | 0.0039 U | | 0.012 U | 0.006 U | 0.006 U | 0.006 U |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | | | 1.2 U | 6 U | 0.006 U | 0.006 U | 0.011 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.57 U | 0.6 U | 0.0067 U | 0.0066 U | | 0.012 U | 0.006 U | 0.006 U | 0.006 U |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | | | 1.2 U | 6 U | 0.006 U | 0.006 U | 0.011 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.23 U | 0.24 U | 0.0027 U | 0.0026 U | | 0.012 U | 0.006 U | 0.006 U | 0.006 U |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | 0.41 U | 0.04 U | 0.045 U | 0.043 U | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | 4.1 U | 0.4 U | 0.45 U | 0.43 U | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | | | 1.2 U | 6 U | 0.006 U | 0.006 U | 0.011 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.23 U | 0.24 U | 0.0027 U | 0.0026 U | | 0.012 U | 0.006 U | 0.006 U | 0.006 U |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | | | 1.2 U | 6 U | 0.006 U | 0.006 U | 0.011 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.11 U | 0.12 U | 0.0013 U | 0.0013 U | | 0.012 U | 0.006 U | 0.006 U | 0.006 U |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | 4.1 U | 0.4 U | 0.45 U | 0.43 U | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | | | 2.4 U | 12 U | 0.011 U | 0.011 U | 0.011 U | 0.012 U | 0.012 U | 0.011 U | 0.011 U | 0.011 U | 0.011 U | 0.57 U | 0.6 U | 0.0067 U | 0.0066 U | | 0.012 U | 0.011 U | 0.012 U | 0.012 U |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | | | 2.4 U | 12 U | 0.011 U | 0.011 U | 0.011 U | 0.012 U | 0.012 U | 0.011 U | 0.011 U | 0.011 U | 0.011 U | 0.57 U | 0.6 U | 0.0067 U | 0.0066 U | | 0.012 U | 0.011 U | 0.012 U | 0.012 U |
| VOC | ACETONE | MG/KG | | | | 2.3 JB | 51 B | 0.046 B | 0.097 B | 0.011 U | 0.27 B | 0.24 B | 0.14 B | 0.38 B | 0.17 B | 0.4 B | | | 0.027 UJ | 0.025 UJ | | 0.012 U | 0.21 B | 0.64 | 0.52 |
| VOC | BENZENE | MG/KG | | | | 1.2 U | 3.2 J | 0.006 U | 0.006 U | 0.011 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.11 U | 0.12 U | 0.0013 U | 0.0013 U | | 0.012 U | 0.006 U | 0.006 U | 0.006 U |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | | | | 1.2 U | 6 U | 0.006 U | 0.006 U | 0.011 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.11 U | 0.12 U | 0.0013 U | 0.0013 U | | 0.012 U | 0.006 U | 0.006 U | 0.006 U |
| VOC | BROMOFORM | MG/KG | | | | 1.2 U | 6 U | 0.006 U | 0.006 U | 0.011 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.46 U | 0.48 U | 0.0054 U | 0.0053 U | | 0.012 U | 0.006 U | 0.006 U | 0.006 U |
| VOC | BROMOMETHANE | MG/KG | | | | 2.4 U | 12 U | 0.011 U | 0.011 U | 0.011 U | 0.012 U | 0.012 U | 0.011 U | 0.011 U | 0.011 U | 0.011 U | 0.57 U | 0.6 U | 0.0067 U | 0.0066 U | | 0.012 U | 0.011 U | 0.012 U | 0.012 U |
| VOC | CARBON DISULFIDE | MG/KG | | | | 1.2 U | 6 U | 0.006 U | 0.006 U | 0.011 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.57 U | 0.6 U | 0.0067 U | 0.0066 U | | 0.012 U | 0.006 U | 0.006 U | 0.006 U |
| VOC | CARBON TETRACHLORIDE | MG/KG | | | | 1.2 U | 6 U | 0.006 U | 0.006 U | 0.011 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.23 U | 0.24 U | 0.0027 U | 0.0026 U | | 0.012 U | 0.006 U | 0.006 U | 0.006 U |
| VOC | CHLOROBENZENE | MG/KG | | | | 1.2 U | 6 U | 0.006 U | 0.006 U | 0.011 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.57 U | 0.6 U | 0.0067 U | 0.0066 U | | 0.012 U | 0.006 U | 0.006 U | 0.006 U |
| VOC | CHLOROETHANE | MG/KG | | | | 2.4 U | 12 U | 0.011 U | 0.011 U | 0.011 U | 0.012 U | 0.012 U | 0.011 U | 0.011 U | 0.011 U | 0.011 U | 0.57 U | 0.6 U | 0.0067 U | 0.0066 U | | 0.012 U | 0.011 U | 0.012 U | 0.012 U |
| VOC | CHLOROFORM | MG/KG | | | | 1.2 U | 6 U | 0.003 J | 0.006 U | 0.011 U | 0.02 | 0.006 U | 0.046 | 0.022 | 0.006 U | 0.035 | 0.57 U | 0.6 U | 0.0067 U | 0.0066 U | | 0.012 U | 0.024 | 0.01 | 0.018 |
| VOC | CHLOROMETHANE | MG/KG | | | | 2.4 U | 12 U | 0.011 U | 0.011 U | 0.011 U | 0.012 U | 0.012 U | 0.011 U | 0.011 U | 0.011 U | 0.011 U | 0.57 U | 0.6 U | 0.0067 U | 0.0066 U | | 0.012 U | 0.011 U | 0.012 U | 0.012 U |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | 0.57 U | 0.6 U | 0.0067 U | 0.0066 U | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | | | 1.2 U | 6 U | 0.006 U | 0.006 U | 0.011 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.57 U | 0.6 U | 0.0067 U | 0.0066 U | | 0.012 U | 0.006 U | 0.006 U | 0.006 U |
| VOC | CYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | | | 1.2 U | 6 U | 0.006 U | 0.006 U | 0.011 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.57 U | 0.6 U | 0.0067 U | 0.0066 U | | 0.012 U | 0.006 U | 0.006 U | 0.006 U |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | | | | 1.2 B | 9.2 B | 0.018 B | 0.017 | 0.011 U | 0.03 B | 0.028 B | 0.1 B | 0.062 B | 0.01 B | 0.081 B | 0.34 U | 0.36 U | 0.004 U | 0.0039 U | | 0.007 J | 0.059 B | 0.027 B | 0.039 B |
| VOC | ETHYLBENZENE | MG/KG | | | | 3.9 | 61 | 0.003 J | 0.006 U | 0.011 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.16 J | 0.09 J | 0.0054 U | 0.0053 U | | 0.012 U | 0.01 | 0.031 | 0.037 |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | | | | 2.4 U | 22 | 0.024 | 0.011 U | 0.011 U | 0.012 U | 0.012 U | 0.011 U | 0.011 U | 0.011 U | 0.011 U | | | | | | 0.012 U | 0.011 U | 0.012 U | 0.027 |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | | | 1.2 U | 6 U | 0.006 U | 0.006 U | 0.011 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.57 U | 0.6 U | 0.0067 U | 0.0066 U | | 0.012 U | 0.006 U | 0.006 U | 0.006 U |
| VOC | TETRACHLOROETHENE | MG/KG | | | | 1.2 U | 6 U | 0.006 U | 0.006 U | 0.011 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.11 U | 0.12 U | 0.0013 U | 0.0013 U | | 0.012 U | 0.006 U | 0.006 U | 0.006 U |
| VOC | TOLUENE | MG/KG | | | | 1.2 U | 4.3 J | 0.009 | 0.006 U | 0.011 U | 0.013 | 0.006 U | 0.013 | 0.016 | 0.006 U | 0.011 | 0.18 J | 0.6 U | 0.0067 U | 0.0066 U | | 0.012 U | 0.024 | 0.025 | 0.027 |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | 1.2 U | 6 U | 0.006 U | 0.006 U | 0.011 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | | | | | | 0.012 U | 0.006 U | 0.006 U | 0.006 U |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | 0.57 U | 0.6 U | 0.0067 U | 0.0066 U | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | | | 1.2 U | 6 U | 0.006 U | 0.006 U | 0.011 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.57 U | 0.6 U | 0.0067 U | 0.0066 U | | 0.012 U | 0.006 U | 0.006 U | 0.006 U |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | | | 1.2 U | 6 U | 0.01 | 0.003 J | 0.011 U | 0.069 | 0.006 U | 0.17 | 0.06 | 0.006 U | 0.13 | 0.11 U | 0.12 U | 0.0013 U | 0.0013 U | | 0.012 U | 0.082 | 0.035 | 0.06 |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL ACETATE | MG/KG | | | | 2.4 U | 12 U | 0.011 U | 0.011 U | | 0.012 U | 0.012 U | 0.011 U | 0.011 U | 0.011 U | 0.011 U | | | | | | 0.012 U | 0.011 U | 0.012 U | 0.012 U |
| VOC | VINYL CHLORIDE | MG/KG | | | | 2.4 U | 12 U | 0.011 U | 0.011 U | 0.011 U | 0.012 U | 0.012 U | 0.011 U | 0.011 U | 0.011 U | 0.011 U | 0.57 U | 0.6 U | 0.0067 U | 0.0066 U | | 0.012 U | 0.011 U | 0.012 U | 0.012 U |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | | | | 9 | 200 | 0.006 U | 0.006 U | 0.011 U | 0.006 U | 0.006 U | 0.017 | 0.01 | 0.006 U | 0.006 U | 0.55 J | 0.31 J | 0.0067 U | 0.0066 U | | 0.012 U | 0.092 | 0.64 | 0.46 |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | TB-07 | TB-07 | TB-07 | TB-08 | TB-08 | TB-30 | TB-30 | TB-31 | TB-33 | TB-49 | TB-50 | TB-51 | TB-51 | TB-66 | TB-66 | TB-66 | TB-67 | TB-67 | TB-67 | TB-68 | TB-68 | TB-68 | TB-69 |
| | | Field Sample ID | 007-B001 | 007-B002 | 007-B102 | 008-B001 | 008-B002 | 030-B001 | 030-B101 | 031-B001 | 033-B001 | 049-B001 | 050-B001 | 051-B001 | 051-B101 | TB-66-01 | TB-66-04 | TB-66-4.5 | TB-67-01 | TB-67-4 | TB-67-5.5 | TB-68-01 | TB-68-02 | TB-68-03 | TB-69-01 |
| | | Sample Date | 10/29/1991 | 10/29/1991 | 10/29/1991 | 10/22/1991 | 10/22/1991 | 7/7/1993 | 7/7/1993 | 7/7/1993 | 7/8/1993 | 6/26/1995 | 6/26/1995 | 6/26/1995 | 6/26/1995 | 10/1/1996 | 10/1/1996 | 10/1/1996 | 10/1/1996 | 10/1/1996 | 10/1/1996 | 10/1/1996 | 10/1/1996 | 10/1/1996 | 10/1/1996 |
| | | Depth (ft) | 0-3 | 3-6 | 3-6 | 0-2 | 2-4 | 4.2-5 | 4.2-5 | 4.5-5 | 4.4-4.9 | 4-5 | 2-2 | 2-2.5 | 2-2.5 | 1.5-2 | 4-4.5 | 4.5-5 | 1.5-2 | 4-4.5 | 5.5-6 | 1.5-2 | 2-2.5 | 3-3.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | | | | | | 829 | 831 | 1350 | 2480 | | | | | | | | | | | | | | 2010 |
| METALS | ANTIMONY | MG/KG | | | | | | 4.6 U | 5.7 U | 5.6 U | 6.9 U | | | | | | | | | | | | | | 2.9 |
| METALS | ARSENIC | MG/KG | | | | | | 0.48 | 0.61 | 0.69 | 1 | | | | | | | | | | | | | | 21.2 |
| METALS | BARIUM | MG/KG | 7.4 | 21 | 5.8 | 2940 | 16.5 | 10 U | 10 U | 6.5 | 10 U | | | | | | | | | | | | | | 407 |
| METALS | BERYLLIUM | MG/KG | | | | | | 0.1 U | 0.13 U | 0.13 U | 0.15 U | | | | | | | | | | | | | | 0.09 |
| METALS | CADMIUM | MG/KG | | | | | | 0.41 U | 0.51 U | 0.5 U | 0.62 U | | | | | | | | | | | | | | 0.53 |
| METALS | CALCIUM | MG/KG | | | | | | 60.5 | 56.2 | 154 | 752 | | | | | | | | | | | | | | 2540 |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 4.1 | 16.9 | 11.9 | 90.7 | 3.2 | 10 U | 10.5 | 10 U | 11 | | | | | | | | | | | | | | 29.5 |
| METALS | COBALT | MG/KG | | | | | | 0.38 U | 0.55 | 0.67 | 1.1 | | | | | | | | | | | | | | 2.3 |
| METALS | COPPER | MG/KG | | | | | | 1.9 U | 2.4 U | 2.3 U | 4.6 | | | | | | | | | | | | | | 39.2 |
| METALS | CYANIDE | MG/KG | 10 U | 10 U | 10 U | 10 U | 10 U | 3 U | 2.5 U | 2.9 U | 2.7 U | | | | | | | | | | | | | | |
| METALS | IRON | MG/KG | | | | | | 2100 | 2430 | 3180 | 4960 | | | | | | | | | | | | | | 5470 |
| METALS | LEAD | MG/KG | 2.5 | 7.5 | 3 | 2070 | 5.9 | 10 U | 2.4 | 10 U | 10 U | | | | | 61.1 | 280 | 24.6 | 1070 | 457 | 157 | 548 | 571 | 345 | 519 |
| METALS | MAGNESIUM | MG/KG | | | | | | 20.8 | 20.1 | 77.4 | 478 | | | | | | | | | | | | | | 392 |
| METALS | MANGANESE | MG/KG | | | | | | 9.8 | 9.2 | 10.4 | 22.3 | | | | | | | | | | | | | | 35.5 |
| METALS | MERCURY | MG/KG | | | | | | 0.11 U | 0.1 U | 0.12 U | 0.1 U | | | | | | | | | | | | | | 0.36 |
| METALS | NICKEL | MG/KG | | | | | | 1.8 U | 2.3 U | 2.2 U | 2.7 U | | | | | | | | | | | | | | 3.5 |
| METALS | POTASSIUM | MG/KG | | | | | | 122 U | 201 | 233 | 650 | | | | | | | | | | | | | | 251 |
| METALS | SELENIUM | MG/KG | | | | | | 0.25 U | 0.2 U | 0.25 U | 0.2 U | | | | | | | | | | | | | | 0.51 |
| METALS | SILVER | MG/KG | | | | | | 0.51 | 0.75 | 1.1 | 1.1 | | | | | | | | | | | | | | 0.13 U |
| METALS | SODIUM | MG/KG | | | | | | 9.8 | 13.1 | 12.9 | 228 | | | | | | | | | | | | | | 51.4 |
| METALS | THALLIUM | MG/KG | | | | | | 0.39 U | 0.31 U | 0.38 U | 0.2 U | | | | | | | | | | | | | | 0.31 U |
| METALS | VANADIUM | MG/KG | | | | | | 5.4 | 5.9 | 7.1 | 7.9 | | | | | | | | | | | | | | 8.4 |
| METALS | ZINC | MG/KG | | | | | | 4.9 | 5.2 | 8.8 | 3.5 | | | | | | | | | | | | | | 506 |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1221 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1232 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1242 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1248 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1254 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1260 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | TB-07 | TB-07 | TB-07 | TB-08 | TB-08 | TB-30 | TB-30 | TB-31 | TB-33 | TB-49 | TB-50 | TB-51 | TB-51 | TB-66 | TB-66 | TB-66 | TB-67 | TB-67 | TB-67 | TB-68 | TB-68 | TB-68 | TB-69 |
| | | Field Sample ID | 007-B001 | 007-B002 | 007-B102 | 008-B001 | 008-B002 | 030-B001 | 030-B101 | 031-B001 | 033-B001 | 049-B001 | 050-B001 | 051-B001 | 051-B101 | TB-66-01 | TB-66-04 | TB-66-4.5 | TB-67-01 | TB-67-4 | TB-67-5.5 | TB-68-01 | TB-68-02 | TB-68-03 | TB-69-01 |
| | | Sample Date | 10/29/1991 | 10/29/1991 | 10/29/1991 | 10/22/1991 | 10/22/1991 | 7/7/1993 | 7/7/1993 | 7/7/1993 | 7/8/1993 | 6/26/1995 | 6/26/1995 | 6/26/1995 | 6/26/1995 | 10/1/1996 | 10/1/1996 | 10/1/1996 | 10/1/1996 | 10/1/1996 | 10/1/1996 | 10/1/1996 | 10/1/1996 | 10/1/1996 | 10/1/1996 |
| | | Depth (ft) | 0-3 | 3-6 | 3-6 | 0-2 | 2-4 | 4.2-5 | 4.2-5 | 4.5-5 | 4.4-4.9 | 4-5 | 2-2 | 2-2.5 | 2-2.5 | 1.5-2 | 4-4.5 | 4.5-5 | 1.5-2 | 4-4.5 | 5.5-6 | 1.5-2 | 2-2.5 | 3-3.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | 1.8 U | | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 8.8 U | | 20 U | 4 U | 2 U | 20 U | 20 U | 20 U | 0.96 U | 1.9 U | 1.8 U | 1.8 U | 1.8 U | | | | | | | | | | 1.8 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 8.8 U | 18 U | 20 U | 4 U | 2 U | 20 U | 20 U | 20 U | 0.96 U | 1.9 U | 1.8 U | 1.8 U | 1.8 U | | | | | | | | | | 1.8 U |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 1.8 U | | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.9 J | 3.3 J | 11 | 1.7 | 0.4 U | 48 | 28 | 22 | 0.38 U | 0.38 U | 0.052 J | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | 2-METHYLPHENOL | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | 2-NITROANILINE | MG/KG | 8.8 U | 18 U | 20 U | 4 U | 2 U | 20 U | 20 U | 20 U | 0.96 U | 1.9 U | 1.8 U | 1.8 U | 1.8 U | | | | | | | | | | 1.8 U |
| SVOC | 2-NITROPHENOL | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 3.5 U | 7.2 U | 7.9 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.77 U | 0.7 U | 0.37 U | 0.73 U | | | | | | | | | | 0.72 U |
| SVOC | 3-NITROANILINE | MG/KG | 8.8 U | 18 U | 20 U | 4 U | 2 U | 20 U | 20 U | 20 U | 0.96 U | 1.9 U | 1.8 U | 1.8 U | 1.8 U | | | | | | | | | | 1.8 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 8.8 U | 18 U | 20 U | 4 U | 2 U | 20 U | 20 U | 20 U | 0.96 U | 1.9 U | 1.8 U | 1.8 U | 1.8 U | | | | | | | | | | 1.8 U |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | 4-CHLOROANILINE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | 4-METHYLPHENOL | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | 4-NITROANILINE | MG/KG | 8.8 U | 18 U | 20 U | 4 U | 2 U | 20 U | 20 U | 20 U | 0.96 U | 1.9 U | 1.8 U | 1.8 U | 1.8 U | | | | | | | | | | 1.8 U |
| SVOC | 4-NITROPHENOL | MG/KG | 8.8 U | 18 U | 20 U | 4 U | 2 U | 20 U | 20 U | 20 U | 0.96 U | 1.9 U | 1.8 U | 1.8 U | 1.8 U | | | | | | | | | | 1.8 U |
| SVOC | ACENAPHTHENE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.21 J | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.065 J | 0.37 U | 0.37 U | | | | | | | | | | 0.12 J |
| SVOC | ACENAPHTHYLENE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.17 J | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | ACETOPHENONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ANTHRACENE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.082 J | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.19 J | 0.37 U | 0.37 U | | | | | | | | | | 0.15 J |
| SVOC | ATRAZINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.24 J | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.48 | 0.37 U | 0.37 U | | | | | | | | | | 0.46 |
| SVOC | BENZO(A)PYRENE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.25 J | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.53 | 0.37 U | 0.37 U | | | | | | | | | | 0.45 |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.32 J | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.76 | 0.37 U | 0.37 U | | | | | | | | | | 0.44 |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.46 | 0.37 U | 0.37 U | | | | | | | | | | 0.24 J |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.28 J | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.68 | 0.37 U | 0.37 U | | | | | | | | | | 0.39 |
| SVOC | BENZOIC ACID | MG/KG | 8.8 U | 18 U | 20 U | 4 U | 2 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 1.9 U | 1.8 U | 1.8 U | 1.8 U | | | | | | | | | | 1.8 U |
| SVOC | BENZYL ALCOHOL | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 1.4 J | 2.5 J | 1.4 J | 11 | 0.91 J | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.047 J | 0.18 J | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | CAPROLACTAM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | CARBAZOLE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.058 J |
| SVOC | CHRYSENE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.26 J | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.86 | 0.37 U | 0.37 U | | | | | | | | | | 0.49 |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.17 J | 0.37 U | 0.37 U | | | | | | | | | | 0.086 J |
| SVOC | DIBENZOFURAN | MG/KG | 1.8 U | 3.6 U | 4 U | 0.13 J | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.046 J | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | DIETHYLPHTHALATE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.17 J | 0.16 J | 0.18 J | 0.049 J | 0.14 J | | | | | | | | | | 0.82 |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | FLUORANTHENE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.34 J | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 1.3 | 0.37 U | 0.37 U | | | | | | | | | | 0.85 |
| SVOC | FLUORENE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.19 J | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.083 J | 0.37 U | 0.37 U | | | | | | | | | | 0.064 J |
| SVOC | HEXACHLOROBENZENE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | HEXACHLOROETHANE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.43 | 0.37 U | 0.37 U | | | | | | | | | | 0.23 J |
| SVOC | ISOPHORONE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | NAPHTHALENE | MG/KG | 1.8 U | 12 | 31 | 4.6 | 0.4 U | 180 | 120 | 43 | 0.38 U | 0.38 U | 0.15 J | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | NITROBENZENE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | 8.8 U | 18 U | 20 U | 4 U | 2 U | 20 U | 20 U | 20 U | 0.96 U | 1.9 U | 1.8 U | 1.8 U | 1.8 U | | | | | | | | | | 1.8 U |
| SVOC | PHENANTHRENE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.41 J | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.36 | 0.37 U | 0.37 U | | | | | | | | | | 0.64 |
| SVOC | PHENOL | MG/KG | 1.8 U | 3.6 U | 4 U | 0.81 U | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 0.35 U | 0.37 U | 0.37 U | | | | | | | | | | 0.36 U |
| SVOC | PYRENE | MG/KG | 1.8 U | 3.6 U | 4 U | 0.46 J | 0.4 U | 8.1 U | 8 U | 7.9 U | 0.38 U | 0.38 U | 1.3 | 0.37 U | 0.37 U | | | | | | | | | | 0.86 |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | TB-07 | TB-07 | TB-07 | TB-08 | TB-08 | TB-30 | TB-30 | TB-31 | TB-33 | TB-49 | TB-50 | TB-51 | TB-51 | TB-66 | TB-66 | TB-66 | TB-67 | TB-67 | TB-67 | TB-68 | TB-68 | TB-68 | TB-69 |
| | | Field Sample ID | 007-B001 | 007-B002 | 007-B102 | 008-B001 | 008-B002 | 030-B001 | 030-B101 | 031-B001 | 033-B001 | 049-B001 | 050-B001 | 051-B001 | 051-B101 | TB-66-01 | TB-66-04 | TB-66-4.5 | TB-67-01 | TB-67-4 | TB-67-5.5 | TB-68-01 | TB-68-02 | TB-68-03 | TB-69-01 |
| | | Sample Date | 10/29/1991 | 10/29/1991 | 10/29/1991 | 10/22/1991 | 10/22/1991 | 7/7/1993 | 7/7/1993 | 7/7/1993 | 7/8/1993 | 6/26/1995 | 6/26/1995 | 6/26/1995 | 6/26/1995 | 10/1/1996 | 10/1/1996 | 10/1/1996 | 10/1/1996 | 10/1/1996 | 10/1/1996 | 10/1/1996 | 10/1/1996 | 10/1/1996 | 10/1/1996 |
| | | Depth (ft) | 0-3 | 3-6 | 3-6 | 0-2 | 2-4 | 4.2-5 | 4.2-5 | 4.5-5 | 4.4-4.9 | 4-5 | 2-2 | 2-2.5 | 2-2.5 | 1.5-2 | 4-4.5 | 4.5-5 | 1.5-2 | 4-4.5 | 5.5-6 | 1.5-2 | 2-2.5 | 3-3.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | 0.004 J | 0.067 J | 0.5 U | 0.006 U | 0.06 U | 1.2 U | 6.1 U | 6 U | 0.012 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | | | | 0.77 U | | | | | | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | 0.027 U | 0.55 U | 0.5 U | 0.006 U | 0.06 U | 1.2 U | 6.1 U | 6 U | 0.012 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | | | | 0.77 U | | | | | | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | 0.027 U | 0.55 U | 0.5 U | 0.006 U | 0.06 U | 1.2 U | 6.1 U | 6 U | 0.005 J | 0.006 U | 0.006 U | 0.006 U | 0.006 U | | | | 0.77 U | | | | | | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | 0.027 U | 0.55 U | 0.5 U | 0.006 U | 0.06 U | 1.2 U | 6.1 U | 6 U | 0.012 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | | | | 0.77 U | | | | | | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | 0.027 U | 0.55 U | 0.5 U | 0.006 U | 0.06 U | 1.2 U | 6.1 U | 6 U | 0.012 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | | | | 0.77 U | | | | | | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | 0.027 U | 0.55 U | 0.5 U | 0.006 U | 0.06 U | 1.2 U | 6.1 U | 6 U | 0.012 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | | | | 0.77 U | | | | | | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | 0.027 U | 0.55 U | 0.5 U | 0.006 U | 0.06 U | 1.2 U | 6.1 U | 6 U | 0.012 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | | | | 0.77 U | | | | | | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | 0.054 U | 1.1 U | 1 U | 0.012 U | 0.12 U | 1.2 U | 6.1 U | 6 U | 0.012 U | 0.012 U | 0.011 U | 0.011 U | 0.011 U | | | | 1.5 U | | | | | | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | 0.054 U | 1.1 U | 1 U | 0.012 U | 0.12 U | 1.2 U | 6.1 U | 6 U | 0.012 U | 0.012 U | 0.011 U | 0.011 U | 0.011 U | | | | 1.5 U | | | | | | |
| VOC | ACETONE | MG/KG | 0.051 JB | 0.9 J | 1 B | 0.017 B | 7.7 B | 1.2 U | 6.1 U | 6 U | 0.012 U | 0.1 B | 0.008 J | 0.006 J | 0.004 J | | | | 1.5 U | | | | | | |
| VOC | BENZENE | MG/KG | 0.027 U | 0.47 J | 0.5 U | 0.006 U | 0.06 U | 1.2 U | 6.1 U | 6 U | 0.012 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | | | | 0.77 U | | | | | | |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | 0.027 U | 0.55 U | 0.5 U | 0.006 U | 0.06 U | 1.2 U | 6.1 U | 6 U | 0.012 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | | | | 0.77 U | | | | | | |
| VOC | BROMOFORM | MG/KG | 0.027 U | 0.55 U | 0.5 U | 0.006 U | 0.06 U | 1.2 U | 6.1 U | 6 U | 0.012 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | | | | 0.77 U | | | | | | |
| VOC | BROMOMETHANE | MG/KG | 0.054 U | 1.1 U | 1 U | 0.012 U | 0.12 U | 1.2 U | 6.1 U | 6 U | 0.012 U | 0.012 U | 0.011 U | 0.011 U | 0.011 U | | | | 1.5 U | | | | | | |
| VOC | CARBON DISULFIDE | MG/KG | 0.027 U | 0.55 U | 0.5 U | 0.006 U | 0.06 U | 1.2 U | 6.1 U | 6 U | 0.012 U | 0.014 | 0.006 U | 0.006 U | 0.006 U | | | | 0.77 U | | | | | | |
| VOC | CARBON TETRACHLORIDE | MG/KG | 0.027 U | 0.55 U | 0.5 U | 0.006 U | 0.06 U | 1.2 U | 6.1 U | 6 U | 0.012 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | | | | 0.77 U | | | | | | |
| VOC | CHLOROBENZENE | MG/KG | 0.027 U | 0.55 U | 0.5 U | 0.006 U | 0.06 U | 1.2 U | 6.1 U | 6 U | 0.012 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | | | | 0.77 U | | | | | | |
| VOC | CHLOROETHANE | MG/KG | 0.054 U | 1.1 U | 1 U | 0.012 U | 0.12 U | 1.2 U | 6.1 U | 6 U | 0.012 U | 0.012 U | 0.011 U | 0.011 U | 0.011 U | | | | 1.5 U | | | | | | |
| VOC | CHLOROFORM | MG/KG | 0.004 J | 0.063 J | 0.5 U | 0.006 U | 0.06 U | 1.2 U | 6.1 U | 6 U | 0.012 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | | | | 0.77 U | | | | | | |
| VOC | CHLOROMETHANE | MG/KG | 0.054 U | 1.1 U | 1 U | 0.012 U | 0.12 U | 1.2 U | 6.1 U | 6 U | 0.012 U | 0.012 U | 0.011 U | 0.011 U | 0.011 U | | | | 1.5 U | | | | | | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | 0.027 U | 0.55 U | 0.5 U | 0.006 U | 0.06 U | 1.2 U | 6.1 U | 6 U | 0.012 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | | | | 0.77 U | | | | | | |
| VOC | CYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | 0.027 U | 0.55 U | 0.5 U | 0.006 U | 0.06 U | 1.2 U | 6.1 U | 6 U | 0.012 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | | | | 0.77 U | | | | | | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | 0.058 B | 0.42 J | 0.34 JB | 0.005 JB | 0.06 U | 1.2 U | 6.1 U | 6 U | 0.023 B | 0.014 B | 0.021 B | 0.009 B | 0.009 B | | | | 0.21 JB | | | | | | |
| VOC | ETHYLBENZENE | MG/KG | 0.027 U | 8.6 | 0.14 J | 0.015 | 2.2 | 3.5 | | 6 U | 0.012 U | 0.011 | 0.006 U | 0.006 U | 0.006 U | | | | 19 | | | | | | |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | 0.054 U | 1.1 U | 1 U | 0.012 U | 0.12 U | 1.2 U | 6.1 U | 6 U | 0.012 U | 0.008 J | 0.011 U | 0.011 U | 0.011 U | | | | 1.5 U | | | | | | |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | 0.006 B | 0.003 J | 0.003 J | 0.001 J | | | | | | | | | | |
| VOC | STYRENE | MG/KG | 0.027 U | 0.55 U | 0.5 U | 0.006 U | 0.06 U | 1.2 U | 6.1 U | 6 U | 0.012 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | | | | 0.77 U | | | | | | |
| VOC | TETRACHLOROETHENE | MG/KG | 0.027 U | 0.55 U | 0.5 U | 0.006 U | 0.06 U | 1.2 U | 6.1 U | 6 U | 0.012 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | | | | 0.77 U | | | | | | |
| VOC | TOLUENE | MG/KG | 0.027 U | 0.49 J | 0.12 J | 0.006 U | 0.06 U | 1.2 U | 6.1 U | 6 U | 0.012 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | | | | 63 | | | | | | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | 0.027 U | 0.55 U | 0.5 U | 0.006 U | 0.06 U | 1.2 U | 6.1 U | 6 U | 0.012 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | | | | 0.77 U | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | 0.027 U | 0.55 U | 0.5 U | 0.006 U | 0.06 U | 1.2 U | 6.1 U | 6 U | 0.012 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | | | | 0.77 U | | | | | | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | 0.008 J | 0.39 J | 0.41 J | 0.006 U | 0.06 U | 1.2 U | 6.1 U | 6 U | 0.012 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | | | | 0.77 U | | | | | | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL ACETATE | MG/KG | 0.054 U | 1.1 U | 1 U | 0.012 U | 0.12 U | 1.2 U | 6.1 U | 6 U | 0.012 U | 0.012 U | 0.011 U | 0.011 U | 0.011 U | | | | 1.5 U | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | 0.054 U | 1.1 U | 1 U | 0.012 U | 0.12 U | 1.2 U | 6.1 U | 6 U | 0.012 U | 0.012 U | 0.011 U | 0.011 U | 0.011 U | | | | 1.5 U | | | | | | |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | 0.028 | 27 | 0.48 J | 0.006 U | 0.06 U | 27 | | 6 U | 0.012 U | 0.004 J | 0.006 U | 0.006 U | 0.006 U | | | | 370 | | | | | | |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | TB-69 | TB-69 | TB-91 | TB-91 | TB-91 | TB-92 | TB-92 | TB-93 | TB-93 | A0100025S | A0200025N | A0200025S | A0200050N | A0300000S | A0300015S | A0300025N | A0300050N | A0300075N | A0300100N | A0300125N | A0300150N | A0400025N | A0400025S |
| | | Field Sample ID | TB-69-4.0 | TB-69-5.5 | TB-91A | TB-91A-DUP | TB-91B | TB-92A | TB-92B | TB-93A | TB-93B | A0100025S | A0200025N | A0200025S | A0200050N | A0300000S | A0300015S | A0300025N | A0300050N | A0300075N | A0300100N | A0300125N | A0300150N | A0400025N | A0400025S |
| | | Sample Date | 10/1/1996 | 10/1/1996 | 2/5/1999 | 2/5/1999 | 2/5/1999 | 2/5/1999 | 2/5/1999 | 2/5/1999 | 2/5/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 |
| | | Depth (ft) | 4-4.5 | 5.5-6 | 3.5-4 | 0-0 | 4.75-5 | 3.5-4 | 5-5.5 | 1.5-2 | 4.5-5 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | 2070 | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ANTIMONY | MG/KG | 1.5 | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ARSENIC | MG/KG | 41.4 | | | | | | | | | | | | | | | | | | | | | | |
| METALS | BARIUM | MG/KG | 121 | | | | | | | | | | | | | | | | | | | | | | |
| METALS | BERYLLIUM | MG/KG | 0.25 | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CADMIUM | MG/KG | 0.04 U | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CALCIUM | MG/KG | 613 | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 17.2 | | | | | | | | | | | | | | | | | | | | | | |
| METALS | COBALT | MG/KG | 2.1 | | | | | | | | | | | | | | | | | | | | | | |
| METALS | COPPER | MG/KG | 43.8 | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CYANIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | IRON | MG/KG | 8540 | | | | | | | | | | | | | | | | | | | | | | |
| METALS | LEAD | MG/KG | 398 | 609 | | | | | | | | 75 U | 1100 | 75 U | 75 U | 75 U | 230 | 540 | 470 | 480 | 150 | 75 U | 200 | 500 | 75 U |
| METALS | MAGNESIUM | MG/KG | 119 | | | | | | | | | | | | | | | | | | | | | | |
| METALS | MANGANESE | MG/KG | 29.7 | | | | | | | | | | | | | | | | | | | | | | |
| METALS | MERCURY | MG/KG | 0.36 | | | | | | | | | | | | | | | | | | | | | | |
| METALS | NICKEL | MG/KG | 3.9 | | | | | | | | | | | | | | | | | | | | | | |
| METALS | POTASSIUM | MG/KG | 128 | | | | | | | | | | | | | | | | | | | | | | |
| METALS | SELENIUM | MG/KG | 0.72 | | | | | | | | | | | | | | | | | | | | | | |
| METALS | SILVER | MG/KG | 0.13 U | | | | | | | | | | | | | | | | | | | | | | |
| METALS | SODIUM | MG/KG | 42.3 | | | | | | | | | | | | | | | | | | | | | | |
| METALS | THALLIUM | MG/KG | 0.31 U | | | | | | | | | | | | | | | | | | | | | | |
| METALS | VANADIUM | MG/KG | 10.1 | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ZINC | MG/KG | 43.7 | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1221 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1232 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1242 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1248 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1254 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1260 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | TB-69 | TB-69 | TB-91 | TB-91 | TB-91 | TB-92 | TB-92 | TB-93 | TB-93 | A0100025S | A0200025N | A0200025S | A0200050N | A0300000S | A0300015S | A0300025N | A0300050N | A0300075N | A0300100N | A0300125N | A0300150N | A0400025N | A0400025S |
| | | Field Sample ID | TB-69-4.0 | TB-69-5.5 | TB-91A | TB-91A-DUP | TB-91B | TB-92A | TB-92B | TB-93A | TB-93B | A0100025S | A0200025N | A0200025S | A0200050N | A0300000S | A0300015S | A0300025N | A0300050N | A0300075N | A0300100N | A0300125N | A0300150N | A0400025N | A0400025S |
| | | Sample Date | 10/1/1996 | 10/1/1996 | 2/5/1999 | 2/5/1999 | 2/5/1999 | 2/5/1999 | 2/5/1999 | 2/5/1999 | 2/5/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 |
| | | Depth (ft) | 4-4.5 | 5.5-6 | 3.5-4 | 0-0 | 4.75-5 | 3.5-4 | 5-5.5 | 1.5-2 | 4.5-5 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 1.9 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 1.9 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-CHLOROPHENOL | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-METHYLPHENOL | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-NITROANILINE | MG/KG | 1.9 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-NITROPHENOL | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 0.74 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 3-NITROANILINE | MG/KG | 1.9 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 1.9 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLOROANILINE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-METHYLPHENOL | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-NITROANILINE | MG/KG | 1.9 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-NITROPHENOL | MG/KG | 1.9 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ACENAPHTHENE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ACETOPHENONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ANTHRACENE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ATRAZINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.074 J | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.077 J | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 0.071 J | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.037 J | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.089 J | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZOIC ACID | MG/KG | 1.9 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | CAPROLACTAM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | CARBAZOLE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | CHRYSENE | MG/KG | 0.1 J | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DIBENZOFURAN | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DIETHYLPHTHALATE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | FLUORANTHENE | MG/KG | 0.14 J | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | FLUORENE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROBENZENE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROETHANE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.042 J | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ISOPHORONE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | NAPHTHALENE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | NITROBENZENE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | PENTACHLOROPHENOL | MG/KG | 1.9 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | PHENANTHRENE | MG/KG | 0.092 J | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | PHENOL | MG/KG | 0.37 U | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | PYRENE | MG/KG | 0.15 J | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | SFA | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | TB-69 | TB-69 | TB-91 | TB-91 | TB-91 | TB-92 | TB-92 | TB-93 | TB-93 | A0100025S | A0200025N | A0200025S | A0200050N | A0300000S | A0300015S | A0300025N | A0300050N | A0300075N | A0300100N | A0300125N | A0300150N | A0400025N | A0400025S |
| | | Field Sample ID | TB-69-4.0 | TB-69-5.5 | TB-91A | TB-91A-DUP | TB-91B | TB-92A | TB-92B | TB-93A | TB-93B | A0100025S | A0200025N | A0200025S | A0200050N | A0300000S | A0300015S | A0300025N | A0300050N | A0300075N | A0300100N | A0300125N | A0300150N | A0400025N | A0400025S |
| | | Sample Date | 10/1/1996 | 10/1/1996 | 2/5/1999 | 2/5/1999 | 2/5/1999 | 2/5/1999 | 2/5/1999 | 2/5/1999 | 2/5/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 |
| | | Depth (ft) | 4-4.5 | 5.5-6 | 3.5-4 | 0-0 | 4.75-5 | 3.5-4 | 5-5.5 | 1.5-2 | 4.5-5 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | | 0.11 U | 0.059 U | 0.043 U | 0.061 U | 0.047 U | 0.048 U | 0.058 U | | | | | | | | | | | | | | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | | 0.11 U | 0.059 U | 0.043 U | 0.061 U | 0.047 U | 0.048 U | 0.058 U | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | | 0.11 U | 0.059 U | 0.043 U | 0.061 U | 0.047 U | 0.048 U | 0.058 U | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | | 0.11 U | 0.059 U | 0.043 U | 0.061 U | 0.047 U | 0.048 U | 0.058 U | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | | 0.11 U | 0.059 U | 0.043 U | 0.061 U | 0.047 U | 0.048 U | 0.058 U | | | | | | | | | | | | | | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | | 0.11 U | 0.059 U | 0.043 U | 0.061 U | 0.047 U | 0.048 U | 0.058 U | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | | 0.11 U | 0.059 U | 0.043 U | 0.061 U | 0.047 U | 0.048 U | 0.058 U | | | | | | | | | | | | | | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | | 0.11 U | 0.059 U | 0.069 | 0.061 U | 0.047 U | 0.048 U | 0.058 U | | | | | | | | | | | | | | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | | 0.11 U | 0.059 U | 0.043 U | 0.061 U | 0.047 U | 0.048 U | 0.058 U | | | | | | | | | | | | | | |
| VOC | ACETONE | MG/KG | | | 0.34 | 0.13 | 0.14 | 0.14 | 0.12 | 0.11 | 0.21 | | | | | | | | | | | | | | |
| VOC | BENZENE | MG/KG | | | 0.11 U | 0.059 U | 0.043 U | 0.061 U | 0.047 U | 0.048 U | 0.058 U | | | | | | | | | | | | | | |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | | | 0.11 U | 0.059 U | 0.043 U | 0.061 U | 0.047 U | 0.048 U | 0.058 U | | | | | | | | | | | | | | |
| VOC | BROMOFORM | MG/KG | | | 0.11 U | 0.059 U | 0.043 U | 0.061 U | 0.047 U | 0.048 U | 0.058 U | | | | | | | | | | | | | | |
| VOC | BROMOMETHANE | MG/KG | | | 0.11 U | 0.059 U | 0.043 U | 0.061 U | 0.047 U | 0.048 U | 0.058 U | | | | | | | | | | | | | | |
| VOC | CARBON DISULFIDE | MG/KG | | | 0.11 U | 0.059 U | 0.043 U | 0.061 U | 0.047 U | 0.048 U | 0.058 U | | | | | | | | | | | | | | |
| VOC | CARBON TETRACHLORIDE | MG/KG | | | 0.11 U | 0.059 U | 0.043 U | 0.061 U | 0.047 U | 0.048 U | 0.058 U | | | | | | | | | | | | | | |
| VOC | CHLOROBENZENE | MG/KG | | | 0.11 U | 0.059 U | 0.043 U | 0.061 U | 0.047 U | 0.048 U | 0.058 U | | | | | | | | | | | | | | |
| VOC | CHLOROETHANE | MG/KG | | | 0.11 U | 0.059 U | 0.043 U | 0.061 U | 0.047 U | 0.048 U | 0.058 U | | | | | | | | | | | | | | |
| VOC | CHLOROFORM | MG/KG | | | 0.11 U | 0.059 U | 0.043 U | 0.061 U | 0.047 U | 0.048 U | 0.058 U | | | | | | | | | | | | | | |
| VOC | CHLOROMETHANE | MG/KG | | | 0.11 U | 0.059 U | 0.043 U | 0.061 U | 0.047 U | 0.048 U | 0.058 U | | | | | | | | | | | | | | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | | 0.11 U | 0.059 U | 0.043 U | 0.061 U | 0.047 U | 0.048 U | 0.058 U | | | | | | | | | | | | | | |
| VOC | CYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | | 0.11 U | 0.059 U | 0.043 U | 0.061 U | 0.047 U | 0.048 U | 0.058 U | | | | | | | | | | | | | | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | | | 0.15 | 0.059 U | 0.043 U | 0.061 U | 0.047 U | 0.048 U | 0.11 | | | | | | | | | | | | | | |
| VOC | ETHYLBENZENE | MG/KG | | | 0.13 | 0.92 | 1.2 | 0.061 U | 0.047 U | 0.048 U | 0.058 U | | | | | | | | | | | | | | |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | | | 0.46 | 0.17 | 0.14 | 0.19 | 0.14 | 0.13 | 0.19 | | | | | | | | | | | | | | |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | | 0.11 U | 0.059 U | 0.043 U | 0.061 U | 0.047 U | 0.048 U | 0.058 U | | | | | | | | | | | | | | |
| VOC | TETRACHLOROETHENE | MG/KG | | | 0.11 U | 0.059 U | 0.043 U | 0.061 U | 0.047 U | 0.048 U | 0.058 U | | | | | | | | | | | | | | |
| VOC | TOLUENE | MG/KG | | | 0.71 | 2 | 1.9 | 0.061 U | 0.12 | 0.048 U | 0.058 U | | | | | | | | | | | | | | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | 0.11 U | 0.059 U | 0.043 U | 0.061 U | 0.047 U | 0.048 U | 0.058 U | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | | 0.11 U | 0.059 U | 0.043 U | 0.061 U | 0.047 U | 0.048 U | 0.058 U | | | | | | | | | | | | | | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | | 0.11 U | 0.059 U | 0.043 U | 0.061 U | 0.047 U | 0.048 U | 0.058 U | | | | | | | | | | | | | | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | | 0.11 U | 0.059 U | 0.043 U | 0.061 U | 0.047 U | 0.048 U | 0.058 U | | | | | | | | | | | | | | |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | | | 0.8 | 5.5 | 5.8 | 0.59 | 0.18 | 0.048 U | 0.058 U | | | | | | | | | | | | | | |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | A0400025S | A0400050N | A0400075N | A0500025N | A0500025S | A0500045S | A0500050N | A0500075N | A0500100N | A0600025N | A0600025S | A0600050N | A0600075N | A0600100N | A0600125N | A0600125N | A0700017N | A0700017N | A0700025S | A0700050S | A0700075S | A0700100S | A0700125S |
| | | Field Sample ID | A0400025SD | A0400050N | A0400075N | A0500025N | A0500025S | A0500045S | A0500050N | A0500075N | A0500100N | A0600025N | A0600025S | A0600050N | A0600075N | A0600100N | A0600125N | A0600125ND | A0700017N | A0700017ND | A0700025S | A0700050S | A0700075S | A0700100S | A0700125S |
| | | Sample Date | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 |
| | | Depth (ft) | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ANTIMONY | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ARSENIC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | BARIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | BERYLLIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CADMIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CALCIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | COBALT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | COPPER | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CYANIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | IRON | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | LEAD | MG/KG | 75 U | 270 | 160 | 850 | 75 U | 75 U | 1000 | 75 U | 82 | 610 | 75 U | 790 | 870 | 180 | 75 U | 75 U | 290 | 360 | 450 | 260 | 470 | 700 | 210 |
| METALS | MAGNESIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | MANGANESE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | MERCURY | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | NICKEL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | POTASSIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | SELENIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | SILVER | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | SODIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | THALLIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | VANADIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ZINC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1221 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1232 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1242 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1248 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1254 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1260 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | A0400025S | A0400050N | A0400075N | A0500025N | A0500025S | A0500045S | A0500050N | A0500075N | A0500100N | A0600025N | A0600025S | A0600050N | A0600075N | A0600100N | A0600125N | A0600125N | A0700017N | A0700017N | A0700025S | A0700050S | A0700075S | A0700100S | A0700125S |
| | | Field Sample ID | A0400025SD | A0400050N | A0400075N | A0500025N | A0500025S | A0500045S | A0500050N | A0500075N | A0500100N | A0600025N | A0600025S | A0600050N | A0600075N | A0600100N | A0600125N | A0600125ND | A0700017N | A0700017ND | A0700025S | A0700050S | A0700075S | A0700100S | A0700125S |
| | | Sample Date | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 |
| | | Depth (ft) | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DINITROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-CHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-NITROANILINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-NITROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 3-NITROANILINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLOROANILINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-NITROANILINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-NITROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ACENAPHTHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ACENAPHTHYLENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ACETOPHENONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ANTHRACENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ATRAZINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(A)PYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | CAPROLACTAM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | CARBAZOLE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | CHRYSENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DIBENZOFURAN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DIETHYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DIMETHYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | FLUORANTHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | FLUORENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ISOPHORONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | NITROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | PENTACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | PHENANTHRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | PHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | PYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | A0400025S | A0400050N | A0400075N | A0500025N | A0500025S | A0500045S | A0500050N | A0500075N | A0500100N | A0600025N | A0600025S | A0600050N | A0600075N | A0600100N | A0600125N | A0600125N | A0700017N | A0700017N | A0700025S | A0700050S | A0700075S | A0700100S | A0700125S |
| | | Field Sample ID | A0400025SD | A0400050N | A0400075N | A0500025N | A0500025S | A0500045S | A0500050N | A0500075N | A0500100N | A0600025N | A0600025S | A0600050N | A0600075N | A0600100N | A0600125N | A0600125ND | A0700017N | A0700017ND | A0700025S | A0700050S | A0700075S | A0700100S | A0700125S |
| | | Sample Date | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 |
| | | Depth (ft) | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ACETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOFORM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CARBON DISULFIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CARBON TETRACHLORIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROFORM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ETHYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TETRACHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TOLUENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | A0700160S | A0800025N | A0800025S | A0800050S | A0800075S | A0800075S | A0800100S | A0800125S | A0890050S | A0900021S | A0900025N | A0900050N | A0900075N | A1000005N | B-77 | B-78 | B7E29SN | B7E29SS | B7E29SS | HCSB0106/133 | HCSB0106/133 | HCSB0107/134 | HCSB0107/134 |
| | | Field Sample ID | A0700160S | A0800025N | A0800025S | A0800050S | A0800075S | A0800075SD | A0800100S | A0800125S | A0890050S | A0900021S | A0900025N | A0900050N | A0900075N | A1000005N | B-77 | B-78 | B7E29SN | B7E29SS | B7E29SSD | HCSB0106-SS-AA-AB-0 | HCSB0133-SS-AD-AE-0 | HCSB0107-SS-AA-AB-0 | HCSB0134-SS-AC-AD-0 |
| | | Sample Date | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 4/16/1997 | 4/16/1997 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 6/21/2005 | 6/23/2005 | 6/21/2005 | 6/23/2005 |
| | | Depth (ft) | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 5.5-5.5 | 3.5-4 | 0-2 | 0-2 | 0-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1-1.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | | | | 11000 | | | | | | | 5000 | | | | | | | | | 4380 J | 703 | 5730 J | 1560 |
| METALS | ANTIMONY | MG/KG | | | | 11 | | | | | | | 4.8 | | | | 3.9 U | 3.9 U | | | | 3.1 J | 0.77 UJ | 10.7 J | 10.9 J |
| METALS | ARSENIC | MG/KG | | | | 190 | | | | | | | 44 | | | | 3.4 U | 3.4 U | | | | 9.9 J | 1.3 U | 99.3 J | 191 |
| METALS | BARIUM | MG/KG | | | | 490 | | | | | | | 340 | | | | 28.3 | 10.6 | | | | 206 J | 61.4 J | 349 J | 45.9 J |
| METALS | BERYLLIUM | MG/KG | | | | 0.39 | | | | | | | 0.4 U | | | | 0.06 U | 0.06 U | | | | 0.46 J | 0.05 J | 0.39 J | 0.12 J |
| METALS | CADMIUM | MG/KG | | | | 1.8 | | | | | | | 1.3 | | | | 0.38 U | 0.37 U | | | | 0.63 J | 0.06 U | 0.54 J | 2.7 J |
| METALS | CALCIUM | MG/KG | | | | 9600 U | | | | | | | 8400 | | | | | | | | | 3800 J | 478 J | 2070 J | 687 J |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | | | | 81 | | | | | | | 41 | | | | 3.4 | 3.6 | | | | 45.7 J | 3.7 | 72.9 J | 599 |
| METALS | COBALT | MG/KG | | | | 13 | | | | | | | 4.8 | | | | | | | | | 1.3 J | 0.49 J | 5.5 J | 4.7 J |
| METALS | COPPER | MG/KG | | | | 90 | | | | | | | 65 | | | | 0.79 | 2.2 | | | | 32.6 J | 1.8 J | 74.2 J | 109 |
| METALS | CYANIDE | MG/KG | | | | | | | | | | | | | | | | | | | | 3.3 UJ | 0.87 J | 9.2 J | 126 J |
| METALS | IRON | MG/KG | | | | 25000 | | | | | | | 14000 | | | | | | | | | 7490 J | 762 | 18500 J | 4410 |
| METALS | LEAD | MG/KG | 75 U | 120 | 160 | 930 | 670 | 730 | 1200 | 89 | 890 | 710 | 420 | 250 | 100 | 130 | 9.2 | 6 | 75 U | 190 | 210 | 353 J | 14.4 | 645 J | 2100 |
| METALS | MAGNESIUM | MG/KG | | | | 1300 | | | | | | | 1100 | | | | | | | | | 543 J | 131 J | 541 J | 110 J |
| METALS | MANGANESE | MG/KG | | | | 690 | | | | | | | 220 | | | | | | | | | 40.8 J | 8.5 | 130 J | 7.1 |
| METALS | MERCURY | MG/KG | | | | 2.9 | | | | | | | 0.47 | | | | 0.02 U | 0.02 U | | | | 0.366 J | 0.07 U | 1.6 J | 0.42 |
| METALS | NICKEL | MG/KG | | | | 15 | | | | | | | 11 | | | | 1.3 U | 1.3 U | | | | 5.9 J | 0.5 J | 8.4 J | 4.7 J |
| METALS | POTASSIUM | MG/KG | | | | 380 | | | | | | | 310 | | | | | | | | | 307 J | 43.8 J | 379 J | 74.9 J |
| METALS | SELENIUM | MG/KG | | | | 1.4 | | | | | | | 0.92 | | | | 4.3 U | 4.2 U | | | | 3.7 J | 1.2 U | 1.6 UJ | 1.1 U |
| METALS | SILVER | MG/KG | | | | 0.96 U | | | | | | | 1 U | | | | 0.51 U | 0.5 U | | | | 0.4 UJ | 0.21 J | 1.8 J | 0.27 J |
| METALS | SODIUM | MG/KG | | | | 480 U | | | | | | | 500 U | | | | | | | | | 247 J | 47.4 J | 174 J | 41.8 J |
| METALS | THALLIUM | MG/KG | | | | 0.56 U | | | | | | | 0.54 U | | | | 3.8 U | 3.8 U | | | | 1.6 UJ | 1.3 U | 1.2 UJ | 1.1 U |
| METALS | VANADIUM | MG/KG | | | | 56 | | | | | | | 27 | | | | | | | | | 15.3 J | 2.7 J | 31.3 J | 5.6 J |
| METALS | ZINC | MG/KG | | | | 880 | | | | | | | 280 | | | | 8.5 | 6.7 | | | | 78.4 J | 6.8 J | 409 J | 560 |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | | | | | | | | | 0.011 UJ | 0.0098 U | 0.081 UJ | 0.0088 U |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | | | | | | | | | 0.0085 J | 0.0098 U | 0.081 UJ | 0.0088 U |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | | | | | | | | | 0.011 UJ | 0.0098 U | 0.081 UJ | 0.0088 U |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | 0.0056 UJ | 0.0051 U | 0.042 UJ | 0.0046 U |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | 0.0056 UJ | 0.0051 U | 0.042 UJ | 0.0046 U |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | 0.0056 UJ | 0.0051 U | 0.042 UJ | 0.0046 U |
| PEST/PCB | AROCLOR-1016 | MG/KG | | | | | | | | | | | | | | | | | | | | 0.11 UJ | 0.098 U | 0.81 UJ | 0.088 U |
| PEST/PCB | AROCLOR-1221 | MG/KG | | | | | | | | | | | | | | | | | | | | 0.22 UJ | 0.2 U | 1.6 UJ | 0.18 U |
| PEST/PCB | AROCLOR-1232 | MG/KG | | | | | | | | | | | | | | | | | | | | 0.11 UJ | 0.098 U | 0.81 UJ | 0.088 U |
| PEST/PCB | AROCLOR-1242 | MG/KG | | | | | | | | | | | | | | | | | | | | 0.11 UJ | 0.098 U | 0.81 UJ | 0.088 U |
| PEST/PCB | AROCLOR-1248 | MG/KG | | | | | | | | | | | | | | | | | | | | 0.11 UJ | 0.098 U | 0.81 UJ | 0.088 U |
| PEST/PCB | AROCLOR-1254 | MG/KG | | | | | | | | | | | | | | | | | | | | 0.11 UJ | 0.098 U | 0.81 UJ | 0.088 U |
| PEST/PCB | AROCLOR-1260 | MG/KG | | | | | | | | | | | | | | | | | | | | 0.13 J | 0.098 U | 1.6 J | 0.088 U |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | 0.0056 UJ | 0.0051 U | 0.042 UJ | 0.0046 U |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | 0.0056 UJ | 0.0051 U | 0.042 UJ | 0.0046 U |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | 0.011 UJ | 0.0098 U | 0.019 J | 0.0088 U |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | | | | | | | | | 0.0056 UJ | 0.0051 U | 0.042 UJ | 0.0046 U |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | | | | | | | | | 0.011 UJ | 0.0098 U | 0.081 UJ | 0.0088 U |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | | | | | | | | | 0.011 UJ | 0.0098 U | 0.081 UJ | 0.0088 U |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | 0.0021 J | 0.0098 U | 0.081 UJ | 0.0088 U |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | 0.011 UJ | 0.0098 U | 0.081 UJ | 0.0088 U |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | 0.011 UJ | 0.0098 U | 0.081 UJ | 0.0088 U |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | | | | | | | | | 0.0056 UJ | 0.0051 U | 0.042 UJ | 0.0046 U |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | 0.0056 UJ | 0.0051 U | 0.047 J | 0.0046 U |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | | | | | | | | | 0.0056 UJ | 0.0051 U | 0.042 UJ | 0.0046 U |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | 0.0056 UJ | 0.0051 U | 0.042 UJ | 0.0046 U |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | 0.056 UJ | 0.051 U | 0.42 UJ | 0.046 U |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | 0.56 UJ | 0.51 U | 4.2 UJ | 0.46 U |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | A0700160S | A0800025N | A0800025S | A0800050S | A0800075S | A0800075S | A0800100S | A0800125S | A0890050S | A0900021S | A0900025N | A0900050N | A0900075N | A1000005N | B-77 | B-78 | B7E29SN | B7E29SS | B7E29SS | HCSB0106/133 | HCSB0106/133 | HCSB0107/134 | HCSB0107/134 |
| | | Field Sample ID | A0700160S | A0800025N | A0800025S | A0800050S | A0800075S | A0800075SD | A0800100S | A0800125S | A0890050S | A0900021S | A0900025N | A0900050N | A0900075N | A1000005N | B-77 | B-78 | B7E29SN | B7E29SS | B7E29SSD | HCSB0106-SS-AA-AB-0 | HCSB0133-SS-AD-AE-0 | HCSB0107-SS-AA-AB-0 | HCSB0134-SS-AC-AD-0 |
| | | Sample Date | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 4/16/1997 | 4/16/1997 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 6/21/2005 | 6/23/2005 | 6/21/2005 | 6/23/2005 |
| | | Depth (ft) | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 5.5-5.5 | 3.5-4 | 0-2 | 0-2 | 0-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1-1.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | | | | | | | | | | | | | | | | | | | | 2.1 UJ | 0.49 U | 1.6 UJ | 0.88 U |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.81 UJ | 0.88 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | 2.7 UJ | 1.2 U | 2 UJ | 2.1 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.81 UJ | 0.88 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.81 UJ | 0.88 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.81 UJ | 0.88 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | 2.7 UJ | 1.2 U | 2 UJ | 2.1 U |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.81 UJ | 0.88 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.81 UJ | 0.88 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.81 UJ | 0.88 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.81 UJ | 0.88 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.029 J | 0.023 J |
| SVOC | 2-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.81 UJ | 0.88 U |
| SVOC | 2-NITROANILINE | MG/KG | | | | | | | | | | | | | | | | | | | | 2.7 UJ | 1.2 U | 2 UJ | 2.1 U |
| SVOC | 2-NITROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.81 UJ | 0.88 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.81 UJ | 0.88 UJ |
| SVOC | 3-NITROANILINE | MG/KG | | | | | | | | | | | | | | | | | | | | 2.7 UJ | 1.2 U | 2 UJ | 2.1 UJ |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | 2.7 UJ | 1.2 U | 2 UJ | 2.1 U |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.81 UJ | 0.88 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.81 UJ | 0.88 U |
| SVOC | 4-CHLOROANILINE | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.81 UJ | 0.88 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.81 UJ | 0.88 U |
| SVOC | 4-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.023 J | 0.81 UJ | 0.88 U |
| SVOC | 4-NITROANILINE | MG/KG | | | | | | | | | | | | | | | | | | | | 2.7 UJ | 1.2 U | 2 UJ | 2.1 U |
| SVOC | 4-NITROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | 2.7 UJ | 1.2 U | 2 UJ | 2.1 U |
| SVOC | ACENAPHTHENE | MG/KG | | | | | | | | | | | | | | | | | | | | 0.037 J | 0.49 U | 0.24 J | 0.014 J |
| SVOC | ACENAPHTHYLENE | MG/KG | | | | | | | | | | | | | | | | | | | | 0.034 J | 0.49 U | 0.067 J | 0.021 J |
| SVOC | ACETOPHENONE | MG/KG | | | | | | | | | | | | | | | | | | | | 2.1 UJ | 0.49 U | 1.6 UJ | 0.88 U |
| SVOC | ANTHRACENE | MG/KG | | | | | | | | | | | | | | | | | | | | 0.077 J | 0.006 J | 0.38 J | 0.064 J |
| SVOC | ATRAZINE | MG/KG | | | | | | | | | | | | | | | | | | | | 2.1 UJ | 0.49 U | 1.6 UJ | 0.88 U |
| SVOC | BENZALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | 2.1 UJ | 0.49 U | 1.6 UJ | 0.88 U |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | | | | | | | | | | | | | | | | | | | | 0.44 J | 0.017 J | 2.2 J | 0.18 J |
| SVOC | BENZO(A)PYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | 0.45 J | 0.018 J | 2.6 J | 0.23 J |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | | | | | | | | | | | | | | | | | | | | 0.9 J | 0.02 J | 6 J | 0.35 J |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | | | | | | | | | | | | | | | | | | | | 0.13 J | 0.015 J | 0.73 J | 0.073 J |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | | | | | | | | | | | | | | | | | | | | 0.91 J | 0.017 J | 6 J | 0.34 J |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | 0.053 J | 0.49 U | 0.81 UJ | 0.88 U |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.81 UJ | 0.88 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.81 UJ | 0.88 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.81 UJ | 0.88 U |
| SVOC | CAPROLACTAM | MG/KG | | | | | | | | | | | | | | | | | | | | 2.1 UJ | 0.49 U | 1.6 UJ | 0.88 U |
| SVOC | CARBAZOLE | MG/KG | | | | | | | | | | | | | | | | | | | | 0.082 J | 0.49 U | 0.35 J | 0.023 J |
| SVOC | CHRYSENE | MG/KG | | | | | | | | | | | | | | | | | | | | 0.57 J | 0.022 J | 3 J | 0.26 J |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | | | | | | | | | | | | | | | | | | | | 0.092 J | 0.49 U | 0.51 J | 0.029 J |
| SVOC | DIBENZOFURAN | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.07 J | 0.015 J |
| SVOC | DIETHYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.81 UJ | 0.88 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.81 UJ | 0.88 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.81 UJ | 0.88 U |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 UJ | 0.81 UJ | 0.88 UJ |
| SVOC | FLUORANTHENE | MG/KG | | | | | | | | | | | | | | | | | | | | 1.2 J | 0.04 J | 3.5 J | 0.6 J |
| SVOC | FLUORENE | MG/KG | | | | | | | | | | | | | | | | | | | | 0.046 J | 0.49 U | 0.16 J | 0.033 J |
| SVOC | HEXACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.81 UJ | 0.88 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.81 UJ | 0.88 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.81 UJ | 0.88 U |
| SVOC | HEXACHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.81 UJ | 0.88 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | 0.28 J | 0.009 J | 1.6 J | 0.075 J |
| SVOC | ISOPHORONE | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.81 UJ | 0.88 U |
| SVOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.039 J | 0.038 J |
| SVOC | NITROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.81 UJ | 0.88 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.81 UJ | 0.88 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.81 UJ | 0.88 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | 2.7 UJ | 1.2 U | 0.23 J | 2.1 U |
| SVOC | PHENANTHRENE | MG/KG | | | | | | | | | | | | | | | | | | | | 0.56 J | 0.021 J | 2.2 J | 0.15 J |
| SVOC | PHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | 1.1 UJ | 0.49 U | 0.81 UJ | 0.88 U |
| SVOC | PYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | 0.82 J | 0.021 J | 4.1 J | 0.24 J |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | A0700160S | A0800025N | A0800025S | A0800050S | A0800075S | A0800075S | A0800100S | A0800125S | A0890050S | A0900021S | A0900025N | A0900050N | A0900075N | A1000005N | B-77 | B-78 | B7E29SN | B7E29SS | B7E29SS | HCSB0106/133 | HCSB0106/133 | HCSB0107/134 | HCSB0107/134 |
| | | Field Sample ID | A0700160S | A0800025N | A0800025S | A0800050S | A0800075S | A0800075SD | A0800100S | A0800125S | A0890050S | A0900021S | A0900025N | A0900050N | A0900075N | A1000005N | B-77 | B-78 | B7E29SN | B7E29SS | B7E29SSD | HCSB0106-SS-AA-AB-0 | HCSB0133-SS-AD-AE-0 | HCSB0107-SS-AA-AB-0 | HCSB0134-SS-AC-AD-0 |
| | | Sample Date | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 7/9/1999 | 4/16/1997 | 4/16/1997 | 7/7/1999 | 7/7/1999 | 7/7/1999 | 6/21/2005 | 6/23/2005 | 6/21/2005 | 6/23/2005 |
| | | Depth (ft) | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 5.5-5.5 | 3.5-4 | 0-2 | 0-2 | 0-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1-1.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | 0.006 U | | | | | 0.013 U | | 0.011 U |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | 0.006 U | | | | | 0.013 U | | 0.011 U |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | 0.006 U | | | | | 0.013 U | | 0.011 U |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | 0.013 U | | 0.011 U |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | 0.006 U | | | | | 0.013 U | | 0.011 U |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | 0.006 U | | | | | 0.013 U | | 0.011 U |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | 0.013 U | | 0.011 U |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | 0.013 U | | 0.011 U |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | 0.013 U | | 0.011 U |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | 0.013 U | | 0.011 U |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | 0.006 U | | | | | 0.013 U | | 0.011 U |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | 0.006 U | | | | | 0.013 U | | 0.011 U |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | 0.013 U | | 0.011 U |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | 0.013 U | | 0.011 U |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | | | | | | | | | | | | | | | 0.012 U | | | | | 0.013 U | | 0.011 U |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | | | | | | | | | | | | | | | 0.012 U | | | | | 0.013 U | | 0.011 U |
| VOC | ACETONE | MG/KG | | | | | | | | | | | | | | | | 0.016 B | | | | | 0.094 U | | 0.031 U |
| VOC | BENZENE | MG/KG | | | | | | | | | | | | | | | | 0.006 U | | | | | 0.013 U | | 0.011 U |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | 0.006 U | | | | | 0.013 U | | 0.011 U |
| VOC | BROMOFORM | MG/KG | | | | | | | | | | | | | | | | 0.006 U | | | | | 0.013 U | | 0.011 U |
| VOC | BROMOMETHANE | MG/KG | | | | | | | | | | | | | | | | 0.012 U | | | | | 0.013 U | | 0.011 U |
| VOC | CARBON DISULFIDE | MG/KG | | | | | | | | | | | | | | | | 0.006 U | | | | | 0.013 U | | 0.011 U |
| VOC | CARBON TETRACHLORIDE | MG/KG | | | | | | | | | | | | | | | | 0.006 U | | | | | 0.013 U | | 0.011 U |
| VOC | CHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | 0.006 U | | | | | 0.013 U | | 0.011 U |
| VOC | CHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | 0.012 U | | | | | 0.013 U | | 0.011 U |
| VOC | CHLOROFORM | MG/KG | | | | | | | | | | | | | | | | 0.006 U | | | | | 0.013 U | | 0.011 U |
| VOC | CHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | 0.012 U | | | | | 0.013 U | | 0.011 U |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | 0.013 U | | 0.011 U |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | 0.006 U | | | | | 0.013 U | | 0.011 U |
| VOC | CYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | 0.013 U | | 0.011 U |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | 0.006 U | | | | | 0.013 U | | 0.011 U |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | 0.013 U | | 0.011 U |
| VOC | DICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | 0.009 B | | | | | 0.013 U | | 0.011 U |
| VOC | ETHYLBENZENE | MG/KG | | | | | | | | | | | | | | | | 0.006 U | | | | | 0.013 U | | 0.011 U |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | 0.013 U | | 0.011 U |
| VOC | METHYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | 0.013 U | | 0.011 U |
| VOC | METHYL ETHYL KETONE | MG/KG | | | | | | | | | | | | | | | | 0.005 JB | | | | | 0.013 UJ | | 0.011 U |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | 0.013 U | | 0.011 U |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | | | | | | | | | | | | | | | | | 0.013 U | | 0.011 U |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | | | | | | | | | | | | | | | 0.006 U | | | | | 0.013 U | | 0.011 U |
| VOC | TETRACHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | 0.006 U | | | | | 0.013 U | | 0.011 U |
| VOC | TOLUENE | MG/KG | | | | | | | | | | | | | | | | 0.006 | | | | | 0.013 U | | 0.011 U |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | 0.006 U | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | 0.013 U | | 0.011 U |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | 0.006 U | | | | | 0.013 U | | 0.011 U |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | | | | | | | | | | | | | | | 0.006 U | | | | | 0.013 U | | 0.011 U |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | 0.013 U | | 0.011 U |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | 0.012 U | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | | | | | | | | | | | | | | | 0.012 U | | | | | 0.013 U | | 0.011 U |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | | | | | | | | | | | | | | | | 0.006 U | | | | | 0.013 U | | 0.011 U |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | HCSB0108/135 | HCSB0108/135 | HCSB0108/135 | HCSB0108/135 | HCSB0109/136 | HCSB0109/136 | HCSB0110/137 | HCSB0110/137 | HCSB0111/138 | HCSB0111/138 | HCSB0112/139 | HCSB0112/139 | HCSB0113/140 | HCSB0113/140 | HCSB0113/140 | HCSB0113/140 | HCSB0114/141 | HCSB0114/141 | HCSB0115/142 | HCSB0115/142 | HCSB0116/143 | HCSB0116/143 | HCSB0117/144 |
| | | Field Sample ID | HCSB0108-SS-AA-AB-0 | HCSB0135-SS-AC-AD-0 | HCSB0135-SS-AE-AF-0 | HCSB0135-SS-AG-AH-0 | HCSB0109-SS-AA-AB-0 | HCSB0136-SS-AC-AD-0 | HCSB0110-SS-AA-AB-0 | HCSB0137-SS-AC-AD-0 | HCSB0111-SS-AA-AB-0 | HCSB0138-SS-AC-AD-0 | HCSB0112-SS-AA-AB-0 | HCSB0139-SS-AC-AD-0 | HCSB0113-SS-AA-AB-0 | HCSB0140-SS-AC-AD-0 | HCSB0140-SS-AE-AF-0 | HCSB0140-SS-AG-AH-0 | HCSB0114-SS-AA-AB-0 | HCSB0141-SS-AC-AD-0 | HCSB0115-SS-AA-AB-0 | HCSB0142-SS-AC-AD-0 | HCSB0116-SS-AA-AB-0 | HCSB0143-SS-AC-AD-0 | HCSB0117-SS-AA-AB-0 |
| | | Sample Date | 6/21/2005 | 6/23/2005 | 10/27/2005 | 10/27/2005 | 6/21/2005 | 6/23/2005 | 6/21/2005 | 6/23/2005 | 6/21/2005 | 6/23/2005 | 6/21/2005 | 6/23/2005 | 6/21/2005 | 6/23/2005 | 10/27/2005 | 10/27/2005 | 6/21/2005 | 6/23/2005 | 6/21/2005 | 6/23/2005 | 6/21/2005 | 6/23/2005 | 6/21/2005 |
| | | Depth (ft) | 0-0.5 | 1-1.5 | 2-2.5 | 3-3.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 2-2.5 | 3-3.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | 1130 J | 7480 J | 889 | 798 | 3990 J | 656 | 2060 J | 1460 | 5010 J | 10400 J | 6160 J | 11600 J | 3520 J | 7190 J | 5950 J | 1970 | 5020 J | 4800 | 8270 J | 6110 | 4510 J | 5420 J | 6540 J |
| METALS | ANTIMONY | MG/KG | 2.1 J | 26.2 J | 2.8 J | 1.7 J | 5.5 J | 2.2 J | 7.3 J | 1.5 J | 10.8 J | 117 J | 9.4 J | 14.3 J | 11.5 J | 144 J | 73.9 J | 14.5 J | 12.9 J | 112 J | 13.7 J | 515 J | 11.2 J | 341 J | 10.1 J |
| METALS | ARSENIC | MG/KG | 28.7 | 131 J | 41.7 | 47.1 | 144 | 12.8 | 76.8 | 29.4 | 242 J | 287 J | 189 J | 127 J | 138 J | 322 J | 508 J | 82 | 163 J | 133 | 196 J | 285 | 172 J | 343 J | 188 J |
| METALS | BARIUM | MG/KG | 124 J | 471 J | 19.3 J | 28.2 J | 321 J | 33.7 J | 176 J | 114 J | 379 J | 1360 J | 395 J | 645 J | 390 J | 3710 J | 6920 J | 2160 | 746 J | 1530 J | 627 J | 2520 J | 333 J | 3700 J | 384 J |
| METALS | BERYLLIUM | MG/KG | 0.13 J | 0.47 J | 0.15 U | 0.16 U | 0.28 J | 0.05 J | 0.18 J | 0.03 U | 0.42 J | 0.51 J | 0.39 J | 0.49 J | 0.35 J | 0.59 J | 0.34 J | 0.17 U | 0.38 J | 0.5 J | 0.5 J | 0.5 J | 0.33 J | 0.53 J | 0.42 J |
| METALS | CADMIUM | MG/KG | 0.21 J | 3.7 J | 0.7 J | 0.8 J | 0.05 UJ | 0.5 J | 0.38 J | 0.28 J | 0.07 J | 6.7 J | 0.26 J | 2.9 J | 0.45 J | 7.8 J | 5.2 J | 1 J | 0.31 J | 8 | 0.84 J | 6.6 | 0.5 J | 11.7 J | 0.53 J |
| METALS | CALCIUM | MG/KG | 541 J | 1350 J | 228 J | 320 J | 1430 J | 181 J | 1920 J | 389 J | 3950 J | 3770 J | 2780 J | 3620 J | 3280 J | 2700 J | 2280 J | 730 J | 4040 J | 2110 | 6250 J | 2310 | 4050 J | 2220 J | 5180 J |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 11.3 J | 313 J | 76.9 J | 43.9 J | 33.9 J | 8.1 | 32.3 J | 14.6 | 47.7 J | 1310 J | 51.5 J | 116 J | 38 J | 1880 J | 1650 J | 354 J | 41.5 J | 180 | 55.2 J | 558 | 39.3 J | 1120 J | 48.5 J |
| METALS | COBALT | MG/KG | 0.73 J | 14.9 J | 1.7 J | 1.1 J | 5.2 J | 1.7 J | 2.3 J | 2.3 J | 5.5 J | 13 J | 6.2 J | 17.6 J | 5 J | 9.4 J | 4.6 J | 1.3 J | 6.8 J | 18.9 J | 11.6 J | 9.4 J | 7 J | 9.2 J | 7.7 J |
| METALS | COPPER | MG/KG | 21 J | 115 J | 21.1 | 19.6 | 33.9 J | 8.2 | 25.9 J | 15.8 | 43.7 J | 191 J | 51 J | 182 J | 38.2 J | 131 J | 95 J | 27.8 J | 44.7 J | 135 | 70.7 J | 206 | 41.1 J | 233 J | 57.2 J |
| METALS | CYANIDE | MG/KG | 1.8 J | 93.9 J | 26.5 | 15.5 | 5.1 J | 0.07 U | 6.6 J | 1.9 J | 6.3 J | 71.2 J | 18 J | 6.5 J | 21.5 J | 353 J | 312 J | 191 | 12.2 J | 3.1 J | 7.7 J | 38.7 J | 2.6 J | 290 J | 8.6 J |
| METALS | IRON | MG/KG | 3930 J | 14000 J | 1480 | 1560 | 28400 J | 3270 | 13700 J | 6460 | 46900 J | 34300 J | 34700 J | 28500 J | 25200 J | 19000 J | 14000 J | 4100 J | 33200 J | 12000 | 49200 J | 13500 | 32000 J | 14700 J | 37900 J |
| METALS | LEAD | MG/KG | 209 J | 1720 J | 400 | 358 | 294 J | 89 | 232 J | 124 | 352 J | 5240 J | 427 J | 1340 J | 302 J | 8130 J | 15000 J | 3800 J | 329 J | 2870 | 518 J | 4960 | 321 J | 7580 J | 456 J |
| METALS | MAGNESIUM | MG/KG | 93.1 J | 469 J | 49.9 J | 51 J | 396 J | 57.3 J | 366 J | 120 J | 728 J | 1000 J | 714 J | 1020 J | 559 J | 797 J | 506 J | 135 J | 681 J | 783 J | 995 J | 743 J | 714 J | 832 J | 927 J |
| METALS | MANGANESE | MG/KG | 9.6 J | 37.7 J | 4.4 J | 10.8 J | 266 J | 6.3 | 299 J | 37.4 | 1110 J | 358 J | 331 J | 152 J | 314 J | 50.9 J | 38.9 J | 11.7 J | 445 J | 56.1 | 1230 J | 114 | 996 J | 53.4 J | 1420 J |
| METALS | MERCURY | MG/KG | 0.213 | 2.2 J | 0.06 U | 0.11 | 0.772 | 0.16 | 0.641 | 0.19 | 0.676 J | 5.2 J | 1 J | 3.3 J | 0.714 J | 4.2 J | 2.7 J | 0.6 | 0.612 J | 2.3 | 0.924 J | 4 | 0.706 J | 5.2 J | 1.2 J |
| METALS | NICKEL | MG/KG | 2 J | 10.3 J | 2.3 J | 1.8 J | 6.1 J | 1.9 J | 3.8 J | 2.7 J | 8.3 J | 11.9 J | 9.1 J | 22 J | 6.6 J | 6.7 J | 2.9 J | 1.3 J | 8.4 J | 12.5 J | 12.8 J | 10.4 J | 8.3 J | 8.9 J | 11.1 J |
| METALS | POTASSIUM | MG/KG | 91.8 J | 203 J | 25.6 U | 27.3 U | 290 J | 53.4 J | 203 J | 89.5 J | 379 J | 339 J | 466 J | 444 J | 316 J | 281 J | 200 J | 70.3 J | 439 J | 280 J | 669 J | 292 J | 415 J | 288 J | 494 J |
| METALS | SELENIUM | MG/KG | 1.1 UJ | 2.1 J | 1 U | 1.1 U | 1.1 J | 1 U | 1.1 J | 1.1 U | 2.4 J | 4 J | 2.3 J | 4.1 J | 1.8 J | 2.1 UJ | 1.7 UJ | 1.1 U | 1.9 J | 1.6 U | 2.8 J | 1.7 J | 1.6 J | 2.8 J | 2.4 J |
| METALS | SILVER | MG/KG | 0.33 J | 0.45 J | 0.29 U | 0.3 U | 0.71 J | 0.17 U | 0.28 J | 0.44 J | 0.5 J | 1.4 J | 0.9 J | 1.2 J | 0.66 J | 0.79 J | 0.77 J | 0.32 U | 0.68 J | 0.67 J | 1.1 J | 0.68 J | 0.43 J | 1.1 J | 0.63 J |
| METALS | SODIUM | MG/KG | 46 J | 68.5 UJ | 81.3 U | 86.6 U | 81.1 J | 38.6 U | 102 J | 42.2 U | 145 J | 84.8 UJ | 167 J | 153 J | 220 J | 77.3 UJ | 141 UJ | 90.3 U | 167 J | 61.3 U | 274 J | 95.1 J | 191 J | 86.8 J | 197 J |
| METALS | THALLIUM | MG/KG | 0.8 UJ | 1.9 UJ | 1.1 U | 1.2 U | 0.82 UJ | 1.1 U | 0.74 UJ | 1.2 U | 1.1 UJ | 2.4 UJ | 1.2 UJ | 2.3 UJ | 1.3 UJ | 2.4 J | 1.9 UJ | 1.2 U | 1.3 UJ | 2.1 J | 1.3 UJ | 1.7 U | 0.94 UJ | 3.8 J | 1.1 UJ |
| METALS | VANADIUM | MG/KG | 7.3 J | 26.7 J | 3.2 J | 3.1 J | 21.3 J | 4.2 J | 11.4 J | 8.7 J | 27.3 J | 54.7 J | 30.7 J | 81.5 J | 19.1 J | 27.9 J | 18.5 J | 6.5 J | 26.9 J | 20.1 | 42.9 J | 28.3 | 24.4 J | 22.5 J | 36.2 J |
| METALS | ZINC | MG/KG | 93.2 J | 1430 J | 187 | 127 | 259 J | 221 | 224 J | 140 | 391 J | 2290 J | 422 J | 1290 J | 402 J | 2610 J | 1330 J | 275 | 442 J | 2710 | 586 J | 2510 | 386 J | 3110 J | 424 J |
| PEST/PCB | 4,4'-DDD | MG/KG | 0.057 U | 0.16 J | 0.0041 U | 0.0044 U | 0.056 U | 1.6 J | 0.054 U | 0.0094 U | 0.075 UJ | 0.25 J | 0.087 UJ | 0.018 UJ | 0.089 UJ | 0.33 J | 0.092 J | 0.022 | 0.09 UJ | 0.49 J | 0.097 UJ | 0.85 J | 0.075 UJ | 0.46 J | 0.08 UJ |
| PEST/PCB | 4,4'-DDE | MG/KG | 0.057 U | | 0.0041 U | 0.0044 U | 0.056 U | 0.0082 U | 0.054 U | 0.0094 U | 0.075 UJ | 0.019 UJ | 0.087 UJ | 0.018 UJ | 0.089 UJ | 0.091 J | 0.0068 UJ | 0.0046 U | 0.09 UJ | 0.1 J | 0.097 UJ | 0.18 J | 0.075 UJ | | 0.08 UJ |
| PEST/PCB | 4,4'-DDT | MG/KG | 0.057 U | | 0.0041 U | 0.0044 U | 0.056 U | 0.0082 U | 0.054 U | 0.0094 U | 0.075 UJ | 0.019 UJ | 0.087 UJ | 0.018 UJ | 0.089 UJ | 0.017 UJ | 0.0068 UJ | 0.0046 U | 0.09 UJ | | 0.097 UJ | 0.22 J | 0.075 UJ | 0.12 J | 0.08 UJ |
| PEST/PCB | ALDRIN | MG/KG | 0.029 U | 0.0078 UJ | 0.0021 U | 0.0023 U | 0.029 U | 0.0042 U | 0.028 U | 0.0048 U | 0.039 UJ | 0.0097 UJ | 0.045 UJ | 0.0094 UJ | 0.046 UJ | 0.0086 UJ | 0.0035 UJ | 0.0024 U | 0.047 UJ | 0.0067 U | 0.05 UJ | 0.0067 U | 0.039 UJ | 0.0077 UJ | 0.041 UJ |
| PEST/PCB | ALPHA-BHC | MG/KG | 0.029 U | 0.0078 UJ | 0.0021 U | 0.0023 U | 0.029 U | 0.0042 U | 0.028 U | 0.0048 U | 0.039 UJ | 0.0097 UJ | 0.045 UJ | 0.0094 UJ | 0.046 UJ | 0.0086 UJ | 0.0035 UJ | 0.0024 U | 0.047 UJ | 0.0067 U | 0.05 UJ | 0.0067 U | 0.039 UJ | 0.0077 UJ | 0.041 UJ |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | 0.016 J | 0.0078 UJ | 0.0021 U | 0.0023 U | 0.029 U | 0.0042 U | 0.028 U | 0.0048 U | 0.039 UJ | 0.0097 UJ | 0.045 UJ | 0.0094 UJ | 0.046 UJ | 0.0086 UJ | 0.0035 UJ | 0.0024 U | 0.047 UJ | 0.0067 U | 0.05 UJ | 0.0067 U | 0.039 UJ | 0.0077 UJ | 0.041 UJ |
| PEST/PCB | AROCLOR-1016 | MG/KG | 0.57 U | 0.15 UJ | 0.041 U | 0.044 U | 0.56 U | 0.082 U | 0.54 U | 0.094 U | 0.75 UJ | 0.19 UJ | 0.87 UJ | 0.18 UJ | 0.89 UJ | 0.17 UJ | 0.068 UJ | 0.046 U | 0.9 UJ | 0.13 U | 0.97 UJ | 0.13 U | 0.75 UJ | 0.15 UJ | 0.8 UJ |
| PEST/PCB | AROCLOR-1221 | MG/KG | 1.2 U | 0.31 UJ | 0.084 U | 0.089 U | 1.1 U | 0.17 U | 1.1 U | 0.19 U | 1.5 UJ | 0.38 UJ | 1.8 UJ | 0.37 UJ | 1.8 UJ | 0.34 UJ | 0.14 UJ | 0.093 U | 1.8 UJ | 0.26 U | 2 UJ | 0.26 U | 1.5 UJ | 0.3 UJ | 1.6 UJ |
| PEST/PCB | AROCLOR-1232 | MG/KG | 0.57 U | 0.15 UJ | 0.041 U | 0.044 U | 0.56 U | 0.082 U | 0.54 U | 0.094 U | 0.75 UJ | 0.19 UJ | 0.87 UJ | 0.18 UJ | 0.89 UJ | 0.17 UJ | 0.068 UJ | 0.046 U | 0.9 UJ | 0.13 U | 0.97 UJ | 0.13 U | 0.75 UJ | 0.15 UJ | 0.8 UJ |
| PEST/PCB | AROCLOR-1242 | MG/KG | 0.57 U | 0.15 UJ | 0.041 U | 0.044 U | 0.56 U | 0.082 U | 0.54 U | 0.094 U | 0.75 UJ | 0.19 UJ | 0.87 UJ | 0.18 UJ | 0.89 UJ | 0.17 UJ | 0.068 UJ | 0.046 U | 0.9 UJ | 0.13 U | 0.97 UJ | 0.13 U | 0.75 UJ | 0.15 UJ | 0.8 UJ |
| PEST/PCB | AROCLOR-1248 | MG/KG | 0.57 U | 0.15 UJ | 0.041 U | 0.044 U | 0.56 U | 0.082 U | 0.54 U | 0.094 U | 0.75 UJ | 0.19 UJ | 0.87 UJ | 0.18 UJ | 0.89 UJ | 0.17 UJ | 0.068 UJ | 0.046 U | 0.9 UJ | 0.13 U | 0.97 UJ | 0.13 U | 0.75 UJ | 0.15 UJ | 0.8 UJ |
| PEST/PCB | AROCLOR-1254 | MG/KG | 0.57 U | 0.15 UJ | 0.041 U | 0.044 U | 0.56 U | 0.082 U | 0.54 U | 0.094 U | 0.75 UJ | 0.19 UJ | 0.87 UJ | 0.18 UJ | 0.89 UJ | 0.17 UJ | 0.3 J | 0.063 | 0.9 UJ | 0.13 U | 0.97 UJ | 0.13 U | 0.75 UJ | 0.15 UJ | 0.8 UJ |
| PEST/PCB | AROCLOR-1260 | MG/KG | 0.37 J | 0.15 UJ | 0.041 U | 0.059 | 0.94 | 0.082 U | 0.47 J | 1.3 | 0.74 J | 2.5 J | 0.69 J | 3.1 J | 0.34 J | 0.17 UJ | 0.068 UJ | 0.046 U | 1.2 J | 0.13 U | 1.3 J | 0.13 U | 0.97 J | 0.15 UJ | 1.4 J |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | 0.029 U | 0.0078 UJ | 0.0021 U | 0.0023 U | 0.029 U | 0.0042 U | 0.028 U | 0.0048 U | 0.039 UJ | | 0.045 UJ | 0.0094 UJ | 0.046 UJ | 0.0086 UJ | 0.0035 UJ | 0.0024 U | 0.047 UJ | 0.0067 U | 0.05 UJ | 0.0067 U | 0.039 UJ | 0.0077 UJ | 0.041 UJ |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | 0.029 U | 0.0078 UJ | 0.0021 U | 0.0023 U | 0.029 U | 0.0042 U | 0.028 U | 0.0048 U | 0.039 UJ | 0.0097 UJ | 0.045 UJ | 0.0094 UJ | 0.046 UJ | 0.0086 UJ | 0.0035 UJ | 0.0024 U | 0.047 UJ | 0.0067 U | 0.05 UJ | 0.0067 U | 0.039 UJ | 0.0077 UJ | 0.041 UJ |
| PEST/PCB | DIELDRIN | MG/KG | 0.057 U | 0.015 UJ | 0.0041 U | 0.0044 U | 0.0088 J | 0.0082 U | 0.054 U | 0.0094 U | 0.0091 J | 0.019 UJ | 0.087 UJ | 0.018 UJ | 0.089 UJ | | 0.0068 UJ | 0.0046 U | 0.013 J | | 0.012 J | 0.029 J | 0.01 J | | 0.014 J |
| PEST/PCB | ENDOSULFAN I | MG/KG | 0.029 U | 0.0078 UJ | 0.0021 U | 0.0023 U | 0.029 U | 0.0042 U | 0.028 U | 0.0048 U | 0.039 UJ | 0.0097 UJ | 0.045 UJ | 0.0094 UJ | 0.046 UJ | 0.0086 UJ | 0.0035 UJ | 0.0024 U | 0.047 UJ | 0.0067 U | 0.05 UJ | 0.0067 U | 0.039 UJ | 0.0077 UJ | 0.041 UJ |
| PEST/PCB | ENDOSULFAN II | MG/KG | 0.057 U | 0.015 UJ | 0.0041 U | 0.0044 U | 0.056 U | 0.0082 U | 0.054 U | 0.0094 U | 0.075 UJ | 0.019 UJ | 0.087 UJ | 0.018 UJ | 0.089 UJ | 0.017 UJ | 0.0068 UJ | 0.0046 U | 0.09 UJ | 0.013 U | 0.097 UJ | 0.013 U | 0.075 UJ | 0.015 UJ | 0.08 UJ |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | 0.057 U | 0.015 UJ | 0.0041 U | 0.0044 U | 0.056 U | 0.0082 U | 0.054 U | 0.0094 U | 0.075 UJ | 0.019 UJ | 0.087 UJ | 0.018 UJ | 0.089 UJ | 0.017 UJ | 0.0068 UJ | 0.0046 U | 0.09 UJ | 0.013 U | 0.097 UJ | 0.018 J | 0.075 UJ | 0.021 J | 0.08 UJ |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | 0.057 U | 0.015 UJ | 0.0041 U | 0.0044 U | 0.056 U | 0.0082 U | 0.054 U | 0.0094 U | 0.075 UJ | 0.019 UJ | 0.087 UJ | 0.018 UJ | 0.089 UJ | 0.017 UJ | 0.0068 UJ | 0.0046 U | 0.09 UJ | 0.013 U | 0.097 UJ | 0.036 J | 0.075 UJ | 0.015 UJ | 0.08 UJ |
| PEST/PCB | ENDRIN KETONE | MG/KG | 0.057 U | 0.015 UJ | 0.0041 U | 0.0044 U | 0.056 U | 0.0082 U | 0.054 U | 0.0094 U | 0.075 UJ | 0.019 UJ | 0.087 UJ | 0.018 UJ | 0.089 UJ | 0.017 UJ | 0.0068 UJ | 0.0046 U | 0.09 UJ | 0.013 U | 0.097 UJ | 0.015 J | 0.075 UJ | 0.03 J | 0.08 UJ |
| PEST/PCB | ENDRIN | MG/KG | 0.057 U | 0.015 UJ | 0.0041 U | 0.0044 U | 0.056 U | 0.0082 U | 0.054 U | 0.0094 U | 0.075 UJ | 0.019 UJ | 0.087 UJ | 0.018 UJ | 0.089 UJ | 0.017 UJ | 0.0068 UJ | 0.0046 U | 0.09 UJ | 0.013 U | 0.097 UJ | 0.013 U | 0.075 UJ | 0.015 UJ | 0.08 UJ |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | 0.029 U | 0.0078 UJ | 0.0021 U | 0.0023 U | 0.029 U | 0.0042 U | 0.028 U | 0.0048 U | 0.039 UJ | 0.0097 UJ | 0.045 UJ | 0.0094 UJ | 0.046 UJ | 0.0086 UJ | 0.0035 UJ | 0.0024 U | 0.047 UJ | 0.0067 U | 0.05 UJ | 0.0067 U | 0.039 UJ | 0.0077 UJ | 0.041 UJ |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | 0.029 U | 0.0078 UJ | 0.0021 U | 0.0023 U | 0.018 J | 0.0042 U | 0.028 U | 0.0048 U | 0.039 UJ | 0.0097 UJ | 0.045 UJ | 0.0094 UJ | 0.046 UJ | 0.0086 UJ | 0.0035 UJ | 0.0024 U | 0.047 UJ | 0.0067 U | 0.05 UJ | 0.0067 U | 0.039 UJ | | 0.041 UJ |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | 0.029 U | 0.0078 UJ | 0.0021 U | 0.0023 U | 0.029 U | 0.0066 J | 0.028 U | 0.0048 U | 0.039 UJ | 0.0097 UJ | 0.045 UJ | 0.0094 UJ | 0.046 UJ | 0.015 J | 0.0035 UJ | 0.0024 U | 0.047 UJ | 0.017 | 0.05 UJ | 0.022 J | 0.039 UJ | | 0.041 UJ |
| PEST/PCB | HEPTACHLOR | MG/KG | 0.029 U | 0.0078 UJ | 0.0021 U | 0.0023 U | 0.029 U | 0.0042 U | 0.028 U | 0.0048 U | 0.039 UJ | 0.0097 UJ | 0.045 UJ | 0.0094 UJ | 0.046 UJ | 0.0086 UJ | 0.0035 UJ | 0.0024 U | 0.047 UJ | 0.0067 U | 0.05 UJ | 0.0067 U | 0.039 UJ | 0.0077 UJ | 0.041 UJ |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | 0.29 U | 0.078 UJ | 0.021 U | 0.023 U | 0.29 U | 0.042 U | 0.28 U | 0.048 U | 0.037 J | 0.097 UJ | 0.45 UJ | 0.094 UJ | 0.46 UJ | 0.086 UJ | 0.035 UJ | 0.024 U | 0.05 J | 0.067 U | 0.046 J | 0.067 U | 0.033 J | 0.077 UJ | 0.41 UJ |
| PEST/PCB | TOXAPHENE | MG/KG | 2.9 U | 0.78 UJ | 0.21 U | 0.23 U | 2.9 U | 0.42 U | 2.8 U | 0.48 U | 3.9 UJ | 0.97 UJ | 4.5 UJ | 0.94 UJ | 4.6 UJ | 0.86 UJ | 0.35 UJ | 0.24 U | 4.7 UJ | 0.67 U | 5 UJ | 0.67 U | 3.9 UJ | 0.77 UJ | 4.1 UJ |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | HCSB0108/135 | HCSB0108/135 | HCSB0108/135 | HCSB0108/135 | HCSB0109/136 | HCSB0109/136 | HCSB0110/137 | HCSB0110/137 | HCSB0111/138 | HCSB0111/138 | HCSB0112/139 | HCSB0112/139 | HCSB0113/140 | HCSB0113/140 | HCSB0113/140 | HCSB0113/140 | HCSB0114/141 | HCSB0114/141 | HCSB0115/142 | HCSB0115/142 | HCSB0116/143 | HCSB0116/143 | HCSB0117/144 |
| | | Field Sample ID | HCSB0108-SS-AA-AB-0 | HCSB0135-SS-AC-AD-0 | HCSB0135-SS-AE-AF-0 | HCSB0135-SS-AG-AH-0 | HCSB0109-SS-AA-AB-0 | HCSB0136-SS-AC-AD-0 | HCSB0110-SS-AA-AB-0 | HCSB0137-SS-AC-AD-0 | HCSB0111-SS-AA-AB-0 | HCSB0138-SS-AC-AD-0 | HCSB0112-SS-AA-AB-0 | HCSB0139-SS-AC-AD-0 | HCSB0113-SS-AA-AB-0 | HCSB0140-SS-AC-AD-0 | HCSB0140-SS-AE-AF-0 | HCSB0140-SS-AG-AH-0 | HCSB0114-SS-AA-AB-0 | HCSB0141-SS-AC-AD-0 | HCSB0115-SS-AA-AB-0 | HCSB0142-SS-AC-AD-0 | HCSB0116-SS-AA-AB-0 | HCSB0143-SS-AC-AD-0 | HCSB0117-SS-AA-AB-0 |
| | | Sample Date | 6/21/2005 | 6/23/2005 | 10/27/2005 | 10/27/2005 | 6/21/2005 | 6/23/2005 | 6/21/2005 | 6/23/2005 | 6/21/2005 | 6/23/2005 | 6/21/2005 | 6/23/2005 | 6/21/2005 | 6/23/2005 | 10/27/2005 | 10/27/2005 | 6/21/2005 | 6/23/2005 | 6/21/2005 | 6/23/2005 | 6/21/2005 | 6/23/2005 | 6/21/2005 |
| | | Depth (ft) | 0-0.5 | 1-1.5 | 2-2.5 | 3-3.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 2-2.5 | 3-3.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 1.1 UJ | 3.8 UJ | 0.41 U | 0.44 U | 1.1 UJ | 0.41 U | 1.1 UJ | 2.3 U | 1.5 UJ | 19 UJ | 1.7 UJ | 4.6 UJ | 1.8 UJ | 42 U | 3.4 UJ | 0.92 U | 1.8 UJ | 32 U | 1.9 UJ | 13 U | 1.5 UJ | 37 U | 1.6 UJ |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 U | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 1.4 UJ | 9.2 UJ | 1 U | 1.1 U | 1.4 UJ | 1 U | 1.4 UJ | 5.7 U | 1.9 UJ | 46 UJ | 2.2 UJ | 11 UJ | 2.3 UJ | 100 U | 8.2 UJ | 2.2 U | 2.2 UJ | 79 U | 2.4 UJ | 31 U | 1.9 UJ | 90 U | 2 UJ |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 U | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 U | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 U | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 1.4 UJ | 9.2 UJ | 1 U | 1.1 U | 1.4 UJ | 1 U | 1.4 UJ | 5.7 UJ | 1.9 UJ | 46 UJ | 2.2 UJ | 11 UJ | 2.3 UJ | 100 UJ | 8.2 UJ | 2.2 U | 2.2 UJ | 79 UJ | 2.4 UJ | 31 U | 1.9 UJ | 90 UJ | 2 UJ |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 U | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 U | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 U | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | 2-CHLOROPHENOL | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 U | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.016 J | 0.11 J | 0.004 J | 0.44 U | 0.55 UJ | 0.01 J | 0.22 J | 0.038 J | 0.021 J | 19 UJ | 0.032 J | 0.078 J | 0.025 J | 42 U | 0.16 J | 0.041 J | 0.028 J | 32 U | 0.97 UJ | 0.27 J | 0.76 UJ | 37 U | 0.022 J |
| SVOC | 2-METHYLPHENOL | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 U | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | 2-NITROANILINE | MG/KG | 1.4 UJ | 9.2 UJ | 1 U | 1.1 U | 1.4 UJ | 1 U | 1.4 UJ | 5.7 U | 1.9 UJ | 46 UJ | 2.2 UJ | 11 UJ | 2.3 UJ | 100 U | 8.2 UJ | 2.2 U | 2.2 UJ | 79 U | 2.4 UJ | 31 U | 1.9 UJ | 90 U | 2 UJ |
| SVOC | 2-NITROPHENOL | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 U | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 UJ | 0.54 UJ | 2.3 UJ | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 UJ | 3.4 UJ | 0.92 U | 0.88 UJ | 32 UJ | 0.97 UJ | 13 U | 0.76 UJ | 37 UJ | 0.81 UJ |
| SVOC | 3-NITROANILINE | MG/KG | 1.4 UJ | 9.2 UJ | 1 U | 1.1 U | 1.4 UJ | 1 UJ | 1.4 UJ | 5.7 U | 1.9 UJ | 46 UJ | 2.2 UJ | 11 UJ | 2.3 UJ | 100 U | 8.2 UJ | 2.2 U | 2.2 UJ | 79 U | 2.4 UJ | 31 U | 1.9 UJ | 90 U | 2 UJ |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 1.4 UJ | 9.2 UJ | 1 U | 1.1 U | 1.4 UJ | 1 U | 1.4 UJ | 5.7 U | 1.9 UJ | 46 UJ | 2.2 UJ | 11 UJ | 2.3 UJ | 100 U | 8.2 UJ | 2.2 U | 2.2 UJ | 79 U | 2.4 UJ | 31 U | 1.9 UJ | 90 U | 2 UJ |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 U | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 U | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | 4-CHLOROANILINE | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 U | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 U | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | 4-METHYLPHENOL | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 U | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | 4-NITROANILINE | MG/KG | 1.4 UJ | 9.2 UJ | 1 U | 1.1 U | 1.4 UJ | 1 U | 1.4 UJ | 5.7 U | 1.9 UJ | 46 UJ | 2.2 UJ | 11 UJ | 2.3 UJ | 100 U | 8.2 UJ | 2.2 U | 2.2 UJ | 79 U | 2.4 UJ | 31 U | 1.9 UJ | 90 U | 2 UJ |
| SVOC | 4-NITROPHENOL | MG/KG | 1.4 UJ | 9.2 UJ | 1 U | 1.1 U | 1.4 UJ | 1 U | 1.4 UJ | 5.7 U | 1.9 UJ | 46 UJ | 2.2 UJ | 11 UJ | 2.3 UJ | 100 U | 8.2 UJ | 2.2 U | 2.2 UJ | 79 U | 2.4 UJ | 31 U | 1.9 UJ | 90 U | 2 UJ |
| SVOC | ACENAPHTHENE | MG/KG | 0.21 J | 0.21 J | 0.41 U | 0.011 J | 0.14 J | 0.078 J | 1.7 J | 0.44 J | 0.23 J | 0.46 J | 0.28 J | 0.45 J | 0.27 J | 0.49 J | 0.3 J | 0.068 J | 0.33 J | 32 U | 0.24 J | 1.1 J | 0.13 J | 37 U | 0.23 J |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.019 J | 0.17 J | 0.41 U | 0.44 U | 0.028 J | 0.41 U | 0.064 J | 2.3 U | 0.06 J | 19 UJ | 0.1 J | 0.14 J | 0.076 J | 42 U | 0.15 J | 0.039 J | 0.099 J | 32 U | 0.086 J | 0.18 J | 0.07 J | 37 U | 0.084 J |
| SVOC | ACETOPHENONE | MG/KG | 1.1 UJ | 3.8 UJ | 0.41 U | 0.44 U | 1.1 UJ | 0.41 U | 1.1 UJ | 2.3 U | 1.5 UJ | 19 UJ | 1.7 UJ | 4.6 UJ | 1.8 UJ | 42 U | 3.4 UJ | 0.92 U | 1.8 UJ | 32 U | 1.9 UJ | 13 U | 1.5 UJ | 37 U | 1.6 UJ |
| SVOC | ANTHRACENE | MG/KG | 0.3 J | 0.58 J | 0.013 J | 0.03 J | 0.24 J | 0.11 J | 2.4 J | 0.57 J | 0.46 J | 0.69 J | 0.69 J | 0.85 J | 0.66 J | 0.55 J | 0.54 J | 0.14 J | 0.82 J | 0.36 J | 0.52 J | 1.7 J | 0.45 J | 37 U | 0.49 J |
| SVOC | ATRAZINE | MG/KG | 1.1 UJ | 3.8 UJ | 0.41 U | 0.44 U | 1.1 UJ | 0.41 U | 1.1 UJ | 2.3 U | 1.5 UJ | 19 UJ | 1.7 UJ | 4.6 UJ | 1.8 UJ | 42 U | 3.4 UJ | 0.92 U | 1.8 UJ | 32 U | 1.9 UJ | 13 U | 1.5 UJ | 37 U | 1.6 UJ |
| SVOC | BENZALDEHYDE | MG/KG | 1.1 UJ | 3.8 UJ | 0.032 J | 0.44 U | 1.1 UJ | 0.41 U | 1.1 UJ | 2.3 U | 1.5 UJ | 19 UJ | 1.7 UJ | 4.6 UJ | 1.8 UJ | 42 U | 3.4 UJ | 0.92 U | 1.8 UJ | 32 U | 1.9 UJ | 13 U | 1.5 UJ | 37 U | 1.6 UJ |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.96 J | 2.1 J | 0.059 J | 0.23 J | 1.3 J | 0.38 J | 4.8 J | 1.4 J | 3.4 J | 3.6 J | 6.3 J | 4 J | 4.7 J | 2.2 J | 1.9 J | 0.45 J | 6.2 J | 1.5 J | 4 J | 4.1 J | 4 J | 1.6 J | 3.9 J |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.99 J | 2.4 J | 0.076 J | 0.34 J | 1.5 J | 0.42 | 4.3 J | 1.5 J | 4.6 J | 4.2 J | 5.4 J | 5 J | 6.5 J | 2.1 J | 1.8 J | 0.45 J | 5.4 J | 1.6 J | 5.8 J | 4.3 J | 5.8 J | 1.4 J | 5.5 J |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 2.1 J | 3.4 J | 0.082 J | 0.4 J | 2.6 J | 0.56 | 6.4 J | 1.5 J | 7.6 J | 4.7 J | 9.2 J | 7.2 J | 9.3 J | 2.3 J | 1.7 J | 0.44 J | 9.4 J | 1.7 J | 7.1 J | 4.9 J | 8 J | 1.8 J | 7.9 J |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.29 J | 0.59 J | 0.065 J | 0.28 J | 0.47 J | 0.12 J | 1.6 J | 0.53 J | 1.4 J | 1.9 J | 2.6 J | 1.5 J | 2.1 J | 1.4 J | 1 J | 0.3 J | 3.2 J | 1.2 J | 1.9 J | 1 J | 2 J | 1.3 J | 1.7 J |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 2.2 J | 3.5 J | 0.079 J | 0.35 J | 0.84 J | 0.46 | 1.8 J | 1.5 J | 8.1 J | 4.6 J | 2.7 J | 5.8 J | 2.2 J | 2.1 J | 1.7 J | 0.42 J | 2.4 J | 1.7 J | 2.3 J | 5.4 J | 2 J | 1.4 J | 2 J |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 U | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.16 J |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 U | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 U | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 0.56 UJ | 3.8 UJ | 0.042 J | 0.068 J | 0.55 UJ | 0.12 J | 0.6 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.94 UJ | 1.3 J | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.95 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | CAPROLACTAM | MG/KG | 1.1 UJ | 3.8 UJ | 0.41 U | 0.052 J | 1.1 UJ | 0.41 U | 1.1 UJ | 2.3 U | 1.5 UJ | 19 UJ | 1.7 UJ | 4.6 UJ | 1.8 UJ | 42 U | 3.4 UJ | 2.4 | 1.8 UJ | 32 U | 1.9 UJ | 13 U | 1.5 UJ | 37 U | 1.6 UJ |
| SVOC | CARBAZOLE | MG/KG | 0.2 J | 0.21 J | 0.41 U | 0.045 J | 0.21 J | 0.055 J | 1.6 J | 0.3 J | 0.63 J | 0.43 J | 1.1 J | 0.48 J | 0.86 J | 42 U | 0.19 J | 0.056 J | 1.1 J | 32 U | 0.66 J | 0.88 J | 0.74 J | 37 U | 0.65 J |
| SVOC | CHRYSENE | MG/KG | 1.1 J | 2.9 J | 0.093 J | 0.42 J | 1.7 J | 0.47 | 5.7 J | 1.6 J | 5.3 J | 5 J | 7.3 J | 5.7 J | 6.9 J | 2.9 J | 2.4 J | 0.57 J | 6.7 J | 2.2 J | 6.7 J | 5 J | 5.5 J | 2.3 J | 5.9 J |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.19 J | 0.27 J | 0.024 J | 0.082 J | 0.27 J | 0.047 J | 1.1 J | 0.21 J | 0.77 J | 0.68 J | 1.5 J | 0.59 J | 1.1 J | 0.44 J | 0.41 J | 0.14 J | 1.7 J | 0.49 J | 1 J | 0.44 J | 1.1 J | 0.51 J | 1 J |
| SVOC | DIBENZOFURAN | MG/KG | 0.063 J | 0.098 J | 0.41 U | 0.005 J | 0.044 J | 0.024 J | 0.64 J | 0.13 J | 0.076 J | 19 UJ | 0.12 J | 0.13 J | 0.11 J | 42 U | 0.15 J | 0.039 J | 0.13 J | 32 U | 0.072 J | 0.42 J | 0.053 J | 37 U | 0.078 J |
| SVOC | DIETHYLPHTHALATE | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 U | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 U | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.16 J | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 UJ | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | FLUORANTHENE | MG/KG | 3.1 J | 6.5 J | 0.12 J | 0.7 | 4.2 J | 0.84 | 11 J | 3.3 | 8.8 J | 8.2 J | 12 J | 12 J | 13 J | 5 J | 3.9 J | 0.93 | 12 J | 3.9 J | 9.5 J | 12 J | 9.6 J | 3.4 J | 9.6 J |
| SVOC | FLUORENE | MG/KG | 0.12 J | 0.29 J | 0.41 U | 0.44 U | 0.096 J | 0.052 J | 1 J | 0.26 J | 0.17 J | 0.41 J | 0.25 J | 0.38 J | 0.26 J | 0.44 J | 0.33 J | 0.078 J | 0.28 J | 32 U | 0.18 J | 0.91 J | 0.12 J | 0.41 J | 0.18 J |
| SVOC | HEXACHLOROBENZENE | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 U | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 U | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 U | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | HEXACHLOROETHANE | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 U | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.58 J | 0.67 J | 0.063 J | 0.29 J | 0.94 J | 0.13 J | 3.5 J | 0.57 J | 2.9 J | 1.9 J | 5.6 J | 1.6 J | 4.1 J | 1.4 J | 1.2 J | 0.32 J | 6.2 J | 1 J | 3.9 J | 1.2 J | 3.8 J | 1.1 J | 3.6 J |
| SVOC | ISOPHORONE | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 U | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | NAPHTHALENE | MG/KG | 0.053 J | 0.19 J | 0.41 U | 0.44 U | 0.021 J | 0.022 J | 0.76 J | 0.11 J | 0.029 J | 19 UJ | 0.029 J | 0.19 J | 0.026 J | 42 U | 0.89 J | 0.25 J | 0.052 J | 32 U | 0.027 J | 13 U | 0.76 UJ | 37 U | 0.037 J |
| SVOC | NITROBENZENE | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 U | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 U | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 U | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | PENTACHLOROPHENOL | MG/KG | 0.29 J | 9.2 UJ | 1 U | 1.1 U | 0.26 J | 1.6 | 0.59 J | 0.31 J | 0.3 J | 46 UJ | 0.19 J | 0.23 J | 0.16 J | 100 U | 8.2 UJ | 2.2 U | 0.22 J | 79 U | 0.13 J | 31 U | 0.3 J | 90 U | 0.11 J |
| SVOC | PHENANTHRENE | MG/KG | 1.4 J | 1.4 J | 0.053 J | 0.24 J | 1.4 J | 0.38 J | 8.2 J | 2.2 J | 4 J | 3.1 J | 4.6 J | 3 J | 6.1 J | 2.5 J | 2.3 J | 0.56 J | 6.9 J | 1.9 J | 4 J | 5.9 J | 4 J | 2 J | 3.8 J |
| SVOC | PHENOL | MG/KG | 0.56 UJ | 3.8 UJ | 0.41 U | 0.44 U | 0.55 UJ | 0.41 U | 0.54 UJ | 2.3 U | 0.74 UJ | 19 UJ | 0.87 UJ | 4.6 UJ | 0.9 UJ | 42 U | 3.4 UJ | 0.92 U | 0.88 UJ | 32 U | 0.97 UJ | 13 U | 0.76 UJ | 37 U | 0.81 UJ |
| SVOC | PYRENE | MG/KG | 2 J | 2.4 J | 0.11 J | 0.57 | 2.8 J | 0.36 J | 8.9 J | 1.8 J | 6.5 J | 6.3 J | 10 J | 5.1 J | 9.4 J | 4.5 J | 3.5 J | 0.84 J | 9.8 J | 3.8 J | 7.3 J | 6.6 J | 7.2 J | 3.8 J | 7.1 J |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | HCSB0108/135 | HCSB0108/135 | HCSB0108/135 | HCSB0108/135 | HCSB0109/136 | HCSB0109/136 | HCSB0110/137 | HCSB0110/137 | HCSB0111/138 | HCSB0111/138 | HCSB0112/139 | HCSB0112/139 | HCSB0113/140 | HCSB0113/140 | HCSB0113/140 | HCSB0113/140 | HCSB0114/141 | HCSB0114/141 | HCSB0115/142 | HCSB0115/142 | HCSB0116/143 | HCSB0116/143 | HCSB0117/144 |
| | | Field Sample ID | HCSB0108-SS-AA-AB-0 | HCSB0135-SS-AC-AD-0 | HCSB0135-SS-AE-AF-0 | HCSB0135-SS-AG-AH-0 | HCSB0109-SS-AA-AB-0 | HCSB0136-SS-AC-AD-0 | HCSB0110-SS-AA-AB-0 | HCSB0137-SS-AC-AD-0 | HCSB0111-SS-AA-AB-0 | HCSB0138-SS-AC-AD-0 | HCSB0112-SS-AA-AB-0 | HCSB0139-SS-AC-AD-0 | HCSB0113-SS-AA-AB-0 | HCSB0140-SS-AC-AD-0 | HCSB0140-SS-AE-AF-0 | HCSB0140-SS-AG-AH-0 | HCSB0114-SS-AA-AB-0 | HCSB0141-SS-AC-AD-0 | HCSB0115-SS-AA-AB-0 | HCSB0142-SS-AC-AD-0 | HCSB0116-SS-AA-AB-0 | HCSB0143-SS-AC-AD-0 | HCSB0117-SS-AA-AB-0 |
| | | Sample Date | 6/21/2005 | 6/23/2005 | 10/27/2005 | 10/27/2005 | 6/21/2005 | 6/23/2005 | 6/21/2005 | 6/23/2005 | 6/21/2005 | 6/23/2005 | 6/21/2005 | 6/23/2005 | 6/21/2005 | 6/23/2005 | 10/27/2005 | 10/27/2005 | 6/21/2005 | 6/23/2005 | 6/21/2005 | 6/23/2005 | 6/21/2005 | 6/23/2005 | 6/21/2005 |
| | | Depth (ft) | 0-0.5 | 1-1.5 | 2-2.5 | 3-3.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 2-2.5 | 3-3.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | ACETONE | MG/KG | | 0.046 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.16 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | BENZENE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 0.32 J | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 0.22 J | | 0.33 J | |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | BROMOFORM | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | BROMOMETHANE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | CARBON DISULFIDE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.006 J | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | CARBON TETRACHLORIDE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | CHLOROBENZENE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | CHLOROETHANE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 UJ | | 2.4 UJ | | 2.9 UJ | |
| VOC | CHLOROFORM | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | CHLOROMETHANE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 0.48 J | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 0.23 J | | 0.36 J | | 2.9 UJ | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | CYCLOHEXANE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | DICHLOROMETHANE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | ETHYLBENZENE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | ISOPROPYLBENZENE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | METHYL ACETATE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | METHYL ETHYL KETONE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 UJ | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | METHYLCYCLOHEXANE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 1.1 J | | 33 J | | 2.5 J | 0.042 J | 0.003 J | | 3.8 | | 3.2 | | 1.3 J | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | TETRACHLOROETHENE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | TOLUENE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 0.83 J | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 0.42 J | | 0.32 J | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 4 UJ | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 2.4 U | | 2.9 UJ | |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | | 0.02 UJ | 0.019 U | 0.013 U | | 1.1 U | | 0.014 U | | 1.6 J | | 15 UJ | | 3 UJ | 0.022 UJ | 0.012 U | | 2.8 U | | 0.98 J | | 0.65 J | |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | HCSB0117/144 | HCSB0118/145 | HCSB0118/145 | HCSB0119/146 | HCSB0119/146 | HCSB0119/146 | HCSB0119/146 | HCSB0119/146 | HCSB0120/147 | HCSB0120/147 | HCSB0121/148 | HCSB0121/148 | HCSB0122/149 | HCSB0122/149 | HCSB0150/123 | HCSB0150/123 | HCSB0150/123 | HCSB0151/124 | HCSB0151/124 | HCSB0152/125 | HCSB0152/125 | HCSB0152/125 | HCSB0152/125 |
| | | Field Sample ID | HCSB0144-SS-AC-AD-0 | HCSB0118-SS-AA-AB-0 | HCSB0145-SS-AC-AD-0 | HCSB0119-SS-AA-AB-0 | HCSB0146-SS-AC-AD-0 | HCSB0146-SS-AC-AD-1 | HCSB0146-SS-AE-AF-0 | HCSB0146-SS-AG-AH-0 | HCSB0120-SS-AA-AB-0 | HCSB0147-SS-AC-AD-0 | HCSB0121-SS-AA-AB-0 | HCSB0148-SS-AC-AD-0 | HCSB0122-SS-AA-AB-0 | HCSB0149-SS-AC-AD-0 | HCSB0123-SS-AA-AB-0 | HCSB0123-SS-AA-AB-1 | HCSB0150-SS-AC-AD-0 | HCSB0124-SS-AA-AB-0 | HCSB0151-SS-AC-AD-0 | HCSB0125-SS-AA-AB-0 | HCSB0152-SS-AC-AD-0 | HCSB0152-SS-AE-AF-0 | HCSB0152-SS-AG-AH-0 |
| | | Sample Date | 6/23/2005 | 6/21/2005 | 6/23/2005 | 6/22/2005 | 6/23/2005 | 6/23/2005 | 10/27/2005 | 10/27/2005 | 6/22/2005 | 6/23/2005 | 6/22/2005 | 6/23/2005 | 6/22/2005 | 6/23/2005 | 6/22/2005 | 6/22/2005 | 6/23/2005 | 6/22/2005 | 6/27/2005 | 6/22/2005 | 6/27/2005 | 10/27/2005 | 10/27/2005 |
| | | Depth (ft) | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 1-1.5 | 2-2.5 | 3-3.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 2-2.5 | 3-3.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | 3710 | 2690 J | 6860 J | 3590 J | 10800 J | 3110 | 490 | 814 | 4770 J | 2960 | 976 J | 426 | 9810 J | 3280 J | 4970 J | 5730 J | 2050 | 10800 J | 10100 J | 12100 J | 10100 J | 10100 J | 1330 |
| METALS | ANTIMONY | MG/KG | 21.4 J | 7.1 J | 32.7 J | 4.9 J | 20.8 J | 21 J | 1.2 UJ | 1.1 UJ | 9.4 J | 32.4 J | 5.8 J | 0.66 UJ | 9.1 J | 3.3 J | 4.6 J | 4.7 J | 0.61 UJ | 12.1 J | 7.3 J | 16.6 J | 12.7 J | 30.3 J | 1.2 UJ |
| METALS | ARSENIC | MG/KG | 47.3 | 142 | 127 J | 124 | 150 J | 203 | 3.4 | 5.9 | 182 J | 78.2 | 21.3 | 3.5 | 105 J | 38.8 J | 22.7 J | 32.9 J | 19.2 | 47.4 J | 836 J | 129 J | 668 J | 1380 J | 10.2 |
| METALS | BARIUM | MG/KG | 226 J | 196 J | 409 J | 248 | 288 J | 248 J | 20.4 J | 14.1 J | 312 J | 227 J | 237 | 8.9 J | 351 J | 115 J | 333 J | 413 J | 24.3 J | 586 J | 1370 J | 1310 J | 5000 J | 4570 J | 237 |
| METALS | BERYLLIUM | MG/KG | 0.34 J | 0.23 J | 0.4 J | 0.23 J | 0.53 J | 0.16 J | 0.16 U | 0.15 U | 0.36 J | 0.21 J | 0.08 J | 0.03 J | 0.62 J | 0.18 J | 0.33 J | 0.4 J | 0.05 J | 0.57 J | 0.36 J | 0.81 J | 0.41 J | 0.39 J | 0.17 U |
| METALS | CADMIUM | MG/KG | 1.4 J | 0.11 J | 3.1 J | 0.25 J | 6.4 J | 5.8 | 0.21 U | 0.2 U | 0.73 J | 2 | 0.32 J | 0.05 U | 0.75 J | 1.5 J | 0.51 J | 0.47 J | 0.06 J | 1.5 J | 3.8 J | 3.3 J | 3.9 J | 5.8 J | 0.22 U |
| METALS | CALCIUM | MG/KG | 1740 | 2220 J | 2330 J | 2070 | 3540 J | 1360 J | 581 J | 298 J | 3910 J | 1590 J | 912 J | 462 J | 4330 J | 2130 J | 8390 J | 10000 J | 233 J | 15000 J | 1650 J | 8740 J | 2100 J | 2420 J | 307 J |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 76.9 | 29.9 J | 142 J | 36.5 | 141 J | 391 | 29.2 J | 16.9 J | 59.1 J | 298 | 21.3 | 4.1 | 105 J | 123 J | 100 J | 122 J | 9.1 | 87.2 J | 677 J | 238 J | 1310 J | 1550 J | 53.7 J |
| METALS | COBALT | MG/KG | 5.8 J | 3.1 J | 12.8 J | 3.2 J | 13.2 J | 2.5 J | 0.36 U | 0.33 U | 5.3 J | 6.3 J | 1.2 J | 0.56 J | 6.7 J | 3.8 J | 2.3 J | 2.5 J | 0.2 U | 4 J | 2.7 J | 14.9 J | 4.4 J | 4 J | 0.37 U |
| METALS | COPPER | MG/KG | 50.5 | 26.7 J | 126 J | 46.8 J | 195 J | 67.7 | 3.2 J | 2.8 J | 70.1 J | 65 | 18.9 | 1.6 J | 83.4 J | 36 J | 61.7 J | 72.3 J | 2.5 J | 187 J | 144 J | 231 J | 147 J | 262 J | 7.5 |
| METALS | CYANIDE | MG/KG | 8.7 J | 5 J | 30.2 J | 5.7 J | 8.4 J | 42.4 J | 12.4 | 0.71 | 9.8 J | 41.9 J | 4 J | 0.07 U | 0.18 UJ | 0.13 UJ | 5.9 J | 8.1 J | 0.42 J | 5.6 J | 277 J | 38.6 J | 335 J | 267 J | 29.6 |
| METALS | IRON | MG/KG | 8260 | 22600 J | 14100 J | 23500 J | 18800 J | 7220 | 912 | 2960 | 31000 J | 8790 | 5800 J | 1090 | 32600 J | 8230 J | 21100 J | 27600 J | 2580 | 17300 J | 15500 J | 23200 J | 15300 J | 18300 J | 1380 |
| METALS | LEAD | MG/KG | 769 | 208 J | 1810 J | 332 | 1660 J | 2000 | 63.4 | 44.6 | 444 J | 1100 | 196 | 20.7 | 684 J | 695 J | 705 J | 841 J | 56.1 | 814 J | 7180 J | 1900 J | 15200 J | 13600 J | 642 |
| METALS | MAGNESIUM | MG/KG | 391 J | 472 J | 636 J | 453 J | 937 J | 215 J | 23.4 J | 18.5 J | 749 J | 276 J | 217 J | 23.4 J | 836 J | 215 J | 898 J | 1030 J | 38.6 J | 1610 J | 378 J | 1530 J | 481 J | 535 J | 83.4 J |
| METALS | MANGANESE | MG/KG | 103 | 452 J | 50.8 J | 216 | 89.5 J | 37.5 | 6.9 J | 7.7 J | 318 J | 32.7 | 41.3 | 11.4 | 164 J | 75.4 J | 73.2 J | 101 J | 7.6 | 92.6 J | 15.7 J | 45.1 J | 19 J | 30.4 J | 6.1 J |
| METALS | MERCURY | MG/KG | 1.1 | 0.4 | 2.9 J | 0.78 J | 6.6 J | 1.4 J | 0.06 U | 0.07 J | 1 J | 1.4 | 0.07 UJ | 0.06 U | 1.3 J | 0.46 J | 0.28 J | 0.45 J | 0.05 U | 1.5 J | 0.98 J | 3.9 J | 2.2 J | 2.5 | 0.08 |
| METALS | NICKEL | MG/KG | 6 J | 4.8 J | 10.9 J | 6.6 J | 16.9 J | 3.8 J | 0.43 J | 0.61 J | 10.5 J | 5.4 J | 2.4 J | 0.56 J | 13.6 J | 4.7 J | 13.1 J | 14.9 J | 0.59 J | 21 J | 4.9 J | 25.2 J | 5.3 J | 6.3 J | 0.91 J |
| METALS | POTASSIUM | MG/KG | 179 J | 247 J | 263 J | 191 J | 335 J | 123 J | 27.4 U | 25.4 U | 297 J | 140 J | 91.2 J | 26.9 J | 386 J | 144 J | 281 J | 312 J | 40.8 J | 472 J | 241 J | 504 J | 292 J | 260 J | 51.9 J |
| METALS | SELENIUM | MG/KG | 1.2 U | 1.1 UJ | 1.9 UJ | 1.6 J | 2.4 J | 1.3 U | 1.1 U | 0.99 U | 2.3 UJ | 1.4 U | 1.1 U | 1 U | 2.5 UJ | 1.8 UJ | 2.3 J | 2.4 UJ | 0.94 U | 4.7 UJ | 1.6 UJ | 3.2 UJ | 1.7 UJ | 1.9 UJ | 1.1 U |
| METALS | SILVER | MG/KG | 0.21 J | 0.4 J | 0.62 J | 0.25 U | 0.91 J | 0.28 J | 0.31 U | 0.28 U | 0.38 UJ | 0.38 J | 0.19 U | 0.21 J | 0.42 UJ | 0.31 UJ | 0.38 UJ | 0.4 UJ | 0.16 U | 0.78 UJ | 0.27 UJ | 0.67 J | 0.33 J | 0.55 UJ | 0.31 U |
| METALS | SODIUM | MG/KG | 95.4 J | 99.2 J | 164 J | 56.1 UJ | 372 J | 83.8 J | 87.1 U | 80.7 U | 180 J | 253 J | 78.8 J | 38.3 U | 208 J | 485 J | 653 J | 740 J | 35.4 U | 1640 J | 258 J | 974 J | 576 J | 433 J | 89.3 U |
| METALS | THALLIUM | MG/KG | 1.3 U | 0.81 UJ | 2 UJ | 1.6 U | 2.2 UJ | 1.4 U | 1.2 U | 1.2 J | 2.4 UJ | 1.5 U | 1.2 U | 1.1 U | 2.6 UJ | 1.9 UJ | 2.4 UJ | 2.5 UJ | 0.99 U | 4.9 UJ | 1.7 UJ | 3.4 UJ | 1.8 UJ | 2.1 UJ | 1.2 U |
| METALS | VANADIUM | MG/KG | 19.2 | 15.4 J | 30.8 J | 23.3 | 65.7 J | 15.6 J | 2.1 J | 3.8 J | 30.5 J | 16.3 J | 6 J | 2.8 J | 42 J | 14.4 J | 44.4 J | 52.7 J | 4.6 J | 51.2 J | 28.9 J | 87.8 J | 29.7 J | 30.9 J | 4.4 J |
| METALS | ZINC | MG/KG | 518 | 213 J | 1190 J | 318 | 1140 J | 524 | 23.5 | 24.2 | 522 J | 591 | 224 | 17.8 | 632 J | 265 J | 261 J | 313 J | 9.3 | 709 J | 439 J | 1260 J | 622 J | 868 J | 27.5 |
| PEST/PCB | 4,4'-DDD | MG/KG | 0.17 J | 0.059 U | 1.9 J | | 0.15 J | 0.048 J | 0.0042 U | 0.0047 J | | 0.12 J | | 0.0083 U | 0.01 UJ | 0.019 J | | | 0.0076 U | 0.02 UJ | 0.015 J | 0.15 J | 0.046 J | 0.024 J | 0.0043 U |
| PEST/PCB | 4,4'-DDE | MG/KG | 0.0098 U | 0.059 U | 0.42 J | 0.0061 U | 0.017 UJ | 0.017 | 0.0042 U | 0.004 U | 0.009 UJ | 0.041 J | 0.0047 | 0.0083 U | 0.01 UJ | 0.015 UJ | 0.024 J | 0.025 J | 0.0076 U | 0.022 J | 0.0068 UJ | 0.013 UJ | 0.0089 J | 0.0079 UJ | 0.0043 U |
| PEST/PCB | 4,4'-DDT | MG/KG | | 0.059 U | | | 0.22 J | | 0.0042 U | 0.004 U | 0.023 J | 0.045 J | | 0.0083 U | | 0.037 J | 0.022 J | 0.023 J | 0.0076 U | 0.02 UJ | 0.0097 J | 0.013 UJ | | 0.0079 UJ | 0.0043 U |
| PEST/PCB | ALDRIN | MG/KG | 0.0051 U | 0.031 U | 0.0078 UJ | 0.0031 U | 0.0087 UJ | 0.0055 U | 0.0022 U | 0.002 U | 0.0046 UJ | 0.0059 U | 0.0023 U | 0.0043 U | 0.0053 UJ | 0.0076 UJ | 0.0048 UJ | 0.005 UJ | 0.0039 U | 0.01 UJ | 0.0035 UJ | 0.0066 UJ | 0.0035 UJ | 0.004 UJ | 0.0022 U |
| PEST/PCB | ALPHA-BHC | MG/KG | 0.0051 U | 0.031 U | 0.0078 UJ | 0.0031 U | 0.0087 UJ | 0.0055 U | 0.0022 U | 0.002 U | 0.0046 UJ | 0.0059 U | 0.0023 U | 0.0043 U | 0.0053 UJ | 0.0076 UJ | 0.0048 UJ | 0.005 UJ | 0.0039 U | 0.01 UJ | 0.0035 UJ | 0.0066 UJ | 0.0035 UJ | 0.004 UJ | 0.0022 U |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | 0.0051 U | 0.031 U | 0.0078 UJ | 0.0056 J | 0.0087 UJ | 0.0055 U | 0.0022 U | 0.002 U | 0.0046 UJ | 0.0059 U | 0.0023 U | 0.0043 U | 0.011 J | 0.0076 UJ | 0.0048 UJ | 0.005 UJ | 0.0039 U | | 0.0035 UJ | | 0.0035 UJ | 0.004 UJ | 0.0022 U |
| PEST/PCB | AROCLOR-1016 | MG/KG | 0.098 U | 0.59 U | 0.15 UJ | 0.061 U | 0.17 UJ | 0.11 U | 0.042 U | 0.04 U | 0.09 UJ | 0.11 U | 0.045 U | 0.083 U | 0.1 UJ | 0.15 UJ | 0.093 UJ | 0.098 UJ | 0.076 U | 0.2 UJ | 0.068 UJ | 0.13 UJ | 0.068 UJ | 0.079 UJ | 0.043 U |
| PEST/PCB | AROCLOR-1221 | MG/KG | 0.2 U | 1.2 U | 0.31 UJ | 0.12 U | 0.34 UJ | 0.22 U | 0.086 U | 0.081 U | 0.18 UJ | 0.23 U | 0.092 U | 0.17 U | 0.21 UJ | 0.3 UJ | 0.19 UJ | 0.2 UJ | 0.16 U | 0.4 UJ | 0.14 UJ | 0.26 UJ | 0.14 UJ | 0.16 UJ | 0.088 U |
| PEST/PCB | AROCLOR-1232 | MG/KG | 0.098 U | 0.59 U | 0.15 UJ | 0.061 U | 0.17 UJ | 0.11 U | 0.042 U | 0.04 U | 0.09 UJ | 0.11 U | 0.045 U | 0.083 U | 0.1 UJ | 0.15 UJ | 0.093 UJ | 0.098 UJ | 0.076 U | 0.2 UJ | 0.068 UJ | 0.13 UJ | 0.068 UJ | 0.079 UJ | 0.043 U |
| PEST/PCB | AROCLOR-1242 | MG/KG | 0.098 U | 0.59 U | 0.15 UJ | 0.061 U | 0.17 UJ | 0.11 U | 0.042 U | 0.04 U | 0.09 UJ | 0.11 U | 0.045 U | 0.083 U | 0.1 UJ | 0.15 UJ | 0.093 UJ | 0.098 UJ | 0.076 U | 0.2 UJ | 0.068 UJ | 0.13 UJ | 0.068 UJ | 0.079 UJ | 0.043 U |
| PEST/PCB | AROCLOR-1248 | MG/KG | 0.098 U | 0.59 U | 0.15 UJ | 0.061 U | 0.17 UJ | 0.11 U | 0.042 U | 0.04 U | 0.09 UJ | 0.11 U | 0.045 U | 0.083 U | 0.1 UJ | 0.15 UJ | 0.093 UJ | 0.098 UJ | 0.076 U | 0.2 UJ | 0.068 UJ | 0.13 UJ | 0.068 UJ | 0.079 UJ | 0.043 U |
| PEST/PCB | AROCLOR-1254 | MG/KG | 0.098 U | 0.59 U | 0.15 UJ | 0.061 U | 0.17 UJ | 0.11 U | 0.042 U | 0.04 U | 0.09 UJ | 0.11 U | 0.045 U | 0.083 U | 0.1 UJ | 0.15 UJ | 0.093 UJ | 0.098 UJ | 0.076 U | 0.2 UJ | 0.068 UJ | 1.4 J | 0.068 UJ | 0.15 J | 0.043 U |
| PEST/PCB | AROCLOR-1260 | MG/KG | 0.098 U | 0.4 J | 0.15 UJ | 0.061 U | 0.17 UJ | 0.11 U | 0.042 U | 0.04 U | 0.09 UJ | 0.11 U | 0.045 U | 0.083 U | 0.1 UJ | 0.15 UJ | 0.093 UJ | 0.098 UJ | 0.076 U | 2 J | 0.068 UJ | 0.13 UJ | 0.068 UJ | 0.24 J | 0.043 U |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | 0.0051 U | 0.031 U | 0.0078 UJ | | 0.0087 UJ | 0.0055 U | 0.0022 U | 0.002 U | 0.0046 UJ | 0.0059 U | 0.023 | 0.0043 U | 0.0053 UJ | 0.0076 UJ | 0.0048 UJ | 0.005 UJ | 0.0039 U | 0.01 UJ | 0.0035 UJ | 0.0066 UJ | 0.0035 UJ | 0.004 UJ | 0.0022 U |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | 0.0051 U | 0.031 U | 0.0078 UJ | 0.0031 U | 0.0087 UJ | 0.0055 U | 0.0022 U | 0.002 U | 0.0046 UJ | 0.0059 U | 0.0023 U | 0.0043 U | 0.0053 UJ | 0.0076 UJ | 0.0048 UJ | 0.005 UJ | 0.0039 U | 0.01 UJ | 0.0035 UJ | 0.0066 UJ | 0.0035 UJ | 0.004 UJ | 0.0022 U |
| PEST/PCB | DIELDRIN | MG/KG | 0.014 J | 0.0061 J | 0.015 UJ | | 0.017 UJ | 0.011 U | 0.0042 U | 0.004 U | | 0.011 U | | 0.0083 U | 0.077 J | 0.015 UJ | 0.0093 UJ | 0.0098 UJ | 0.0076 U | | 0.0068 UJ | 0.013 UJ | 0.0068 UJ | 0.0079 UJ | 0.0043 U |
| PEST/PCB | ENDOSULFAN I | MG/KG | 0.0051 U | 0.031 U | 0.0078 UJ | 0.0031 U | 0.0087 UJ | 0.0055 U | 0.0022 U | 0.002 U | 0.0046 UJ | 0.0059 U | 0.0023 U | 0.0043 U | 0.0053 UJ | 0.0076 UJ | 0.0048 UJ | 0.005 UJ | 0.0039 U | 0.01 UJ | 0.0035 UJ | 0.0066 UJ | 0.0035 UJ | 0.004 UJ | 0.0022 U |
| PEST/PCB | ENDOSULFAN II | MG/KG | 0.0098 U | 0.059 U | 0.015 UJ | 0.0061 U | 0.017 UJ | 0.011 U | 0.0042 U | 0.004 U | 0.009 UJ | 0.011 U | 0.0045 U | 0.0083 U | 0.01 UJ | 0.015 UJ | 0.0093 UJ | 0.0098 UJ | 0.0076 U | 0.02 UJ | 0.0068 UJ | 0.013 UJ | 0.0068 UJ | 0.0079 UJ | 0.0043 U |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | 0.059 U | 0.015 UJ | 0.0061 U | 0.017 UJ | 0.013 J | 0.0042 U | 0.004 U | | 0.011 U | 0.0045 U | 0.0083 U | 0.01 UJ | 0.015 UJ | | 0.017 J | 0.0076 U | | 0.0068 UJ | 0.013 UJ | 0.0068 UJ | 0.0079 UJ | 0.0043 U |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | 0.0098 U | 0.059 U | | 0.019 J | 0.033 J | 0.011 J | 0.0042 U | 0.004 U | 0.026 J | 0.011 U | 0.0072 | 0.0083 U | 0.085 J | 0.022 J | 0.0093 UJ | 0.0098 UJ | 0.0076 U | 0.02 UJ | 0.0068 UJ | 0.07 J | 0.0068 UJ | 0.0079 UJ | 0.0043 U |
| PEST/PCB | ENDRIN KETONE | MG/KG | 0.0098 U | 0.059 U | 0.015 UJ | 0.0075 J | 0.029 J | 0.011 U | 0.0042 U | 0.004 U | | 0.011 U | 0.0045 U | 0.0083 U | 0.01 UJ | 0.015 UJ | 0.0093 UJ | 0.0098 UJ | 0.0076 U | 0.02 UJ | 0.0068 UJ | | 0.0068 UJ | 0.0079 UJ | 0.0043 U |
| PEST/PCB | ENDRIN | MG/KG | 0.0098 U | 0.059 U | 0.015 UJ | 0.0061 U | 0.017 UJ | 0.011 U | 0.0042 U | 0.004 U | 0.009 UJ | 0.011 U | 0.0045 U | 0.0083 U | | 0.015 UJ | 0.0093 UJ | 0.0098 UJ | 0.0076 U | 0.02 UJ | 0.0068 UJ | | 0.0068 UJ | 0.0079 UJ | 0.0043 U |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | 0.0051 U | 0.031 U | 0.0078 UJ | 0.0031 U | 0.0087 UJ | 0.0055 U | 0.0022 U | 0.002 U | 0.018 J | 0.0059 U | | 0.0043 U | | 0.0076 UJ | 0.0048 UJ | 0.0089 J | 0.0039 U | 0.01 UJ | 0.0035 UJ | 0.0066 UJ | 0.0035 UJ | 0.004 UJ | 0.0022 U |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | 0.0051 U | 0.059 U | 0.0078 UJ | 0.004 | 0.0087 UJ | 0.0055 U | 0.0022 U | 0.002 U | 0.0059 J | 0.0059 U | 0.0023 U | 0.0043 U | 0.0085 J | 0.0076 UJ | 0.0048 UJ | 0.005 UJ | 0.0039 U | 0.01 UJ | 0.0035 UJ | 0.019 J | 0.0035 UJ | 0.004 UJ | 0.0022 U |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | 0.0051 U | 0.031 U | 0.015 J | 0.0031 U | 0.0087 UJ | 0.0055 U | 0.0022 U | 0.002 U | 0.0046 UJ | 0.0059 U | 0.0023 U | 0.0043 U | 0.0053 UJ | 0.0076 UJ | 0.0048 UJ | 0.005 UJ | 0.0039 U | 0.01 UJ | 0.0035 UJ | 0.0066 UJ | 0.0035 UJ | 0.004 UJ | 0.0022 U |
| PEST/PCB | HEPTACHLOR | MG/KG | 0.0051 U | 0.031 U | 0.0078 UJ | 0.0031 U | 0.0087 UJ | 0.0055 U | 0.0022 U | 0.002 U | 0.0046 UJ | 0.0059 U | 0.0023 U | 0.0043 U | 0.0053 UJ | 0.0076 UJ | 0.0048 UJ | 0.005 UJ | 0.0039 U | 0.01 UJ | 0.0035 UJ | 0.0066 UJ | 0.0035 UJ | 0.004 UJ | 0.0022 U |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | 0.051 U | 0.31 U | 0.078 UJ | 0.031 U | 0.087 UJ | 0.055 U | 0.022 U | 0.02 U | 0.046 UJ | 0.059 U | 0.023 U | 0.043 U | 0.053 UJ | 0.076 UJ | 0.048 UJ | 0.05 UJ | 0.039 U | 0.1 UJ | 0.035 UJ | 0.066 UJ | 0.035 UJ | 0.04 UJ | 0.022 U |
| PEST/PCB | TOXAPHENE | MG/KG | 0.51 U | 3.1 U | 0.78 UJ | 0.31 U | 0.87 UJ | 0.55 U | 0.22 U | 0.2 U | 0.46 UJ | 0.59 U | 0.23 U | 0.43 U | 0.53 UJ | 0.76 UJ | 0.48 UJ | 0.5 UJ | 0.39 U | 1 UJ | 0.35 UJ | 0.66 UJ | 0.35 UJ | 0.4 UJ | 0.22 U |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | HCSB0117/144 | HCSB0118/145 | HCSB0118/145 | HCSB0119/146 | HCSB0119/146 | HCSB0119/146 | HCSB0119/146 | HCSB0119/146 | HCSB0120/147 | HCSB0120/147 | HCSB0121/148 | HCSB0121/148 | HCSB0122/149 | HCSB0122/149 | HCSB0150/123 | HCSB0150/123 | HCSB0150/123 | HCSB0151/124 | HCSB0151/124 | HCSB0152/125 | HCSB0152/125 | HCSB0152/125 | HCSB0152/125 |
| | | Field Sample ID | HCSB0144-SS-AC-AD-0 | HCSB0118-SS-AA-AB-0 | HCSB0145-SS-AC-AD-0 | HCSB0119-SS-AA-AB-0 | HCSB0146-SS-AC-AD-0 | HCSB0146-SS-AC-AD-1 | HCSB0146-SS-AE-AF-0 | HCSB0146-SS-AG-AH-0 | HCSB0120-SS-AA-AB-0 | HCSB0147-SS-AC-AD-0 | HCSB0121-SS-AA-AB-0 | HCSB0148-SS-AC-AD-0 | HCSB0122-SS-AA-AB-0 | HCSB0149-SS-AC-AD-0 | HCSB0123-SS-AA-AB-0 | HCSB0123-SS-AA-AB-1 | HCSB0150-SS-AC-AD-0 | HCSB0124-SS-AA-AB-0 | HCSB0151-SS-AC-AD-0 | HCSB0125-SS-AA-AB-0 | HCSB0152-SS-AC-AD-0 | HCSB0152-SS-AE-AF-0 | HCSB0152-SS-AG-AH-0 |
| | | Sample Date | 6/23/2005 | 6/21/2005 | 6/23/2005 | 6/22/2005 | 6/23/2005 | 6/23/2005 | 10/27/2005 | 10/27/2005 | 6/22/2005 | 6/23/2005 | 6/22/2005 | 6/23/2005 | 6/22/2005 | 6/23/2005 | 6/22/2005 | 6/22/2005 | 6/23/2005 | 6/22/2005 | 6/27/2005 | 6/22/2005 | 6/27/2005 | 10/27/2005 | 10/27/2005 |
| | | Depth (ft) | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 1-1.5 | 2-2.5 | 3-3.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 2-2.5 | 3-3.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 9.8 U | 1.2 U | 7.6 UJ | 0.043 J | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 0.066 J | 0.15 J | 1.6 UJ | 0.43 U |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 9.8 U | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 24 U | 1.4 U | 18 UJ | 2.9 U | 10 UJ | 13 U | 1 U | 0.97 U | 22 UJ | 14 U | 5.5 U | 1 U | 12 UJ | 3.6 UJ | 4.5 UJ | 4.8 UJ | 0.93 U | 9.5 UJ | 8.2 UJ | 6.2 UJ | 8.2 UJ | 3.8 UJ | 1 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 9.8 U | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 9.8 U | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 9.8 U | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 24 UJ | 1.4 U | 18 UJ | | 10 UJ | 13 UJ | 1 U | 0.97 U | 22 UJ | 14 UJ | 5.5 U | 1 U | 12 UJ | 3.6 UJ | 4.5 UJ | 4.8 UJ | 0.93 U | 9.5 UJ | 8.2 UJ | 6.2 UJ | 8.2 UJ | 3.8 UJ | 1 U |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 9.8 U | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 9.8 U | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 9.8 U | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | 9.8 U | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.46 J | 0.58 U | 0.11 J | 0.067 J | 0.072 J | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 0.048 J | 0.41 U | 0.055 J | 1.5 UJ | 0.07 J | 0.065 J | 0.38 U | 0.043 J | 0.089 J | 0.06 J | 0.33 J | 0.066 J | 0.43 U |
| SVOC | 2-METHYLPHENOL | MG/KG | 9.8 U | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | 2-NITROANILINE | MG/KG | 24 U | 1.4 U | 18 UJ | 2.9 U | 10 UJ | 13 U | 1 U | 0.97 U | 22 UJ | 14 U | 5.5 U | 1 U | 12 UJ | 3.6 UJ | 4.5 UJ | 4.8 UJ | 0.93 U | 9.5 UJ | 8.2 UJ | 6.2 UJ | 8.2 UJ | 3.8 UJ | 1 U |
| SVOC | 2-NITROPHENOL | MG/KG | 9.8 U | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 UJ | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 9.8 UJ | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 UJ | 0.42 U | 0.4 U | 9 UJ | 5.7 UJ | 2.2 UJ | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | 3-NITROANILINE | MG/KG | 24 U | 1.4 U | 18 UJ | 2.9 U | 10 UJ | 13 U | 1 U | 0.97 U | 22 UJ | 14 U | 5.5 U | 1 U | 12 UJ | 3.6 UJ | 4.5 UJ | 4.8 UJ | 0.93 U | 9.5 UJ | 8.2 UJ | 6.2 UJ | 8.2 UJ | 3.8 UJ | 1 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 24 U | 1.4 U | 18 UJ | 2.9 U | 10 UJ | 13 U | 1 U | 0.97 U | 22 UJ | 14 U | 5.5 U | 1 U | 12 UJ | 3.6 UJ | 4.5 UJ | 4.8 UJ | 0.93 U | 9.5 UJ | 8.2 UJ | 6.2 UJ | 8.2 UJ | 3.8 UJ | 1 U |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 9.8 U | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 9.8 U | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | 4-CHLOROANILINE | MG/KG | 9.8 U | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 9.8 U | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | 4-METHYLPHENOL | MG/KG | 9.8 U | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 0.045 J | 1.5 J | 0.38 U | 0.044 J | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | 4-NITROANILINE | MG/KG | 24 U | 1.4 U | 18 UJ | 2.9 U | 10 UJ | 13 U | 1 U | 0.97 U | 22 UJ | 14 U | 5.5 U | 1 U | 12 UJ | 3.6 UJ | 4.5 UJ | 4.8 UJ | 0.93 U | 9.5 UJ | 8.2 UJ | 6.2 UJ | 8.2 UJ | 3.8 UJ | 1 U |
| SVOC | 4-NITROPHENOL | MG/KG | 24 U | 1.4 U | 18 UJ | 2.9 U | 10 UJ | 13 U | 1 U | 0.97 U | 22 UJ | 14 UJ | 5.5 U | 1 U | 12 UJ | 3.6 UJ | 4.5 UJ | 4.8 UJ | 0.93 U | 9.5 UJ | 8.2 UJ | 6.2 UJ | 8.2 UJ | 3.8 UJ | 1 U |
| SVOC | ACENAPHTHENE | MG/KG | 5.2 J | 0.16 J | 0.2 J | 0.44 J | 0.24 J | 0.074 J | 0.007 J | 0.005 J | 0.59 J | 0.13 J | 0.43 J | 0.41 U | 0.44 J | 0.095 J | 0.38 J | 0.29 J | 0.38 U | 0.22 J | 3.4 UJ | 0.42 J | 0.3 J | 0.13 J | 0.43 U |
| SVOC | ACENAPHTHYLENE | MG/KG | 9.8 U | 0.083 J | 0.094 J | 0.14 J | 0.14 J | 5.4 U | 0.42 U | 0.4 U | 0.13 J | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 0.38 J | 0.37 J | 0.38 U | 0.12 J | 3.4 UJ | 0.1 J | 0.29 J | 0.1 J | 0.43 U |
| SVOC | ACETOPHENONE | MG/KG | 9.8 U | 1.2 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 0.056 J | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | ANTHRACENE | MG/KG | 6 J | 0.5 J | 0.38 J | 0.85 J | 0.52 J | 0.15 J | 0.014 J | 0.011 J | 1 J | 0.27 J | 0.73 J | 0.005 J | 0.73 J | 0.13 J | 1.2 J | 1 J | 0.38 U | 0.46 J | 0.19 J | 0.61 J | 0.69 J | 0.35 J | 0.43 U |
| SVOC | ATRAZINE | MG/KG | 9.8 U | 1.2 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | BENZALDEHYDE | MG/KG | 9.8 U | 1.2 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 0.23 J | 0.12 J | 1.8 UJ | 0.17 J | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 16 | 4.1 J | 1.5 J | 4.3 | 2.8 J | 0.94 J | 0.085 J | 0.082 J | 9.8 J | 1.4 J | 3.6 | 0.04 J | 3.7 J | 0.65 J | 3.3 J | 2.6 J | 0.38 U | 2.2 J | 0.97 J | 2.5 J | 2 J | 1.4 J | 0.054 J |
| SVOC | BENZO(A)PYRENE | MG/KG | 14 | 5.5 J | 1.7 J | 6.1 | 3.7 J | 1.1 J | 0.1 J | 0.087 J | 13 J | 1.6 J | 4.1 | 0.05 J | 5.5 J | 0.83 J | 3.4 J | 2.8 J | 0.38 U | 2.9 J | 1 J | 2.9 J | 2.2 J | 1.6 J | 0.062 J |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 12 | 12 J | 1.8 J | 8.3 | 4.9 J | 1.3 J | 0.11 J | 0.11 J | 17 J | 1.9 J | 4.6 | 0.068 J | 8.2 J | 1.1 J | 4.2 J | 3.8 J | 0.38 U | 4 J | 0.95 J | 3.6 J | 3.1 J | 1.6 J | 0.059 J |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 5.1 J | 2.5 | 0.88 J | 2.2 | 1.3 J | 0.68 J | 0.074 J | 0.067 J | 5.2 J | 0.81 J | 1.5 J | 0.048 J | 2 J | 0.32 J | 0.96 J | 0.79 J | 0.38 U | 0.84 J | 0.87 J | 0.71 J | 0.58 J | 0.89 J | 0.045 J |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 13 | 13 J | 2 J | 7.9 | 4.4 J | 1.3 J | 0.098 J | 0.096 J | 15 J | 2 J | 4.7 | 0.051 J | 5.9 J | 0.93 J | 3.9 J | 3.1 J | 0.38 U | 3.6 J | 1 J | 3.6 J | 3.1 J | 1.5 J | 0.059 J |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 9.8 U | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 9.8 U | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 9.8 U | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 9.8 U | 0.67 UJ | 7.6 UJ | 0.9 J | 4.2 UJ | 5.4 U | 0.42 U | 0.055 J | 1 J | 5.7 U | 0.32 J | 0.41 U | 5.2 UJ | 0.18 J | 0.21 J | 2 UJ | 0.38 U | 0.64 J | 3.4 UJ | 0.95 J | 3.4 UJ | 0.19 J | 0.43 U |
| SVOC | CAPROLACTAM | MG/KG | 9.8 U | 1.2 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.11 J | 0.12 J | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.4 J | 0.43 U |
| SVOC | CARBAZOLE | MG/KG | 3.2 J | 0.87 | 0.18 J | 1.2 J | 0.37 J | 0.1 J | 0.01 J | 0.4 U | 1.8 J | 0.16 J | 0.69 J | 0.007 J | 0.8 J | 0.1 J | 0.6 J | 0.5 J | 0.38 U | 0.38 J | 0.18 J | 0.41 J | 0.4 J | 0.14 J | 0.43 U |
| SVOC | CHRYSENE | MG/KG | 17 | 6.6 J | 2.2 J | 6.2 | 4 J | 1.4 J | 0.12 J | 0.13 J | 15 J | 2 J | 5 | 0.07 J | 6.4 J | 0.91 J | 3.9 J | 3.1 J | 0.004 J | 3.3 J | 1.3 J | 3.1 J | 2.6 J | 2 J | 0.072 J |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 2 J | 1.9 | 0.35 J | 0.75 J | 0.54 J | 0.32 J | 0.03 J | 0.028 J | 2.3 J | 0.28 J | 0.76 J | 0.012 J | 0.93 J | 0.11 J | 0.36 J | 0.35 J | 0.38 U | 0.32 J | 0.37 J | 0.31 J | 0.3 J | 0.36 J | 0.43 U |
| SVOC | DIBENZOFURAN | MG/KG | 1.2 J | 0.066 J | 0.099 J | 0.17 J | 0.1 J | 5.4 U | 0.42 U | 0.4 U | 0.25 J | 5.7 U | 0.16 J | 0.41 U | 0.16 J | 0.024 J | 0.16 J | 0.14 J | 0.38 U | 0.078 J | 0.077 J | 0.13 J | 0.27 J | 0.081 J | 0.43 U |
| SVOC | DIETHYLPHTHALATE | MG/KG | 9.8 U | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 9.8 U | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 9.8 U | 0.58 UJ | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 9.8 U | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 UJ | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 UJ | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | FLUORANTHENE | MG/KG | 39 | 12 J | 3.7 J | 20 | 6.4 J | 2.1 J | 0.18 J | 0.16 J | 29 J | 3.3 J | 8.8 | 0.13 J | 11 J | 2 J | 12 J | 9.8 J | 0.006 J | 6.2 J | 1.7 J | 6.9 J | 9.2 J | 3 J | 0.095 J |
| SVOC | FLUORENE | MG/KG | 2.6 J | 0.15 J | 0.26 J | 0.35 J | 0.24 J | 0.083 J | 0.42 U | 0.4 U | 0.53 J | 0.14 J | 0.34 J | 0.41 U | 0.33 J | 0.066 J | 0.42 J | 0.3 J | 0.38 U | 0.17 J | 3.4 UJ | 0.29 J | 0.31 J | 0.16 J | 0.43 U |
| SVOC | HEXACHLOROBENZENE | MG/KG | 9.8 U | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 9.8 U | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 9.8 U | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | HEXACHLOROETHANE | MG/KG | 9.8 U | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 5.6 J | 2.9 J | 0.9 J | 2.4 | 1.4 J | 0.67 J | 0.079 J | 0.07 J | 5.7 J | 0.81 J | 1.7 J | 0.039 J | 2.2 J | 0.33 J | 1 J | 0.86 J | 0.38 U | 0.96 J | 0.73 J | 0.84 J | 0.65 J | 0.93 J | 0.044 J |
| SVOC | ISOPHORONE | MG/KG | 9.8 U | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | NAPHTHALENE | MG/KG | 1.4 J | 0.58 U | 7.6 UJ | 0.12 J | 0.096 J | 5.4 U | 0.01 J | 0.4 U | 9 UJ | 0.13 J | 0.092 J | 0.41 U | 0.11 J | 0.032 J | 0.09 J | 0.086 J | 0.38 U | 0.058 J | 3.4 UJ | 0.083 J | 0.45 J | 0.12 J | 0.43 U |
| SVOC | NITROBENZENE | MG/KG | 9.8 U | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 9.8 U | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 UJ | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 9.8 U | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 2 UJ | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | 24 U | 0.24 J | 0.14 J | 1 J | 10 UJ | 13 U | 1 U | 0.97 U | 0.22 J | 14 U | 1.8 J | 0.014 J | 0.23 J | 0.024 J | 0.023 J | 0.026 J | 0.93 U | 0.33 J | 8.2 UJ | 0.19 J | 8.2 UJ | 3.8 UJ | 1 U |
| SVOC | PHENANTHRENE | MG/KG | 22 | 3.6 J | 1.2 J | 4.4 | 1.8 J | 0.69 J | 0.073 J | 0.04 J | 9.8 J | 1.1 J | 4.5 | 0.043 J | 4.4 J | 0.74 J | 4.5 J | 3.6 J | 0.38 U | 2.1 J | 0.95 J | 2.5 J | 2.1 J | 1.3 J | 0.034 J |
| SVOC | PHENOL | MG/KG | 9.8 U | 0.58 U | 7.6 UJ | 1.2 U | 4.2 UJ | 5.4 U | 0.42 U | 0.4 U | 9 UJ | 5.7 U | 2.2 U | 0.41 U | 5.2 UJ | 1.5 UJ | 1.8 UJ | 0.48 J | 0.38 U | 3.9 UJ | 3.4 UJ | 2.6 UJ | 3.4 UJ | 1.6 UJ | 0.43 U |
| SVOC | PYRENE | MG/KG | 20 | 8.7 J | 2.2 J | 8 J | 3.9 J | 1.3 J | 0.16 J | 0.16 J | 16 J | 1.8 J | 5 | 0.091 J | 4.8 J | 0.97 J | 6.7 J | 5.5 J | 0.006 J | 2.6 J | 1.9 J | 2.9 J | 3.9 J | 2.8 J | 0.089 J |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | HCSB0117/144 | HCSB0118/145 | HCSB0118/145 | HCSB0119/146 | HCSB0119/146 | HCSB0119/146 | HCSB0119/146 | HCSB0119/146 | HCSB0120/147 | HCSB0120/147 | HCSB0121/148 | HCSB0121/148 | HCSB0122/149 | HCSB0122/149 | HCSB0150/123 | HCSB0150/123 | HCSB0150/123 | HCSB0151/124 | HCSB0151/124 | HCSB0152/125 | HCSB0152/125 | HCSB0152/125 | HCSB0152/125 |
| | | Field Sample ID | HCSB0144-SS-AC-AD-0 | HCSB0118-SS-AA-AB-0 | HCSB0145-SS-AC-AD-0 | HCSB0119-SS-AA-AB-0 | HCSB0146-SS-AC-AD-0 | HCSB0146-SS-AC-AD-1 | HCSB0146-SS-AE-AF-0 | HCSB0146-SS-AG-AH-0 | HCSB0120-SS-AA-AB-0 | HCSB0147-SS-AC-AD-0 | HCSB0121-SS-AA-AB-0 | HCSB0148-SS-AC-AD-0 | HCSB0122-SS-AA-AB-0 | HCSB0149-SS-AC-AD-0 | HCSB0123-SS-AA-AB-0 | HCSB0123-SS-AA-AB-1 | HCSB0150-SS-AC-AD-0 | HCSB0124-SS-AA-AB-0 | HCSB0151-SS-AC-AD-0 | HCSB0125-SS-AA-AB-0 | HCSB0152-SS-AC-AD-0 | HCSB0152-SS-AE-AF-0 | HCSB0152-SS-AG-AH-0 |
| | | Sample Date | 6/23/2005 | 6/21/2005 | 6/23/2005 | 6/22/2005 | 6/23/2005 | 6/23/2005 | 10/27/2005 | 10/27/2005 | 6/22/2005 | 6/23/2005 | 6/22/2005 | 6/23/2005 | 6/22/2005 | 6/23/2005 | 6/22/2005 | 6/22/2005 | 6/23/2005 | 6/22/2005 | 6/27/2005 | 6/22/2005 | 6/27/2005 | 10/27/2005 | 10/27/2005 |
| | | Depth (ft) | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 1-1.5 | 2-2.5 | 3-3.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 2-2.5 | 3-3.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 UJ | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | 1,1-DICHLOROETHANE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | 1,1-DICHLOROETHENE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.002 J | 0.012 U |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 UJ | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | 1,2-DIBROMOETHANE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | 1,2-DICHLOROETHANE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 UJ | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 UJ | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | ACETONE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.028 | | 0.32 J | | | 0.015 | | 2.9 UJ | | 2.2 UJ | 0.061 J | 0.012 U |
| VOC | BENZENE | MG/KG | 0.39 J | | 3.4 UJ | | 0.3 J | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | BROMOFORM | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | BROMOMETHANE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | CARBON DISULFIDE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.005 J | 0.012 U |
| VOC | CARBON TETRACHLORIDE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | CHLOROBENZENE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | CHLOROETHANE | MG/KG | 1.6 UJ | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | CHLOROFORM | MG/KG | 0.26 J | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | CHLOROMETHANE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | 0.22 J | | 3.4 UJ | | 0.52 J | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | CYCLOHEXANE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | DICHLOROMETHANE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | ETHYLBENZENE | MG/KG | 0.41 J | | 3.4 UJ | | 0.44 J | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | ISOPROPYLBENZENE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | METHYL ACETATE | MG/KG | 16 | | 3.4 UJ | | 3.4 UJ | 10 J | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | METHYL ETHYL KETONE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 UJ | | 0.049 UJ | | | 0.01 UJ | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | METHYLCYCLOHEXANE | MG/KG | 1.6 U | | 3.4 UJ | | 0.76 J | 0.73 J | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | TETRACHLOROETHENE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | TOLUENE | MG/KG | 0.48 J | | 3.4 UJ | | 0.6 J | 4.2 UJ | 0.019 U | 0.012 U | | 0.27 J | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | 0.11 J | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | 1.6 U | | 3.4 UJ | | 3.4 UJ | 4.2 UJ | 0.019 U | 0.012 U | | 2.4 UJ | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | 0.88 J | | 3.4 UJ | | 2.1 J | 4.2 UJ | 0.019 U | 0.012 U | | 0.54 J | | 0.014 U | | 0.049 UJ | | | 0.01 U | | 2.9 UJ | | 2.2 UJ | 0.032 UJ | 0.012 U |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | HCSB0153/126 | HCSB0153/126 | HCSB0154/127 | HCSB0154/127 | HCSB0155/128 | HCSB0155/128 | HCSB0156/129 | HCSB0156/129 | HCSB0156/129 | HCSB0156/129 | HCSB0156/129 | HCSB0156/129 | HCSB0157/130 | HCSB0157/130 | HCSB0158/131 | HCSB0158/131 | HCSB0159/132 | HCSB0159/132 | HCSB0160 | HCSB0160 | HCSB0160 | HCSB0172 | HCSB0172 |
| | | Field Sample ID | HCSB0126-SS-AA-AB-0 | HCSB0153-SS-AC-AD-0 | HCSB0127-SS-AA-AB-0 | HCSB0154-SS-AC-AD-0 | HCSB0128-SS-AA-AB-0 | HCSB0155-SS-AC-AD-0 | HCSB0129-SS-AA-AB-0 | HCSB0156-SS-AC-AD-0 | HCSB0156-SS-AC-AD-1 | HCSB0156-SS-AE-AF-0 | HCSB0156-SS-AG-AH-0 | HCSB0156-SS-AG-AH-1 | HCSB0130-SS-AA-AB-0 | HCSB0157-SS-AC-AD-0 | HCSB0131-SS-AA-AB-0 | HCSB0158-SS-AC-AD-0 | HCSB0132-SS-AA-AB-0 | HCSB0159-SS-AC-AD-0 | HCSB0160-SS-AA-AE-0 | HCSB0160-SS-AG-AH-0 | HCSB0160-SS-AJ-AK-0 | HCSB0172-SS-AA-AD-0 | HCSB0172-SS-AE-AF-0 |
| | | Sample Date | 6/22/2005 | 6/27/2005 | 6/22/2005 | 6/27/2005 | 6/22/2005 | 6/27/2005 | 6/22/2005 | 6/27/2005 | 6/27/2005 | 10/27/2005 | 10/27/2005 | 10/27/2005 | 6/22/2005 | 6/27/2005 | 6/22/2005 | 6/27/2005 | 6/22/2005 | 6/27/2005 | 7/12/2005 | 7/12/2005 | 7/12/2005 | 7/25/2005 | 7/25/2005 |
| | | Depth (ft) | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 1-1.5 | 2-2.5 | 3-3.5 | 3-3.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-2 | 3-3.5 | 4.5-5 | 0-1.5 | 2-2.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | 8390 J | 3760 | 2130 J | 5200 J | 2580 J | 2000 | 7660 J | 5340 | 4970 | 962 | 1540 | 1790 | 10400 J | 3330 | 3220 J | 2740 | 6460 J | 926 | 2730 | 2080 | 2380 | 404 | 714 |
| METALS | ANTIMONY | MG/KG | 13.1 J | 3.1 J | 7.4 J | 103 J | 5 J | 2 J | 9.4 J | 12.9 J | 11.9 J | 1.9 J | 1.2 UJ | 1.2 UJ | 49.6 J | 3.8 J | 9.5 J | 3.6 J | 1.4 J | 0.66 UJ | 0.55 J | 0.36 U | 0.41 U | 0.63 U | 2.6 U |
| METALS | ARSENIC | MG/KG | 134 J | 106 | 60 J | 326 J | 117 | 36.7 | 223 J | 1110 | 1140 | 147 | 10.8 | 13.8 | 270 J | 105 | 565 J | 120 | 40.8 | 2.2 J | 4.3 J | 2 J | 4.2 J | 1.3 J | 0.39 U |
| METALS | BARIUM | MG/KG | 1050 J | 1660 | 609 J | 2000 J | 301 | 1220 | 480 J | 282 | 288 | 44.1 J | 724 | 1090 | 521 J | 1280 | 172 J | 123 | 95.2 | 14.6 J | | | | 10 J | 6.8 J |
| METALS | BERYLLIUM | MG/KG | 0.56 J | 0.16 J | 0.18 J | 0.38 J | 0.21 J | 0.11 J | 0.47 J | 0.36 J | 0.35 J | 0.16 U | 0.16 U | 0.16 U | 0.63 J | 0.21 J | 0.21 J | 0.15 J | 0.42 J | 0.1 J | 0.08 | 0.04 J | 0.05 J | 0.19 J | 0.16 J |
| METALS | CADMIUM | MG/KG | 1.7 J | 0.62 J | 0.9 J | 4.7 J | 0.23 J | 0.27 J | 0.24 J | 4.2 | 4.8 | 0.52 J | 0.2 U | 0.21 U | 2.3 J | 0.71 J | 4.4 J | 0.61 J | 0.06 U | 0.05 U | 0.03 U | 0.03 J | 0.07 J | 0.063 J | 0.11 J |
| METALS | CALCIUM | MG/KG | 10800 J | 874 J | 2620 J | 2340 J | 2040 | 707 J | 5310 J | 2810 | 2620 | 359 J | 635 J | 690 J | 6210 J | 1800 | 2990 J | 1230 J | 1060 J | 478 J | 59.8 | 42.3 | 169 | 666 J | 105 J |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 121 J | 283 | 72.3 J | 1080 J | 64.1 | 91.1 | 284 J | 1020 | 965 | 90.5 J | 49.5 J | 63.2 J | 1060 J | 215 | 302 J | 99.9 | 118 | 11.8 | | | | 3.4 | 4.9 |
| METALS | COBALT | MG/KG | 7.5 J | 1.1 J | 4.8 J | 6.9 J | 3.4 J | 0.89 J | 11.1 J | 7.2 J | 7.8 J | 0.81 J | 0.35 U | 0.53 J | 21.8 J | 2.9 J | 7.9 J | 3 J | 1 J | 0.22 U | 1.6 | 0.72 | 1.1 | 1.4 J | 2.9 J |
| METALS | COPPER | MG/KG | 131 J | 70.1 | 35 J | 151 J | 32.3 | 12.5 | 98.3 J | 172 | 173 | 27.4 | 4.8 J | 4.8 J | 132 J | 31.5 | 94 J | 25.9 | 28.4 | 2.5 J | 8.9 | 4.3 | 7.6 | 2.8 J | 2.5 J |
| METALS | CYANIDE | MG/KG | 21.3 J | 85.8 | 13.7 J | 94.1 J | 23.4 J | 7.7 | 41.6 J | 76.9 | 100 | 19.6 | 0.92 | 0.06 U | 111 J | 91.8 | 22.4 J | 7.7 | 7.1 J | 2.2 | 2.2 J | 3.6 J | 8.6 J | 2 J | 1.8 J |
| METALS | IRON | MG/KG | 31200 J | 4850 | 6870 J | 12900 J | 21200 J | 5820 | 42200 J | 21900 | 20000 | 2990 | 2040 | 2600 | 37800 J | 12500 | 13700 J | 14500 | 27300 J | 2090 | 4710 | 3010 | 5260 | 1200 | 925 |
| METALS | LEAD | MG/KG | 992 J | 3510 | 411 J | 5180 J | 410 | 1100 | 1290 J | 5620 | 5470 | 653 | 683 | 937 | 2990 J | 1480 | 3050 J | 359 | 514 | 42.7 | 72.9 | 17.3 | 74.4 | 26.3 | 5.1 |
| METALS | MAGNESIUM | MG/KG | 1550 J | 180 J | 425 J | 485 J | 342 J | 88.7 J | 946 J | 475 J | 430 J | 49.6 J | 52 J | 60.9 J | 989 J | 258 J | 269 J | 215 J | 333 J | 29.5 J | 128 | 83.3 | 92.6 | 207 J | 38.6 J |
| METALS | MANGANESE | MG/KG | 165 J | 7.5 | 25.1 J | 22.4 J | 326 | 34.7 | 846 J | 297 | 251 | 21.7 J | 7.6 J | 8.9 J | 623 J | 114 | 103 J | 115 | 21.4 | 4.8 | 24.4 | 7.7 | 13.8 | 28.4 | 43.8 |
| METALS | MERCURY | MG/KG | 1 J | 0.2 J | 0.81 J | 2.7 J | 0.49 J | 0.16 J | 1.6 J | 1.2 J | 1.2 J | 0.11 J | 0.06 U | 0.08 J | 2.2 J | 0.37 J | 0.47 J | 0.34 J | 0.29 J | 0.06 UJ | 0.688 J | 0.556 J | 0.715 J | 0.12 J | 0.028 J |
| METALS | NICKEL | MG/KG | 17.3 J | 0.91 J | 7.4 J | 6.2 J | 4.9 J | 0.37 J | 13.1 J | 8 J | 8.4 J | 1.4 J | 0.6 J | 0.72 J | 17.3 J | 2.1 J | 8.5 J | 2 J | 6.3 J | 0.22 U | 0.95 | 0.97 | 1.3 | 0.85 J | 0.25 J |
| METALS | POTASSIUM | MG/KG | 478 J | 151 J | 164 J | 265 J | 154 J | 91.5 J | 392 J | 265 J | 251 J | 34.7 J | 45.8 J | 47.4 J | 346 J | 183 J | 157 J | 116 J | 322 J | 72.7 J | 294 | 156 | 153 | 104 J | 73.9 J |
| METALS | SELENIUM | MG/KG | 2.9 UJ | 1.2 UJ | 1.6 UJ | 2 UJ | 1.4 J | 1.1 UJ | 3.1 J | 2.9 J | 1.8 UJ | 1 U | 1 U | 1.1 U | 2.4 J | 1.4 UJ | 1.9 UJ | 1.4 UJ | 1.3 J | 1 UJ | 0.63 J | 0.38 U | 0.5 J | 0.57 U | 0.58 J |
| METALS | SILVER | MG/KG | 0.48 UJ | 0.2 U | 0.27 UJ | 0.46 J | 0.49 J | 0.19 U | 0.31 UJ | 0.43 J | 0.3 U | 0.29 U | 0.3 U | 0.31 U | 0.51 J | 0.29 J | 0.32 UJ | 0.24 U | 0.22 U | 0.17 U | 0.08 U | 0.07 U | 0.08 U | 0.14 J | 0.061 U |
| METALS | SODIUM | MG/KG | 1120 J | 178 J | 338 J | 317 J | 68.4 J | 42.7 U | 183 J | 85.6 J | 70.3 J | 82.6 U | 83.9 U | 87.6 U | 161 J | 68.7 J | 116 J | 79.7 J | 48.7 UJ | 38.4 U | 22 U | 20.3 U | 34.9 J | 26.2 U | 21.4 U |
| METALS | THALLIUM | MG/KG | 3 UJ | 1.3 U | 1.7 UJ | 2.1 UJ | 1.4 U | 1.2 UJ | 1.9 UJ | 1.9 UJ | 1.9 UJ | 1.1 U | 1.1 U | 1.2 U | 2.2 UJ | 1.4 UJ | 2 UJ | 1.5 UJ | 1.4 U | 1.1 UJ | 0.3 U | 0.28 U | 0.32 U | 0.45 U | 1.6 J |
| METALS | VANADIUM | MG/KG | 54.3 J | 11.4 J | 13.6 J | 22.3 J | 15.9 J | 7 J | 46.8 J | 20.8 J | 19.2 J | 3.6 J | 4.7 J | 5.4 J | 48.8 J | 14.9 J | 13.3 J | 13.2 J | 31.4 | 3.3 J | 10.5 | 6.7 | 8.3 | 5.4 J | 6.3 J |
| METALS | ZINC | MG/KG | 781 J | 121 | 438 J | 1590 J | 249 | 75.8 | 581 J | 681 | 669 | 68.2 | 20.7 | 27.5 | 1420 J | 198 | 494 J | 197 | 78.1 | 7.4 | 12.3 | 9.3 | 20.3 | 12.7 | 3.5 J |
| PEST/PCB | 4,4'-DDD | MG/KG | 0.012 UJ | 0.005 UJ | | 0.11 J | 0.0087 J | 0.0045 UJ | 0.018 J | 0.0073 UJ | 0.0074 UJ | 0.0042 U | 0.0042 U | 0.0043 U | 0.0089 UJ | 0.012 J | | 0.021 J | | 0.0041 UJ | 0.0037 U | 0.0039 U | 0.0044 U | 0.0049 UJ | |
| PEST/PCB | 4,4'-DDE | MG/KG | 0.02 J | 0.005 UJ | 0.0067 UJ | 0.02 J | 0.0055 U | 0.0045 UJ | 0.027 J | 0.0073 UJ | 0.0074 UJ | 0.0042 U | 0.0042 U | 0.0043 U | 0.025 J | 0.0056 UJ | 0.0079 UJ | 0.0071 J | | 0.0041 UJ | 0.0029 J | 0.00073 J | 0.0044 U | 0.0049 UJ | |
| PEST/PCB | 4,4'-DDT | MG/KG | 0.012 UJ | 0.005 UJ | | | 0.0055 U | 0.0045 UJ | | | | 0.0042 U | 0.0042 U | 0.0043 U | | 0.0077 J | 0.0079 UJ | 0.0073 J | | 0.0041 UJ | 0.0074 J | 0.0026 J | 0.011 J | 0.0049 UJ | |
| PEST/PCB | ALDRIN | MG/KG | 0.006 UJ | 0.0026 UJ | 0.0034 UJ | 0.0043 UJ | 0.0028 U | 0.0023 UJ | 0.0039 UJ | 0.0038 UJ | 0.0038 UJ | 0.0021 U | 0.0022 U | 0.0022 U | 0.0046 UJ | 0.0029 UJ | 0.0041 UJ | 0.003 UJ | | 0.0021 UJ | 0.0019 U | 0.002 U | 0.0022 U | 0.0025 UJ | |
| PEST/PCB | ALPHA-BHC | MG/KG | 0.006 UJ | 0.0026 UJ | 0.0034 UJ | 0.0043 UJ | 0.0028 U | 0.0023 UJ | 0.0039 UJ | 0.0038 UJ | 0.0038 UJ | 0.0021 U | 0.0022 U | 0.0022 U | 0.0046 UJ | 0.0029 UJ | 0.0041 UJ | 0.003 UJ | | 0.0021 UJ | 0.0019 U | 0.002 U | 0.0022 U | 0.0025 UJ | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | 0.0026 UJ | 0.0038 J | 0.0043 UJ | 0.0028 U | 0.0023 UJ | 0.0039 UJ | 0.0038 UJ | 0.0038 UJ | 0.0021 U | 0.0022 U | 0.0022 U | 0.0046 UJ | 0.0029 UJ | 0.0041 UJ | 0.003 UJ | | 0.0021 UJ | 0.0019 U | 0.002 U | 0.0022 U | 0.0025 UJ | |
| PEST/PCB | AROCLOR-1016 | MG/KG | 0.12 UJ | 0.05 UJ | 0.067 UJ | 0.084 UJ | 0.055 U | 0.045 UJ | 0.076 UJ | 0.073 UJ | 0.074 UJ | 0.042 U | 0.042 U | 0.043 U | 0.089 UJ | 0.056 UJ | 0.079 UJ | 0.057 UJ | | 0.041 UJ | 0.037 U | 0.039 U | 0.044 U | 0.049 UJ | |
| PEST/PCB | AROCLOR-1221 | MG/KG | 0.24 UJ | 0.1 UJ | 0.14 UJ | 0.17 UJ | 0.11 U | 0.092 UJ | 0.15 UJ | 0.15 UJ | 0.15 UJ | 0.084 U | 0.085 U | 0.087 U | 0.18 UJ | 0.11 UJ | 0.16 UJ | 0.12 UJ | | 0.082 UJ | 0.075 U | 0.079 U | 0.088 U | 0.1 UJ | |
| PEST/PCB | AROCLOR-1232 | MG/KG | 0.12 UJ | 0.05 UJ | 0.067 UJ | 0.084 UJ | 0.055 U | 0.045 UJ | 0.076 UJ | 0.073 UJ | 0.074 UJ | 0.042 U | 0.042 U | 0.043 U | 0.089 UJ | 0.056 UJ | 0.079 UJ | 0.057 UJ | | 0.041 UJ | 0.037 U | 0.039 U | 0.044 U | 0.049 UJ | |
| PEST/PCB | AROCLOR-1242 | MG/KG | 0.12 UJ | 0.05 UJ | 0.067 UJ | 0.084 UJ | 0.055 U | 0.045 UJ | 0.076 UJ | 0.073 UJ | 0.074 UJ | 0.042 U | 0.042 U | 0.043 U | 0.089 UJ | 0.056 UJ | 0.079 UJ | 0.057 UJ | | 0.041 UJ | 0.037 U | 0.039 U | 0.044 U | 0.049 UJ | |
| PEST/PCB | AROCLOR-1248 | MG/KG | 0.12 UJ | 0.05 UJ | 0.067 UJ | 0.084 UJ | 0.055 U | 0.045 UJ | 0.076 UJ | 0.073 UJ | 0.074 UJ | 0.042 U | 0.042 U | 0.043 U | 0.089 UJ | 0.056 UJ | 0.079 UJ | 0.057 UJ | | 0.041 UJ | 0.037 U | 0.039 U | 0.044 U | 0.049 UJ | |
| PEST/PCB | AROCLOR-1254 | MG/KG | 0.12 UJ | 0.05 UJ | 0.067 UJ | 0.084 UJ | 0.055 U | 0.045 UJ | 0.076 UJ | 0.073 UJ | 0.074 UJ | 0.042 U | 0.042 U | 0.043 U | 0.089 UJ | 0.056 UJ | 0.079 UJ | 0.057 UJ | | 0.041 UJ | 0.037 U | 0.039 U | 0.044 U | 0.049 UJ | |
| PEST/PCB | AROCLOR-1260 | MG/KG | 2.7 J | 0.05 UJ | 0.067 UJ | 0.084 UJ | 1.3 J | 0.045 UJ | 1.6 J | 0.073 UJ | 0.074 UJ | 0.042 U | 0.042 U | 0.043 U | 2.1 J | 0.056 UJ | 0.079 UJ | 0.057 UJ | | 0.041 UJ | 0.037 U | 0.039 U | 0.044 U | 0.049 UJ | |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | 0.006 UJ | 0.0026 UJ | | 0.0072 J | 0.0064 J | | 0.0039 UJ | 0.0038 UJ | 0.0038 UJ | 0.0021 U | 0.0022 U | 0.0022 U | | 0.0029 UJ | 0.0041 UJ | 0.003 UJ | | 0.0021 UJ | 0.0019 UJ | 0.002 UJ | 0.0022 UJ | 0.0025 UJ | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | 0.006 UJ | 0.0026 UJ | 0.0034 UJ | 0.0043 UJ | 0.0028 U | 0.0023 UJ | 0.0039 UJ | 0.0038 UJ | 0.0038 UJ | 0.0021 U | 0.0022 U | 0.0022 U | | 0.0029 UJ | 0.0041 UJ | 0.003 UJ | | 0.0021 UJ | 0.0019 UJ | 0.002 UJ | 0.0022 UJ | 0.0025 UJ | |
| PEST/PCB | DIELDRIN | MG/KG | 0.077 J | 0.005 UJ | 0.0067 UJ | 0.0094 J | 0.027 J | 0.0045 UJ | 0.05 J | 0.016 J | 0.0074 UJ | 0.0042 U | 0.0042 U | 0.0043 U | 0.062 J | 0.0056 UJ | 0.0079 UJ | 0.0057 UJ | | 0.0041 UJ | 0.00043 J | 0.00056 J | 0.0044 U | 0.0049 UJ | |
| PEST/PCB | ENDOSULFAN I | MG/KG | 0.006 UJ | 0.0026 UJ | 0.0034 UJ | 0.0043 UJ | 0.0028 U | 0.0023 UJ | 0.0039 UJ | 0.0038 UJ | 0.0038 UJ | 0.0021 U | 0.0022 U | 0.0022 U | 0.0046 UJ | 0.0029 UJ | 0.0041 UJ | 0.003 UJ | | 0.0021 UJ | 0.0019 U | 0.002 U | 0.0022 U | 0.0025 UJ | |
| PEST/PCB | ENDOSULFAN II | MG/KG | 0.012 UJ | 0.005 UJ | 0.0067 UJ | 0.0084 UJ | 0.0055 U | 0.0045 UJ | 0.0076 UJ | 0.0073 UJ | 0.0074 UJ | 0.0042 U | 0.0042 U | 0.0043 U | 0.0089 UJ | 0.0056 UJ | 0.0079 UJ | 0.0057 UJ | | 0.0041 UJ | 0.0037 U | 0.0039 U | 0.0044 U | 0.0049 UJ | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | 0.012 UJ | 0.005 UJ | 0.0067 UJ | 0.0084 UJ | 0.0055 U | 0.0045 UJ | 0.0076 UJ | 0.0073 UJ | 0.0074 UJ | 0.0042 U | 0.0042 U | 0.0043 U | | 0.0056 UJ | 0.0079 UJ | 0.0057 UJ | | 0.0041 UJ | 0.0037 U | 0.0039 U | 0.0044 U | 0.0049 UJ | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | 0.012 UJ | 0.005 UJ | 0.025 J | 0.037 J | 0.0055 U | 0.0045 UJ | 0.0076 UJ | 0.018 J | 0.025 J | 0.0042 U | 0.0042 U | 0.0043 U | 0.0089 UJ | 0.011 J | 0.0079 UJ | 0.0057 UJ | | 0.0041 UJ | 0.0037 U | 0.0039 U | 0.0044 U | 0.0049 UJ | |
| PEST/PCB | ENDRIN KETONE | MG/KG | 0.012 UJ | 0.005 UJ | 0.0067 UJ | 0.0084 UJ | 0.0055 U | 0.0045 UJ | 0.0076 UJ | 0.0094 J | 0.0094 J | 0.0042 U | 0.0042 U | 0.0043 U | 0.0089 UJ | 0.0056 UJ | 0.0079 UJ | 0.0057 UJ | | 0.0041 UJ | 0.0037 U | 0.0039 U | 0.01 | 0.0049 UJ | |
| PEST/PCB | ENDRIN | MG/KG | 0.012 UJ | 0.005 UJ | 0.0067 UJ | 0.0084 UJ | 0.0055 U | 0.0045 UJ | 0.0076 UJ | 0.0073 UJ | 0.0074 UJ | 0.0042 U | 0.0042 U | 0.0043 U | 0.0089 UJ | 0.0056 UJ | 0.0079 UJ | 0.0057 UJ | | 0.0041 UJ | 0.0037 U | 0.0039 U | 0.0044 U | 0.0049 UJ | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | 0.006 UJ | 0.0026 UJ | 0.0034 UJ | 0.0043 UJ | 0.0028 U | 0.0023 UJ | 0.0039 UJ | 0.0038 UJ | 0.0038 UJ | 0.0021 U | 0.0022 U | 0.0022 U | 0.0046 UJ | 0.0029 UJ | 0.0041 UJ | 0.003 UJ | | 0.0021 UJ | 0.0019 U | 0.002 U | 0.0022 U | 0.0025 UJ | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | 0.011 J | 0.0026 UJ | 0.0034 UJ | 0.0043 UJ | 0.0028 U | 0.0023 UJ | 0.0039 UJ | 0.0038 UJ | 0.0038 UJ | 0.0021 U | 0.0022 U | 0.0022 U | 0.0046 UJ | 0.0029 UJ | 0.0041 UJ | 0.003 UJ | | 0.0021 UJ | 0.0019 U | 0.002 U | 0.0022 U | 0.0025 UJ | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | 0.006 UJ | 0.0026 UJ | 0.0034 UJ | 0.0043 UJ | 0.0028 U | 0.0023 UJ | 0.0039 UJ | 0.0038 UJ | 0.0038 UJ | 0.0021 U | 0.0022 U | 0.0022 U | 0.0046 UJ | 0.0029 UJ | 0.0041 UJ | 0.003 UJ | | 0.0021 UJ | 0.0019 U | 0.002 U | 0.0022 U | 0.0025 UJ | |
| PEST/PCB | HEPTACHLOR | MG/KG | 0.006 UJ | 0.0026 UJ | 0.0034 UJ | 0.0043 UJ | 0.0028 U | 0.0023 UJ | 0.0039 UJ | 0.0038 UJ | 0.0038 UJ | 0.0021 U | 0.0022 U | 0.0022 U | 0.0046 UJ | 0.0029 UJ | 0.0041 UJ | 0.003 UJ | | 0.0021 UJ | 0.0019 U | 0.002 U | 0.0022 U | 0.0025 UJ | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | 0.06 UJ | 0.026 UJ | 0.034 UJ | 0.043 UJ | 0.028 U | 0.023 UJ | 0.039 UJ | 0.038 UJ | 0.038 UJ | 0.021 U | 0.022 U | 0.022 U | 0.046 UJ | 0.029 UJ | 0.041 UJ | 0.03 UJ | | 0.021 UJ | 0.019 U | 0.02 U | 0.0029 J | 0.025 UJ | |
| PEST/PCB | TOXAPHENE | MG/KG | 0.6 UJ | 0.26 UJ | 0.34 UJ | 0.43 UJ | 0.28 U | 0.23 UJ | 0.39 UJ | 0.38 UJ | 0.38 UJ | 0.21 U | 0.22 U | 0.22 U | 0.46 UJ | 0.29 UJ | 0.41 UJ | 0.3 UJ | | 0.21 UJ | 0.19 U | 0.2 U | 0.22 U | 0.25 UJ | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | HCSB0153/126 | HCSB0153/126 | HCSB0154/127 | HCSB0154/127 | HCSB0155/128 | HCSB0155/128 | HCSB0156/129 | HCSB0156/129 | HCSB0156/129 | HCSB0156/129 | HCSB0156/129 | HCSB0156/129 | HCSB0157/130 | HCSB0157/130 | HCSB0158/131 | HCSB0158/131 | HCSB0159/132 | HCSB0159/132 | HCSB0160 | HCSB0160 | HCSB0160 | HCSB0172 | HCSB0172 |
| | | Field Sample ID | HCSB0126-SS-AA-AB-0 | HCSB0153-SS-AC-AD-0 | HCSB0127-SS-AA-AB-0 | HCSB0154-SS-AC-AD-0 | HCSB0128-SS-AA-AB-0 | HCSB0155-SS-AC-AD-0 | HCSB0129-SS-AA-AB-0 | HCSB0156-SS-AC-AD-0 | HCSB0156-SS-AC-AD-1 | HCSB0156-SS-AE-AF-0 | HCSB0156-SS-AG-AH-0 | HCSB0156-SS-AG-AH-1 | HCSB0130-SS-AA-AB-0 | HCSB0157-SS-AC-AD-0 | HCSB0131-SS-AA-AB-0 | HCSB0158-SS-AC-AD-0 | HCSB0132-SS-AA-AB-0 | HCSB0159-SS-AC-AD-0 | HCSB0160-SS-AA-AE-0 | HCSB0160-SS-AG-AH-0 | HCSB0160-SS-AJ-AK-0 | HCSB0172-SS-AA-AD-0 | HCSB0172-SS-AE-AF-0 |
| | | Sample Date | 6/22/2005 | 6/27/2005 | 6/22/2005 | 6/27/2005 | 6/22/2005 | 6/27/2005 | 6/22/2005 | 6/27/2005 | 6/27/2005 | 10/27/2005 | 10/27/2005 | 10/27/2005 | 6/22/2005 | 6/27/2005 | 6/22/2005 | 6/27/2005 | 6/22/2005 | 6/27/2005 | 7/12/2005 | 7/12/2005 | 7/12/2005 | 7/25/2005 | 7/25/2005 |
| | | Depth (ft) | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 1-1.5 | 2-2.5 | 3-3.5 | 3-3.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-2 | 3-3.5 | 4.5-5 | 0-1.5 | 2-2.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 0.075 J | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.014 J | 0.41 UJ | 0.74 U | 0.76 U | 0.88 U | 0.49 U | 0.4 U |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 UJ | 0.4 UJ |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 14 UJ | 2.4 UJ | 8.1 UJ | 10 UJ | 6.7 U | 2.2 UJ | 9.2 UJ | 8.8 UJ | 9 UJ | 1 U | 1 U | 1 U | 4.3 UJ | 2.7 UJ | 3.8 UJ | 2.8 UJ | 1.3 U | 0.98 UJ | 0.92 U | 0.96 U | 1.1 U | 1.2 U | 1 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 14 UJ | 2.4 UJ | 8.1 UJ | 10 UJ | 6.7 U | 2.2 UJ | 9.2 UJ | 8.8 UJ | 9 UJ | 1 U | 1 U | 1 U | 4.3 UJ | 2.7 UJ | 3.8 UJ | 2.8 UJ | | 0.98 UJ | 0.92 U | 0.96 U | 1.1 U | 1.2 U | 1 U |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.083 J | 0.025 J | 0.034 J | 0.18 J | 0.074 J | 0.016 J | 0.056 J | 0.064 J | 0.086 J | 0.006 J | 0.42 U | 0.43 U | 0.092 J | 0.037 J | 0.02 J | 0.016 J | 0.038 J | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | 2-METHYLPHENOL | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | 2-NITROANILINE | MG/KG | 14 UJ | 2.4 UJ | 8.1 UJ | 10 UJ | 6.7 U | 2.2 UJ | 9.2 UJ | 8.8 UJ | 9 UJ | 1 U | 1 U | 1 U | 4.3 UJ | 2.7 UJ | 3.8 UJ | 2.8 UJ | 1.3 U | 0.98 UJ | 0.92 U | 0.96 U | 1.1 U | 1.2 U | 1 U |
| SVOC | 2-NITROPHENOL | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | 3-NITROANILINE | MG/KG | 14 UJ | 2.4 UJ | 8.1 UJ | 10 UJ | 6.7 U | 2.2 UJ | 9.2 UJ | 8.8 UJ | 9 UJ | 1 U | 1 U | 1 U | 4.3 UJ | 2.7 UJ | 3.8 UJ | 2.8 UJ | 1.3 U | 0.98 UJ | 0.92 U | 0.96 U | 1.1 U | 1.2 U | 1 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 14 UJ | 2.4 UJ | 8.1 UJ | 10 UJ | 6.7 U | 2.2 UJ | 9.2 UJ | 8.8 UJ | 9 UJ | 1 U | 1 U | 1 U | 4.3 UJ | 2.7 UJ | 3.8 UJ | 2.8 UJ | 1.3 U | 0.98 UJ | 0.92 U | 0.96 U | 1.1 U | 1.2 U | 1 U |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | 4-CHLOROANILINE | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | 4-METHYLPHENOL | MG/KG | 2.4 J | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.021 J | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.018 J | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | 4-NITROANILINE | MG/KG | 14 UJ | 2.4 UJ | 8.1 UJ | 10 UJ | 6.7 U | 2.2 UJ | 9.2 UJ | 8.8 UJ | 9 UJ | 1 U | 1 U | 1 U | 4.3 UJ | 2.7 UJ | 3.8 UJ | 2.8 UJ | 1.3 U | 0.98 UJ | 0.92 U | 0.96 U | 1.1 U | 1.2 U | 1 U |
| SVOC | 4-NITROPHENOL | MG/KG | 14 UJ | 2.4 UJ | 8.1 UJ | 10 UJ | 6.7 U | 2.2 UJ | 9.2 UJ | 8.8 UJ | 9 UJ | 1 U | 1 U | 1 U | 4.3 UJ | 2.7 UJ | 3.8 UJ | 2.8 UJ | 1.3 U | 0.98 UJ | 0.92 U | 0.96 U | 1.1 U | 1.2 U | 1 U |
| SVOC | ACENAPHTHENE | MG/KG | 0.65 J | 0.04 J | 0.25 J | 0.28 J | 0.82 J | 0.096 J | 0.42 J | 0.16 J | 0.17 J | 0.012 J | 0.42 U | 0.43 U | 0.3 J | 0.17 J | 0.043 J | 0.072 J | 0.078 J | 0.41 UJ | 0.013 J | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.35 J | 0.062 J | 0.096 J | 0.18 J | 2.8 U | 0.031 J | 0.25 J | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 0.22 J | 1.1 UJ | 0.032 J | 0.036 J | 0.17 J | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | ACETOPHENONE | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.012 J | 0.41 UJ | 0.74 U | 0.76 U | 0.88 U | 0.49 U | 0.4 U |
| SVOC | ANTHRACENE | MG/KG | 1.4 J | 0.15 J | 0.58 J | 0.75 J | 1.1 J | 0.17 J | 0.92 J | 0.29 J | 0.32 J | 0.028 J | 0.009 J | 0.012 J | 0.71 J | 0.25 J | 0.12 J | 0.16 J | 0.28 J | 0.007 J | 0.042 J | 0.38 U | 0.016 J | 0.49 U | 0.4 U |
| SVOC | ATRAZINE | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.74 U | 0.76 U | 0.88 U | 0.49 U | 0.4 U |
| SVOC | BENZALDEHYDE | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 0.17 J | 1.1 UJ | 0.53 U | 0.41 UJ | 0.74 U | 0.76 U | 0.88 U | 0.49 U | 0.4 U |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 6.7 J | 0.39 J | 2.8 J | 2.3 J | 2.7 J | 0.79 J | 3.8 J | 1.8 J | 2 J | 0.18 J | 0.068 J | 0.071 J | 3.1 J | 1.4 J | 0.73 J | 1.2 J | 0.8 | 0.038 J | 0.18 J | 0.013 J | 0.085 J | 0.49 U | 0.4 U |
| SVOC | BENZO(A)PYRENE | MG/KG | 9.3 J | 0.51 J | 3.8 J | 2.9 J | 3 | 1.2 J | 5 J | 2.3 J | 2.6 J | 0.26 J | 0.067 J | 0.088 J | 4.1 J | 1.7 J | 1.2 J | 1.8 J | 0.89 | 0.043 J | 0.15 J | 0.012 J | 0.076 J | 0.49 U | 0.4 U |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 14 J | 0.67 J | 5.6 J | 4.5 J | 4.1 | 1.8 J | 7.5 J | 2.6 J | 2.8 J | 0.28 J | 0.063 J | 0.083 J | 7.1 J | 2.1 J | 2.1 J | 2.4 J | 1 | 0.045 J | 0.18 J | 0.018 J | 0.12 J | 0.49 U | 0.4 U |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 3.2 J | 0.14 J | 1.3 J | 0.77 J | 0.78 J | 0.33 J | 1.5 J | 1.9 J | 2.2 J | 0.22 J | 0.042 J | 0.064 J | 1.4 J | 1.4 J | 0.54 J | 1.5 J | 0.24 J | 0.41 UJ | 0.097 J | 0.38 U | 0.05 J | 0.49 U | 0.4 U |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 13 J | 0.75 J | 5.4 J | 4.1 J | 3.5 | 1.8 J | 6.8 J | 2.4 J | 2.6 J | 0.26 J | 0.058 J | 0.077 J | 5.2 J | 1.7 J | 1.8 J | 1.9 J | 1.1 | 0.04 J | 0.073 J | 0.021 J | 0.14 J | 0.49 U | 0.4 U |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.032 J | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 1.8 J | 1 UJ | 0.73 J | 0.46 J | 2.8 U | 0.18 J | 0.57 J | 0.51 J | 0.5 J | 0.055 J | 0.42 U | 0.43 U | 0.51 J | 0.4 J | 1.6 UJ | 0.37 J | 0.074 J | 0.41 UJ | 0.07 J | 0.078 J | 0.091 J | 0.49 U | 0.4 U |
| SVOC | CAPROLACTAM | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.74 U | 0.76 U | 0.88 U | 0.05 J | 0.048 J |
| SVOC | CARBAZOLE | MG/KG | 1.6 J | 0.1 J | 0.61 J | 0.38 J | 0.67 J | 0.25 J | 0.85 J | 0.28 J | 0.31 J | 0.029 J | 0.42 U | 0.43 U | 0.72 J | 0.23 J | 0.18 J | 0.22 J | 0.24 J | 0.41 UJ | 0.016 J | 0.38 U | 0.012 J | 0.49 U | 0.4 U |
| SVOC | CHRYSENE | MG/KG | 10 J | 0.52 J | 4.4 J | 3.2 J | 3.1 | 1.3 J | 5.5 J | 2.7 J | 3.1 J | 0.31 J | 0.074 J | 0.089 J | 4.5 J | 2 J | 1.6 J | 2.4 J | 0.99 | 0.05 J | 0.18 J | 0.014 J | 0.082 J | 0.49 U | 0.4 U |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 1.1 J | 0.07 J | 0.44 J | 0.42 J | 0.32 J | 0.18 J | 0.57 J | 0.66 J | 0.76 J | 0.063 J | 0.018 J | 0.022 J | 0.5 J | 0.49 J | 0.16 J | 0.5 J | 0.1 J | 0.41 UJ | 0.029 J | 0.38 U | 0.019 J | 0.49 U | 0.4 U |
| SVOC | DIBENZOFURAN | MG/KG | 0.21 J | 0.027 J | 0.098 J | 0.16 J | 0.28 J | 0.041 J | 0.12 J | 0.065 J | 0.072 J | 0.007 J | 0.42 U | 0.43 U | 0.12 J | 0.063 J | 0.024 J | 0.038 J | 0.052 J | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | DIETHYLPHTHALATE | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.056 J | 0.41 UJ | 0.015 J | 0.034 J | 0.025 J | 0.49 U | 0.4 U |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 UJ | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.014 J | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | FLUORANTHENE | MG/KG | 40 J | 1.9 J | 16 J | 11 J | 12 | 4.2 J | 21 J | 3.7 J | 4.2 J | 0.5 | 0.11 J | 0.13 J | 6.8 J | 2.9 J | 3.5 J | 3.4 J | 4 | 0.085 J | 0.28 J | 0.018 J | 0.13 J | 0.064 J | 0.4 U |
| SVOC | FLUORENE | MG/KG | 0.52 J | 0.045 J | 0.23 J | 0.18 J | 0.5 J | 0.068 J | 0.28 J | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 0.25 J | 0.14 J | 0.06 J | 0.074 J | 0.15 J | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | HEXACHLOROBENZENE | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | HEXACHLOROETHANE | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 3.3 J | 0.14 J | 1.3 J | 0.89 J | 0.86 J | 0.39 J | 1.6 J | 1.7 J | 2 J | 0.22 J | 0.044 J | 0.064 J | 1.5 J | 1.3 J | 0.5 J | 1.4 J | 0.26 J | 0.41 UJ | 0.095 J | 0.38 U | 0.054 J | 0.49 U | 0.4 U |
| SVOC | ISOPHORONE | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | NAPHTHALENE | MG/KG | 0.14 J | 0.038 J | 0.072 J | 0.26 J | 0.25 J | 0.035 J | 0.1 J | 0.18 J | 0.18 J | 0.42 U | 0.42 U | 0.43 U | 0.14 J | 0.087 J | 0.059 J | 1.1 UJ | 0.038 J | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | NITROBENZENE | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | 0.69 J | 2.4 UJ | 0.88 J | 10 UJ | 0.59 J | 0.21 J | 0.46 J | 8.8 UJ | 9 UJ | 1 U | 1 U | 1 U | 0.31 J | 0.066 J | 0.047 J | 2.8 UJ | 1.3 U | 0.98 UJ | 0.042 J | 0.29 J | 0.16 J | 1.2 U | 1 U |
| SVOC | PHENANTHRENE | MG/KG | 6.5 J | 0.42 J | 3 J | 1.9 J | 4.3 | 1 J | 4 J | 1.8 J | 2 J | 0.18 J | 0.035 J | 0.056 J | 3.2 J | 1.5 J | 0.8 J | 1.4 J | 1.2 | 0.053 J | 0.23 J | 0.017 J | 0.094 J | 0.49 U | 0.4 U |
| SVOC | PHENOL | MG/KG | 5.8 UJ | 1 UJ | 3.4 UJ | 4.2 UJ | 2.8 U | 0.9 UJ | 3.8 UJ | 3.6 UJ | 3.7 UJ | 0.42 U | 0.42 U | 0.43 U | 1.8 UJ | 1.1 UJ | 1.6 UJ | 1.1 UJ | 0.53 U | 0.41 UJ | 0.37 U | 0.38 U | 0.44 U | 0.49 U | 0.4 U |
| SVOC | PYRENE | MG/KG | 16 J | 0.67 J | 6.5 J | 4.4 J | 5 J | 1.6 J | 8.4 J | 4.2 J | 4.8 J | 0.43 | 0.098 J | 0.12 J | 9.1 J | 3.3 J | 1.6 J | 3.7 J | 3.3 | 0.097 J | 0.26 J | 0.025 J | 0.14 J | 0.051 J | 0.4 U |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | HCSB0153/126 | HCSB0153/126 | HCSB0154/127 | HCSB0154/127 | HCSB0155/128 | HCSB0155/128 | HCSB0156/129 | HCSB0156/129 | HCSB0156/129 | HCSB0156/129 | HCSB0156/129 | HCSB0156/129 | HCSB0157/130 | HCSB0157/130 | HCSB0158/131 | HCSB0158/131 | HCSB0159/132 | HCSB0159/132 | HCSB0160 | HCSB0160 | HCSB0160 | HCSB0172 | HCSB0172 |
| | | Field Sample ID | HCSB0126-SS-AA-AB-0 | HCSB0153-SS-AC-AD-0 | HCSB0127-SS-AA-AB-0 | HCSB0154-SS-AC-AD-0 | HCSB0128-SS-AA-AB-0 | HCSB0155-SS-AC-AD-0 | HCSB0129-SS-AA-AB-0 | HCSB0156-SS-AC-AD-0 | HCSB0156-SS-AC-AD-1 | HCSB0156-SS-AE-AF-0 | HCSB0156-SS-AG-AH-0 | HCSB0156-SS-AG-AH-1 | HCSB0130-SS-AA-AB-0 | HCSB0157-SS-AC-AD-0 | HCSB0131-SS-AA-AB-0 | HCSB0158-SS-AC-AD-0 | HCSB0132-SS-AA-AB-0 | HCSB0159-SS-AC-AD-0 | HCSB0160-SS-AA-AE-0 | HCSB0160-SS-AG-AH-0 | HCSB0160-SS-AJ-AK-0 | HCSB0172-SS-AA-AD-0 | HCSB0172-SS-AE-AF-0 |
| | | Sample Date | 6/22/2005 | 6/27/2005 | 6/22/2005 | 6/27/2005 | 6/22/2005 | 6/27/2005 | 6/22/2005 | 6/27/2005 | 6/27/2005 | 10/27/2005 | 10/27/2005 | 10/27/2005 | 6/22/2005 | 6/27/2005 | 6/22/2005 | 6/27/2005 | 6/22/2005 | 6/27/2005 | 7/12/2005 | 7/12/2005 | 7/12/2005 | 7/25/2005 | 7/25/2005 |
| | | Depth (ft) | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 1-1.5 | 2-2.5 | 3-3.5 | 3-3.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-0.5 | 1-1.5 | 0-2 | 3-3.5 | 4.5-5 | 0-1.5 | 2-2.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 UJ | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 UJ | | 0.014 UJ | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 UJ | 0.01 UJ | 0.012 UJ | 0.013 U | 0.012 U |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 UJ | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 UJ | | 0.014 UJ | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 UJ | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 UJ | | 0.014 UJ | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 UJ | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 UJ | | 0.014 UJ | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | ACETONE | MG/KG | | 0.043 U | | 2.9 UJ | | 0.062 U | | 0.13 UJ | 0.23 U | 0.017 U | 0.035 U | 0.024 U | | 0.087 U | | 0.12 U | | 0.054 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.0027 J |
| VOC | BENZENE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | BROMOFORM | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | BROMOMETHANE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | CARBON DISULFIDE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | CARBON TETRACHLORIDE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | CHLOROBENZENE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 UJ | 0.013 U | 0.012 U |
| VOC | CHLOROETHANE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | CHLOROFORM | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | CHLOROMETHANE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | CYCLOHEXANE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 UJ | 0.012 UJ |
| VOC | DICHLOROMETHANE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.004 J | 0.007 J | 0.013 U | 0.012 U |
| VOC | ETHYLBENZENE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | ISOPROPYLBENZENE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | METHYL ACETATE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | METHYL ETHYL KETONE | MG/KG | | 0.013 UJ | | 2.9 UJ | | 0.011 UJ | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 UJ | | 0.014 UJ | | 0.011 UJ | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | METHYLCYCLOHEXANE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | TETRACHLOROETHENE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | TOLUENE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.002 J | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 UJ | 0.013 U | 0.012 U |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 UJ | 0.013 U | 0.012 U |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.011 U | 0.01 U | 0.012 U | 0.013 U | 0.012 U |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | | 0.013 U | | 2.9 UJ | | 0.011 U | | 0.025 UJ | 0.036 UJ | 0.017 U | 0.035 U | 0.024 U | | 0.015 U | | 0.014 U | | 0.011 U | 0.033 U | 0.031 U | 0.036 U | 0.013 U | 0.012 U |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | HCSB0172 | HCSB0173/186 | HCSB0173/186 | HCSB0173/186 | HCSB0174/187 | HCSB0174/187 | HCSB0174/187 | HCSB0175/188 | HCSB0175/188 | HCSB0175/188 | HCSB0175/188 | HCSB0176/189 | HCSB0176/189 | HCSB0176/189 | HCSB0177/190 | HCSB0177/190 | HCSB0177/190 | HCSB0178/191 | HCSB0178/191 | HCSB0178/191 | HCSB0179/192 | HCSB0179/192 | HCSB0179/192 |
| | | Field Sample ID | HCSB0172-SS-AE-AF-1 | HCSB0173-SS-AA-AB-0 | HCSB0173-SS-AC-AD-0 | HCSB0186-SS-AC-AD-0 | HCSB0174-SS-AA-AB-0 | HCSB0174-SS-AC-AD-0 | HCSB0187-SS-AC-AD-0 | HCSB0175-SS-AA-AB-0 | HCSB0175-SS-AC-AD-0 | HCSB0188-SS-AC-AD-0 | HCSB0188-SS-AC-AD-1 | HCSB0176-SS-AA-AB-0 | HCSB0176-SS-AC-AD-0 | HCSB0189-SS-AC-AD-0 | HCSB0177-SS-AA-AB-0 | HCSB0177-SS-AC-AD-0 | HCSB0190-SS-AC-AD-0 | HCSB0178-SS-AA-AB-0 | HCSB0178-SS-AC-AD-0 | HCSB0191-SS-AC-AD-0 | HCSB0179-SS-AA-AB-0 | HCSB0179-SS-AC-AD-0 | HCSB0192-SS-AC-AD-0 |
| | | Sample Date | 7/25/2005 | 7/25/2005 | 7/25/2005 | 7/26/2005 | 7/25/2005 | 7/25/2005 | 7/26/2005 | 7/25/2005 | 7/25/2005 | 7/26/2005 | 7/26/2005 | 7/25/2005 | 7/25/2005 | 7/26/2005 | 7/25/2005 | 7/25/2005 | 7/26/2005 | 7/25/2005 | 7/25/2005 | 7/26/2005 | 7/25/2005 | 7/25/2005 | 7/26/2005 |
| | | Depth (ft) | 2-2.5 | 0-0.5 | 1-1.5 | 1-1.5 | 0-0.5 | 1-1.5 | 1-1.5 | 0-0.5 | 1-1.5 | 1-1.5 | 1-1.5 | 0-0.5 | 1-1.5 | 1-1.5 | 0-0.5 | 1-1.5 | 1-1.5 | 0-0.5 | 1-1.5 | 1-1.5 | 0-0.5 | 1-1.5 | 1-1.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | 507 | 1130 | | 964 | 4570 J | | 1940 | 3410 J | | 1750 | 1970 | 4560 J | | 2130 | 5720 J | | 2840 | 6830 J | | 3820 | 5340 J | | 1450 |
| METALS | ANTIMONY | MG/KG | 73.3 UJ | 0.57 U | | 0.48 UJ | 73.2 J | | 0.66 UJ | 5.8 J | | 1 J | 2.4 J | 14.6 J | | 4 J | 8.1 J | | 5.2 J | 11.5 J | | 26.1 J | 2.3 J | | 5 J |
| METALS | ARSENIC | MG/KG | 2.4 U | 8.9 | | | 70.5 J | | | 76.9 J | | | | 157 J | | | 181 J | | | 191 J | | | 19.9 J | | |
| METALS | BARIUM | MG/KG | 6.2 J | 68.7 | | 54.3 | 179 J | | 48.2 J | 308 J | | 91.6 | 102 | 257 J | | 304 | 459 J | | 267 | 569 J | | 1750 | 255 J | | 271 |
| METALS | BERYLLIUM | MG/KG | 0.14 J | 0.22 J | | 0.17 J | 0.75 J | | 0.37 J | 0.58 J | | 0.32 J | 0.32 J | 0.69 J | | 0.33 J | 0.64 J | | 0.33 J | 0.73 J | | 0.45 J | 0.48 J | | 0.21 J |
| METALS | CADMIUM | MG/KG | 0.11 J | 0.36 J | | 0.26 J | 3.6 J | | 1.4 J | 2.2 J | | 1.5 J | 1.4 J | 1.4 J | | 1.3 J | 1.3 J | | 0.79 J | 0.48 J | | 2.3 | 0.11 UJ | | 0.37 J |
| METALS | CALCIUM | MG/KG | 85.8 J | 302 J | | 278 J | 2160 J | | 383 J | 1960 J | | 985 J | 1290 J | 5140 J | | 1480 J | 4300 J | | 3000 | 7270 J | | 2190 | 3120 J | | 1030 J |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 4.2 J | 14.3 | | 10.1 J | 66.6 J | | 23.4 J | 87.9 J | | 34.7 J | 39.8 J | 46.2 J | | 178 J | 58.2 J | | 30.5 J | 63.9 J | | 491 J | 33.8 J | | 20.7 J |
| METALS | COBALT | MG/KG | 3 J | 0.89 J | | 0.66 J | 3.6 J | | 1.4 J | 6.3 J | | 3.1 J | 3.3 J | 5 J | | 3 J | 4.7 J | | 4 J | 4.1 J | | 3.1 J | 1.1 J | | 1.4 J |
| METALS | COPPER | MG/KG | 2.7 J | 5.2 J | | 3.9 J | 41.1 J | | 9 | 66.3 J | | 18.6 | 23.9 | 62.9 J | | 57.1 | 75.6 J | | 66.5 | 57.1 J | | 196 | 17.5 J | | 36.4 |
| METALS | CYANIDE | MG/KG | 0.61 U | 7.5 J | | 4.1 | 26.8 J | | 13.2 | 18.9 J | | 4.1 | 9.6 | 15.3 J | | 78.5 | 38.1 J | | 27.7 | 135 J | | 227 | 38.8 J | | 3.5 |
| METALS | IRON | MG/KG | | 2540 J | | 2570 | 9810 J | | 2930 | 10500 J | | 5500 | 6880 | 33100 J | | 7060 | 30500 J | | 10300 | 45900 J | | 8110 | 16600 J | | 4280 |
| METALS | LEAD | MG/KG | 4.8 | 117 | | 68.5 | 620 J | | 213 | 798 J | | 340 | 403 | 338 J | | 982 | 613 J | | 519 | 481 J | | 3400 | 111 J | | 327 |
| METALS | MAGNESIUM | MG/KG | 33.9 J | 160 J | | 116 J | 745 J | | 148 J | 527 J | | 242 J | 314 J | 1870 J | | 287 J | 1200 J | | 817 J | 1380 J | | 513 J | 445 J | | 277 J |
| METALS | MANGANESE | MG/KG | 50.6 | 33.1 | | 37.5 J | 64.3 J | | 11.8 J | 54.2 J | | 53.6 J | 65.5 J | 492 J | | 32.2 J | 150 J | | 25.1 J | 408 J | | 17.1 J | 48.3 J | | 23.1 J |
| METALS | MERCURY | MG/KG | 0.025 J | 0.093 J | | 0.071 J | 0.64 J | | 0.52 | 0.95 J | | 0.32 | 0.3 | 0.72 J | | 2.7 | 3.3 J | | 2.3 | 0.93 J | | 3 | 0.69 J | | 3.8 |
| METALS | NICKEL | MG/KG | 0.22 J | 1.5 J | | 0.97 | 10.8 J | | 3.5 J | 13.1 J | | 5.8 J | 6.1 J | 11.3 J | | 5.4 J | 11.8 J | | 8.2 J | 11.3 J | | 8.2 J | 2.7 J | | 3.8 J |
| METALS | POTASSIUM | MG/KG | 81.5 J | 130 J | | 101 J | 330 J | | 117 J | 276 J | | 167 J | 204 J | 535 J | | 149 J | 403 J | | 166 J | 511 J | | 246 J | 390 J | | 111 J |
| METALS | SELENIUM | MG/KG | 1.2 U | 0.52 U | | 0.62 J | 2.4 J | | 1.1 J | 2.2 J | | 1 J | 1.2 J | 2.8 J | | 1.2 J | 3.2 J | | 0.97 J | 4 J | | 1.6 J | 1.3 J | | 0.45 U |
| METALS | SILVER | MG/KG | 2.4 U | 0.068 U | | 0.057 U | 0.29 J | | 0.1 J | 0.41 J | | 0.13 J | 0.14 J | 0.27 J | | 0.14 J | 1.5 J | | 0.33 J | 0.68 J | | 0.53 J | 0.23 J | | 0.1 J |
| METALS | SODIUM | MG/KG | 1220 U | 28.1 J | | 20.6 J | 177 J | | 27.6 U | 153 J | | 37.6 J | 100 J | 357 J | | 89.6 J | 207 J | | 108 J | 349 J | | 117 J | 97.1 J | | 65.6 J |
| METALS | THALLIUM | MG/KG | 0.97 J | 0.41 U | | 0.34 U | 0.82 UJ | | 1.2 J | 0.71 UJ | | 0.9 J | 0.57 U | 0.92 UJ | | 0.52 U | 0.78 UJ | | 0.43 J | 1.1 J | | 0.6 J | 0.79 UJ | | 0.47 J |
| METALS | VANADIUM | MG/KG | 6.1 J | 6.1 J | | 5.4 J | 25.3 J | | 9.4 J | 23.7 J | | 9.5 J | 10.9 J | 29.5 J | | 16.3 J | 38.7 J | | 29.2 | 41.3 J | | 27.5 | 30.6 J | | 12.5 |
| METALS | ZINC | MG/KG | 3.8 J | 22.1 | | 19.5 | 290 J | | 43.6 | 398 J | | 118 | 162 | 497 J | | 322 | 549 J | | 404 | 437 J | | 773 | 140 J | | 224 |
| PEST/PCB | 4,4'-DDD | MG/KG | 0.004 UJ | 0.0045 UJ | | 0.0037 UJ | 0.0094 J | | 0.0052 UJ | 0.013 J | | 0.0042 J | 0.0063 J | 0.012 J | | 0.0071 J | 0.0086 UJ | | 0.038 J | 0.0088 UJ | | 0.048 J | 0.0087 UJ | | 0.024 J |
| PEST/PCB | 4,4'-DDE | MG/KG | 0.004 UJ | 0.0045 UJ | | 0.0037 UJ | 0.011 J | | 0.0052 UJ | 0.0068 J | | 0.0064 UJ | 0.0063 UJ | 0.0074 J | | 0.0044 J | 0.01 J | | 0.016 J | 0.0053 J | | 0.017 | 0.0087 UJ | | 0.0097 J |
| PEST/PCB | 4,4'-DDT | MG/KG | 0.004 UJ | 0.0024 J | | 0.0037 UJ | 0.02 J | | 0.0052 UJ | 0.012 J | | 0.0064 UJ | 0.0063 UJ | 0.019 J | | 0.0058 UJ | 0.038 J | | 0.029 J | 0.023 J | | 0.015 J | 0.019 J | | 0.014 J |
| PEST/PCB | ALDRIN | MG/KG | 0.0021 UJ | 0.0023 UJ | | 0.0019 UJ | 0.0047 UJ | | 0.0027 UJ | 0.004 UJ | | 0.0033 UJ | 0.0032 UJ | 0.0052 UJ | | 0.003 UJ | 0.0044 UJ | | 0.0024 U | 0.0046 UJ | | 0.0025 U | 0.0045 UJ | | 0.002 UJ |
| PEST/PCB | ALPHA-BHC | MG/KG | 0.0021 UJ | 0.0023 UJ | | 0.0019 UJ | 0.0047 UJ | | 0.0027 UJ | 0.004 UJ | | 0.0033 UJ | 0.0032 UJ | 0.0052 UJ | | 0.003 UJ | 0.0044 UJ | | 0.0024 U | 0.0046 UJ | | 0.0025 U | 0.0045 UJ | | 0.002 UJ |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | 0.0021 UJ | 0.0023 UJ | | 0.0019 UJ | 0.0032 J | | 0.0027 UJ | 0.0031 J | | 0.0033 UJ | 0.0032 UJ | 0.0071 J | | 0.0024 J | 0.0044 UJ | | 0.02 | 0.0046 UJ | | 0.005 J | 0.0045 UJ | | 0.012 J |
| PEST/PCB | AROCLOR-1016 | MG/KG | 0.04 UJ | 0.045 UJ | | 0.037 UJ | 0.09 UJ | | 0.052 UJ | 0.078 UJ | | 0.064 UJ | 0.063 UJ | 0.1 UJ | | 0.058 UJ | 0.086 UJ | | 0.047 U | 0.088 UJ | | 0.049 U | 0.087 UJ | | 0.039 UJ |
| PEST/PCB | AROCLOR-1221 | MG/KG | 0.082 UJ | 0.091 UJ | | 0.076 UJ | 0.18 UJ | | 0.1 UJ | 0.16 UJ | | 0.13 UJ | 0.13 UJ | 0.21 UJ | | 0.12 UJ | 0.17 UJ | | 0.095 U | 0.18 UJ | | 0.1 U | 0.18 UJ | | 0.08 UJ |
| PEST/PCB | AROCLOR-1232 | MG/KG | 0.04 UJ | 0.045 UJ | | 0.037 UJ | 0.09 UJ | | 0.052 UJ | 0.078 UJ | | 0.064 UJ | 0.063 UJ | 0.1 UJ | | 0.058 UJ | 0.086 UJ | | 0.047 U | 0.088 UJ | | 0.049 U | 0.087 UJ | | 0.039 UJ |
| PEST/PCB | AROCLOR-1242 | MG/KG | 0.04 UJ | 0.045 UJ | | 0.037 UJ | 0.09 UJ | | 0.052 UJ | 0.078 UJ | | 0.064 UJ | 0.063 UJ | 0.1 UJ | | 0.058 UJ | 0.086 UJ | | 0.047 U | 0.088 UJ | | 0.049 U | 0.087 UJ | | 0.039 UJ |
| PEST/PCB | AROCLOR-1248 | MG/KG | 0.04 UJ | 0.045 UJ | | 0.037 UJ | 0.09 UJ | | 0.052 UJ | 0.078 UJ | | 0.064 UJ | 0.063 UJ | 0.1 UJ | | 0.058 UJ | 0.086 UJ | | 0.047 U | 0.088 UJ | | 0.049 U | 0.087 UJ | | 0.039 UJ |
| PEST/PCB | AROCLOR-1254 | MG/KG | 0.04 UJ | 0.045 UJ | | 0.037 UJ | 0.09 UJ | | 0.052 UJ | 0.078 UJ | | 0.064 UJ | 0.063 UJ | 0.1 UJ | | 0.058 UJ | 0.086 UJ | | 0.66 J | 0.088 UJ | | 0.39 | 0.087 UJ | | 0.44 J |
| PEST/PCB | AROCLOR-1260 | MG/KG | 0.04 UJ | 0.045 UJ | | 0.037 UJ | 0.27 J | | 0.052 UJ | 0.19 J | | 0.08 J | 0.13 J | 0.3 J | | 0.058 UJ | 0.74 J | | 0.38 J | 0.51 J | | 0.049 U | 0.36 J | | 0.039 UJ |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | 0.0021 UJ | 0.0023 UJ | | 0.0019 UJ | 0.0047 UJ | | 0.0027 UJ | 0.004 UJ | | 0.0033 UJ | 0.0032 UJ | 0.0052 UJ | | 0.003 UJ | 0.0044 UJ | | 0.0024 U | 0.0046 UJ | | 0.0025 U | 0.0045 UJ | | 0.002 UJ |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | 0.0021 UJ | 0.0023 UJ | | 0.0019 UJ | 0.0047 UJ | | 0.0027 UJ | 0.004 UJ | | 0.0033 UJ | 0.0032 UJ | 0.0052 UJ | | 0.003 UJ | 0.0044 UJ | | 0.0024 U | 0.0046 UJ | | 0.0025 U | 0.0045 UJ | | 0.002 UJ |
| PEST/PCB | DIELDRIN | MG/KG | 0.004 UJ | 0.0045 UJ | | 0.0037 UJ | 0.009 UJ | | 0.0052 UJ | 0.0078 UJ | | 0.0064 UJ | 0.0063 UJ | 0.01 UJ | | 0.0058 UJ | 0.0062 J | | 0.0075 J | 0.0088 UJ | | 0.0055 | 0.0087 UJ | | 0.0065 J |
| PEST/PCB | ENDOSULFAN I | MG/KG | 0.0021 UJ | 0.0023 UJ | | 0.0019 UJ | 0.0047 UJ | | 0.0027 UJ | 0.004 UJ | | 0.0033 UJ | 0.0032 UJ | 0.0052 UJ | | 0.003 UJ | 0.0044 UJ | | 0.0024 U | 0.0046 UJ | | 0.0025 U | 0.0045 UJ | | 0.002 UJ |
| PEST/PCB | ENDOSULFAN II | MG/KG | 0.004 UJ | 0.0045 UJ | | 0.0037 UJ | 0.01 J | | 0.0052 UJ | 0.012 J | | 0.0064 UJ | 0.0063 UJ | 0.018 J | | 0.0039 J | 0.0086 UJ | | 0.032 | 0.0088 UJ | | 0.014 | 0.0087 UJ | | 0.0039 UJ |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | 0.004 UJ | 0.0045 UJ | | 0.0037 UJ | 0.009 UJ | | 0.0052 UJ | 0.0078 UJ | | 0.0064 UJ | 0.0063 UJ | 0.01 UJ | | 0.0058 UJ | 0.0086 UJ | | 0.0047 U | 0.0088 UJ | | 0.0034 J | 0.0087 UJ | | 0.0039 UJ |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | 0.004 UJ | 0.0045 UJ | | 0.0037 UJ | 0.012 J | | 0.0052 UJ | 0.0086 J | | 0.0035 J | 0.0063 UJ | 0.01 UJ | | 0.0058 UJ | 0.035 J | | 0.018 J | 0.026 J | | 0.0049 U | 0.019 J | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | 0.004 UJ | 0.0045 UJ | | 0.0037 UJ | 0.009 UJ | | 0.0052 UJ | 0.0078 UJ | | 0.0064 UJ | 0.0063 UJ | 0.01 UJ | | 0.0058 UJ | 0.0086 UJ | | 0.0047 U | 0.0088 UJ | | 0.0049 U | 0.0087 UJ | | 0.0039 UJ |
| PEST/PCB | ENDRIN | MG/KG | 0.004 UJ | 0.0045 UJ | | 0.0037 UJ | 0.009 UJ | | 0.0052 UJ | 0.0078 UJ | | 0.0064 UJ | 0.0063 UJ | 0.01 UJ | | 0.0072 J | 0.0086 UJ | | 0.051 | 0.0088 UJ | | 0.0049 U | 0.0087 UJ | | 0.0039 UJ |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | 0.0021 UJ | 0.0023 UJ | | 0.0019 UJ | 0.0047 UJ | | 0.0027 UJ | 0.004 UJ | | 0.0033 UJ | 0.0032 UJ | 0.0052 UJ | | 0.003 UJ | 0.0044 UJ | | 0.0024 U | 0.0046 UJ | | 0.0025 U | 0.0045 UJ | | 0.002 UJ |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | 0.0021 UJ | 0.0023 UJ | | 0.0019 UJ | 0.0047 UJ | | 0.0027 UJ | 0.004 UJ | | 0.0033 UJ | 0.0032 UJ | 0.0052 UJ | | 0.003 UJ | 0.0044 UJ | | 0.012 J | 0.0046 UJ | | 0.0025 U | 0.0045 UJ | | 0.0048 UJ |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | 0.0021 UJ | 0.0023 UJ | | 0.0019 UJ | 0.0047 UJ | | 0.0027 UJ | 0.004 UJ | | 0.0033 UJ | 0.0032 UJ | 0.0052 UJ | | 0.003 UJ | 0.0044 UJ | | 0.0024 U | 0.0046 UJ | | 0.0025 U | 0.0045 UJ | | 0.002 UJ |
| PEST/PCB | HEPTACHLOR | MG/KG | 0.0021 UJ | 0.0023 UJ | | 0.0019 UJ | 0.0047 UJ | | 0.0027 UJ | 0.004 UJ | | 0.0033 UJ | 0.0032 UJ | 0.0052 UJ | | 0.003 UJ | 0.0044 UJ | | 0.0024 U | 0.0046 UJ | | 0.0025 U | 0.0045 UJ | | 0.002 UJ |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | 0.021 UJ | 0.023 UJ | | 0.019 UJ | 0.047 UJ | | 0.027 UJ | 0.04 UJ | | 0.033 UJ | 0.032 UJ | 0.052 UJ | | 0.03 UJ | 0.044 UJ | | 0.024 U | 0.046 UJ | | 0.025 U | 0.045 UJ | | 0.02 UJ |
| PEST/PCB | TOXAPHENE | MG/KG | 0.21 UJ | 0.23 UJ | | 0.19 UJ | 0.47 UJ | | 0.27 UJ | 0.4 UJ | | 0.33 UJ | 0.32 UJ | 0.52 UJ | | 0.3 UJ | 0.44 UJ | | 0.24 U | 0.46 UJ | | 0.25 U | 0.45 UJ | | 0.2 UJ |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | HCSB0172 | HCSB0173/186 | HCSB0173/186 | HCSB0173/186 | HCSB0174/187 | HCSB0174/187 | HCSB0174/187 | HCSB0175/188 | HCSB0175/188 | HCSB0175/188 | HCSB0175/188 | HCSB0176/189 | HCSB0176/189 | HCSB0176/189 | HCSB0177/190 | HCSB0177/190 | HCSB0177/190 | HCSB0178/191 | HCSB0178/191 | HCSB0178/191 | HCSB0179/192 | HCSB0179/192 | HCSB0179/192 |
| | | Field Sample ID | HCSB0172-SS-AE-AF-1 | HCSB0173-SS-AA-AB-0 | HCSB0173-SS-AC-AD-0 | HCSB0186-SS-AC-AD-0 | HCSB0174-SS-AA-AB-0 | HCSB0174-SS-AC-AD-0 | HCSB0187-SS-AC-AD-0 | HCSB0175-SS-AA-AB-0 | HCSB0175-SS-AC-AD-0 | HCSB0188-SS-AC-AD-0 | HCSB0188-SS-AC-AD-1 | HCSB0176-SS-AA-AB-0 | HCSB0176-SS-AC-AD-0 | HCSB0189-SS-AC-AD-0 | HCSB0177-SS-AA-AB-0 | HCSB0177-SS-AC-AD-0 | HCSB0190-SS-AC-AD-0 | HCSB0178-SS-AA-AB-0 | HCSB0178-SS-AC-AD-0 | HCSB0191-SS-AC-AD-0 | HCSB0179-SS-AA-AB-0 | HCSB0179-SS-AC-AD-0 | HCSB0192-SS-AC-AD-0 |
| | | Sample Date | 7/25/2005 | 7/25/2005 | 7/25/2005 | 7/26/2005 | 7/25/2005 | 7/25/2005 | 7/26/2005 | 7/25/2005 | 7/25/2005 | 7/26/2005 | 7/26/2005 | 7/25/2005 | 7/25/2005 | 7/26/2005 | 7/25/2005 | 7/25/2005 | 7/26/2005 | 7/25/2005 | 7/25/2005 | 7/26/2005 | 7/25/2005 | 7/25/2005 | 7/26/2005 |
| | | Depth (ft) | 2-2.5 | 0-0.5 | 1-1.5 | 1-1.5 | 0-0.5 | 1-1.5 | 1-1.5 | 0-0.5 | 1-1.5 | 1-1.5 | 1-1.5 | 0-0.5 | 1-1.5 | 1-1.5 | 0-0.5 | 1-1.5 | 1-1.5 | 0-0.5 | 1-1.5 | 1-1.5 | 0-0.5 | 1-1.5 | 1-1.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 0.4 UJ | 0.45 UJ | | 0.37 UJ | 0.9 UJ | | 0.52 UJ | 0.78 UJ | | 0.64 UJ | 0.63 UJ | 1 UJ | | 0.58 UJ | 0.86 UJ | | 0.94 UJ | 0.88 UJ | | 1.5 UJ | 0.87 UJ | | 0.78 UJ |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 1 U | 1.1 U | | 0.94 U | 2.3 UJ | | 1.3 U | 2 UJ | | 1.6 U | 1.6 U | 2.5 UJ | | 1.4 U | 2.2 UJ | | 2.4 U | 2.2 UJ | | 3.7 U | 2.2 UJ | | 2 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 1 U | 1.1 U | | 0.94 U | 2.3 UJ | | 1.3 U | 2 UJ | | 1.6 U | 1.6 UJ | 2.5 UJ | | 1.4 U | 2.2 UJ | | 2.4 U | 2.2 UJ | | 3.7 UJ | 2.2 UJ | | 2 UJ |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | 2-METHYLPHENOL | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | 2-NITROANILINE | MG/KG | 1 U | 1.1 U | | 0.94 U | 2.3 UJ | | 1.3 U | 2 UJ | | 1.6 U | 1.6 U | 2.5 UJ | | 1.4 U | 2.2 UJ | | 2.4 U | 2.2 UJ | | 3.7 U | 2.2 UJ | | 2 U |
| SVOC | 2-NITROPHENOL | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | 3-NITROANILINE | MG/KG | 1 U | 1.1 U | | 0.94 U | 2.3 UJ | | 1.3 U | 2 UJ | | 1.6 U | 1.6 U | 2.5 UJ | | 1.4 U | 2.2 UJ | | 2.4 U | 2.2 UJ | | 3.7 U | 2.2 UJ | | 2 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 1 U | 1.1 U | | 0.94 U | 2.3 UJ | | 1.3 U | 2 UJ | | 1.6 U | 1.6 U | 2.5 UJ | | 1.4 U | 2.2 UJ | | 2.4 U | 2.2 UJ | | 3.7 U | 2.2 UJ | | 2 U |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | 4-CHLOROANILINE | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 UJ | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 UJ | 0.87 UJ | | 0.78 UJ |
| SVOC | 4-METHYLPHENOL | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | 4-NITROANILINE | MG/KG | 1 U | 1.1 U | | 0.94 U | 2.3 UJ | | 1.3 U | 2 UJ | | 1.6 U | 1.6 U | 2.5 UJ | | 1.4 U | 2.2 UJ | | 2.4 U | 2.2 UJ | | 3.7 U | 2.2 UJ | | 2 U |
| SVOC | 4-NITROPHENOL | MG/KG | 1 U | 1.1 U | | 0.94 U | 2.3 UJ | | 1.3 U | 2 UJ | | 1.6 U | 1.6 U | 2.5 UJ | | 1.4 U | 2 UJ | | 2.4 U | 2.2 UJ | | 3.7 U | 2.2 UJ | | 2 U |
| SVOC | ACENAPHTHENE | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.16 J | | 0.52 U | 0.2 J | | 0.071 J | 0.63 U | 0.32 J | | 0.11 J | 0.35 J | | 0.34 J | 0.13 J | | 0.52 J | 0.87 UJ | | 0.22 J |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 0.11 J | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 0.17 J | 0.87 UJ | | 0.78 U |
| SVOC | ACETOPHENONE | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | ANTHRACENE | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.37 J | | 0.52 U | 0.37 J | | 0.19 J | 0.11 J | 0.9 J | | 0.21 J | 0.6 J | | 0.56 J | 0.28 J | | 0.83 J | 0.094 J | | 0.47 J |
| SVOC | ATRAZINE | MG/KG | 0.4 U | 0.45 U | | 0.37 UJ | 0.9 UJ | | 0.52 UJ | 0.78 UJ | | 0.64 UJ | 0.63 UJ | 1 UJ | | 0.58 UJ | 0.86 UJ | | 0.94 UJ | 0.88 UJ | | 1.5 UJ | 0.87 UJ | | 0.78 U |
| SVOC | BENZALDEHYDE | MG/KG | 0.4 U | 0.45 U | | 0.37 UJ | 0.9 UJ | | 0.52 UJ | 0.78 UJ | | 0.64 UJ | 0.63 U | 1 UJ | | 0.58 UJ | 0.86 UJ | | 0.94 UJ | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.4 U | 0.14 J | | 0.14 J | 2.8 J | | 0.31 J | 2 J | | 1.3 | 0.97 | 5.7 J | | 1.3 | 3.4 J | | 2.5 | 1.7 J | | 3.8 | 0.63 J | | 1.8 |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.4 U | 0.21 J | | 0.23 J | 4 J | | 0.45 J | 2.6 J | | 1.9 | 1.4 | 7.9 J | | 1.5 | 4.8 J | | 2.6 | 2.3 J | | 3.9 | 0.87 J | | 1.8 |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 0.4 U | 0.29 J | | 0.35 J | 6.7 J | | 0.71 | 4.1 J | | 2.9 | 2.2 | 12 J | | 2.3 | 6.8 J | | 3.4 | 3.5 J | | 5.5 | 1.3 J | | 2.3 |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.4 U | 0.16 J | | 0.2 J | 3.5 J | | 0.4 J | 2.2 J | | 1.6 | 1.3 | 7.6 J | | 1.2 | 4.1 J | | 1.8 | 2 J | | 2.5 | 0.79 J | | 1.2 |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.4 U | 0.11 J | | 0.12 J | 2.3 J | | 0.26 J | 1.4 J | | 1.1 | 0.91 | 4.7 J | | 0.7 | 2.7 J | | 1.1 | 1.1 J | | 1.8 | 0.48 J | | 0.86 |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 0.4 U | 0.45 U | | 0.065 J | 0.26 J | | 0.14 J | 0.21 J | | 0.47 J | 15 | 0.76 J | | 0.25 J | 0.76 J | | 0.52 J | 0.45 J | | 0.31 J | 0.11 J | | 0.27 J |
| SVOC | CAPROLACTAM | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.12 J | | 0.52 U | 0.089 J | | 0.64 U | 0.63 U | 0.15 J | | 0.58 U | 0.1 J | | 0.94 U | 0.1 J | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | CARBAZOLE | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.63 J | | 0.064 J | 0.36 J | | 0.27 J | 0.16 J | 1.2 J | | 0.16 J | 0.64 J | | 0.4 J | 0.28 J | | 0.27 J | 0.11 J | | 0.33 J |
| SVOC | CHRYSENE | MG/KG | 0.4 U | 0.2 J | | 0.26 J | 5.1 J | | 0.59 | 3.1 J | | 2.4 | 2.3 | 9.9 J | | 2 | 5.4 J | | 3.1 | 2.6 J | | 4.5 | 0.97 J | | 2.1 |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.4 U | 0.45 U | | 0.047 J | 0.92 J | | 0.087 J | 0.59 J | | 0.41 J | 0.3 J | 2 J | | 0.34 J | 1.1 J | | 0.52 J | 0.52 J | | 0.79 J | 0.18 J | | 0.16 J |
| SVOC | DIBENZOFURAN | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 0.18 J | | 0.58 U | 0.13 J | | 0.1 J | 0.88 UJ | | 0.22 J | 0.87 UJ | | 0.1 J |
| SVOC | DIETHYLPHTHALATE | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.52 J | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | FLUORANTHENE | MG/KG | 0.4 U | 0.35 J | | 0.41 | 8.4 J | | 0.95 | 6.1 J | | 4.5 | 2.6 | 16 J | | 3.5 | 9.9 J | | 5.5 | 5.1 J | | 7.6 | 2 J | | 3.6 |
| SVOC | FLUORENE | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.17 J | | 0.52 U | 0.17 J | | 0.07 J | 0.63 U | 0.38 J | | 0.11 J | 0.27 J | | 0.25 J | 0.1 J | | 0.54 J | 0.87 UJ | | 0.16 J |
| SVOC | HEXACHLOROBENZENE | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | HEXACHLOROETHANE | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.4 U | 0.15 J | | 0.19 J | 3.6 J | | 0.38 J | 2.2 J | | 1.6 | 1.3 | 7.6 J | | 1.2 | 4.2 J | | 1.8 | 2 J | | 2.5 | 0.76 J | | 1.2 |
| SVOC | ISOPHORONE | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | NAPHTHALENE | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | NITROBENZENE | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | 1 U | 1.1 U | | 0.94 UJ | 2.3 UJ | | 1.3 UJ | 2 UJ | | 1.6 UJ | 1.6 U | 2.5 UJ | | 1.4 UJ | 2.2 UJ | | 2.4 UJ | 2.2 UJ | | 3.7 U | 2.2 UJ | | 2 U |
| SVOC | PHENANTHRENE | MG/KG | 0.4 U | 0.12 J | | 0.12 J | 3.5 J | | 0.38 J | 2.4 J | | 1.5 | 1 | 6.8 J | | 0.95 | 3.9 J | | 2.6 | 1.7 J | | 2.7 | 0.63 J | | 2 |
| SVOC | PHENOL | MG/KG | 0.4 U | 0.45 U | | 0.37 U | 0.9 UJ | | 0.52 U | 0.78 UJ | | 0.64 U | 0.63 U | 1 UJ | | 0.58 U | 0.86 UJ | | 0.94 U | 0.88 UJ | | 1.5 U | 0.87 UJ | | 0.78 U |
| SVOC | PYRENE | MG/KG | 0.4 U | 0.27 J | | 0.3 J | 6.9 J | | 0.72 | 4.3 J | | 3.1 | 1.9 J | 12 J | | 2.6 | 6.2 J | | 4.1 | 3.6 J | | 4.8 J | 1.3 J | | 2.4 J |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | HCSB0172 | HCSB0173/186 | HCSB0173/186 | HCSB0173/186 | HCSB0174/187 | HCSB0174/187 | HCSB0174/187 | HCSB0175/188 | HCSB0175/188 | HCSB0175/188 | HCSB0175/188 | HCSB0176/189 | HCSB0176/189 | HCSB0176/189 | HCSB0177/190 | HCSB0177/190 | HCSB0177/190 | HCSB0178/191 | HCSB0178/191 | HCSB0178/191 | HCSB0179/192 | HCSB0179/192 | HCSB0179/192 |
| | | Field Sample ID | HCSB0172-SS-AE-AF-1 | HCSB0173-SS-AA-AB-0 | HCSB0173-SS-AC-AD-0 | HCSB0186-SS-AC-AD-0 | HCSB0174-SS-AA-AB-0 | HCSB0174-SS-AC-AD-0 | HCSB0187-SS-AC-AD-0 | HCSB0175-SS-AA-AB-0 | HCSB0175-SS-AC-AD-0 | HCSB0188-SS-AC-AD-0 | HCSB0188-SS-AC-AD-1 | HCSB0176-SS-AA-AB-0 | HCSB0176-SS-AC-AD-0 | HCSB0189-SS-AC-AD-0 | HCSB0177-SS-AA-AB-0 | HCSB0177-SS-AC-AD-0 | HCSB0190-SS-AC-AD-0 | HCSB0178-SS-AA-AB-0 | HCSB0178-SS-AC-AD-0 | HCSB0191-SS-AC-AD-0 | HCSB0179-SS-AA-AB-0 | HCSB0179-SS-AC-AD-0 | HCSB0192-SS-AC-AD-0 |
| | | Sample Date | 7/25/2005 | 7/25/2005 | 7/25/2005 | 7/26/2005 | 7/25/2005 | 7/25/2005 | 7/26/2005 | 7/25/2005 | 7/25/2005 | 7/26/2005 | 7/26/2005 | 7/25/2005 | 7/25/2005 | 7/26/2005 | 7/25/2005 | 7/25/2005 | 7/26/2005 | 7/25/2005 | 7/25/2005 | 7/26/2005 | 7/25/2005 | 7/25/2005 | 7/26/2005 |
| | | Depth (ft) | 2-2.5 | 0-0.5 | 1-1.5 | 1-1.5 | 0-0.5 | 1-1.5 | 1-1.5 | 0-0.5 | 1-1.5 | 1-1.5 | 1-1.5 | 0-0.5 | 1-1.5 | 1-1.5 | 0-0.5 | 1-1.5 | 1-1.5 | 0-0.5 | 1-1.5 | 1-1.5 | 0-0.5 | 1-1.5 | 1-1.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | 0.011 UJ | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 UJ | | | 0.011 U | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | ACETONE | MG/KG | 0.0046 J | | 0.0034 J | | | 0.0033 J | | | 0.012 J | | | | 0.032 J | | | 0.0094 J | | | 0.054 | | | 0.0085 J | |
| VOC | BENZENE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | BROMOFORM | MG/KG | 0.011 UJ | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 UJ | | | 0.011 U | |
| VOC | BROMOMETHANE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | CARBON DISULFIDE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | CARBON TETRACHLORIDE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | CHLOROBENZENE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | CHLOROETHANE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | CHLOROFORM | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | CHLOROMETHANE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | CYCLOHEXANE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | 0.011 U | | 0.011 UJ | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 UJ | | | 0.02 U | | | 0.011 UJ | |
| VOC | DICHLOROMETHANE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | ETHYLBENZENE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | ISOPROPYLBENZENE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | METHYL ACETATE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | METHYL ETHYL KETONE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.01 J | | | 0.018 U | | | 0.019 J | | | 0.011 U | |
| VOC | METHYLCYCLOHEXANE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | TETRACHLOROETHENE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | TOLUENE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.0034 J | | | 0.0014 J | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | 0.011 U | | 0.011 U | | | 0.019 UJ | | | 0.026 UJ | | | | 0.029 UJ | | | 0.018 U | | | 0.02 U | | | 0.011 U | |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | HCSB0180/193 | HCSB0180/193 | HCSB0180/193 | HCSB0274 | HCSB0275 | HCSB0296 | HCSB0296 | HCSB0296 | HCSB0298 | HCSB0298 | HCSB0298 | HCSB0299 | HCSB0299 | HCSB0302 | HCSB0303 | HCSB0303 | HCSB0304 | HCSB0304 | HCSB0304 | HCSB0305 | HCSB0305 | HCSB0305 | HCSB0307 |
| | | Field Sample ID | HCSB0180-SS-AA-AB-0 | HCSB0180-SS-AC-AD-0 | HCSB0193-SS-AC-AD-0 | HCSB0274-SS-AA-AB-0 | HCSB0275-SS-AA-AB-0 | HCSB0296-SS-AA-AB-0 | HCSB0296-SS-AE-AF-0 | HCSB0296-SS-AM-AN-0 | HCSB0298-SS-AA-AB-0 | HCSB0298-SS-AE-AF-0 | HCSB0298-SS-AI-AJ-0 | HCSB0299-SS-AA-AB-0 | HCSB0299-SS-AI-AJ-0 | HCSB0302-SS-AA-AB-0 | HCSB0303-SS-AA-AB-0 | HCSB0303-SS-AE-AF-0 | HCSB0304-SS-AA-AB-0 | HCSB0304-SS-AA-AB-1 | HCSB0304-SS-AE-AF-0 | HCSB0305-SS-AA-AB-0 | HCSB0305-SS-AE-AF-0 | HCSB0305-SS-AI-AJ-0 | HCSB0307-SS-AA-AB-0 |
| | | Sample Date | 7/25/2005 | 7/25/2005 | 7/26/2005 | 7/27/2006 | 7/27/2006 | 8/8/2006 | 8/9/2006 | 8/9/2006 | 8/9/2006 | 8/9/2006 | 8/9/2006 | 8/9/2006 | 8/9/2006 | 8/10/2006 | 8/10/2006 | 8/10/2006 | 8/14/2006 | 8/14/2006 | 8/14/2006 | 8/14/2006 | 8/14/2006 | 2/27/2007 | 8/15/2006 |
| | | Depth (ft) | 0-0.5 | 1-1.5 | 1-1.5 | 0-0.5 | 0-0.5 | 0-0.5 | 2-2.5 | 6-6.5 | 0-0.5 | 2-2.5 | 4-4.5 | 0-0.5 | 4-4.5 | 0-0.5 | 0-0.5 | 2-2.5 | 0-0.5 | 0-0.5 | 2-2.5 | 0-0.5 | 2-2.5 | 4-4.5 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | 1780 | | 710 | 1970 | 1890 | 3370 | 2250 | 1250 | 5520 | 1880 | 1320 | 1290 | 3440 | 1780 | 4280 | 800 | 1220 | 1230 | 3320 | 3880 J | 1790 | 1200 | 4330 |
| METALS | ANTIMONY | MG/KG | 1.2 J | | 3 J | 1.2 J | 1.3 U | 5.6 J | 6 J | 0.77 U | 0.62 U | 0.96 J | 0.68 U | 0.66 J | 0.65 U | 1.2 U | 3.7 J | 1.6 J | 0.66 U | 0.64 U | 0.68 U | 39.1 J | 2.2 J | 0.82 UJ | 6.4 J |
| METALS | ARSENIC | MG/KG | 15.1 | | | | | 43.7 | 42.6 | 3.3 | 5 | 4 | 0.87 J | 4.9 | 1.5 J | | | | 4.2 | 4.1 J | 1.2 J | 167 J | 54 | 3.3 | 154 |
| METALS | BARIUM | MG/KG | 165 | | 94.9 | 15.3 J | 86.2 | 148 | 187 | 78.3 | 113 | 642 | 48.3 | 74.3 | 59.1 | 214 | 249 | 24.1 J | 63.3 | 62.1 | 23.8 J | 345 J | 366 | 32.4 J | 328 |
| METALS | BERYLLIUM | MG/KG | 0.27 J | | 0.14 J | 0.07 J | 0.06 J | 0.12 J | 0.27 J | 0.05 J | 0.24 J | 0.1 J | 0.03 J | 0.1 J | 0.53 J | 0.07 J | 0.19 J | 0.06 U | 0.02 U | 0.02 U | 0.02 U | 0.03 UJ | 0.05 J | 0.04 J | 0.23 J |
| METALS | CADMIUM | MG/KG | 0.068 U | | 0.21 J | 0.14 J | 0.65 J | 0.66 J | 1.8 | 0.08 U | 0.53 J | 0.26 J | 0.07 U | 0.43 J | 0.31 J | 0.06 U | 0.61 J | 0.48 J | 0.07 UJ | 0.07 UJ | 0.07 UJ | 0.77 J | 2.5 J | 0.44 J | 0.11 U |
| METALS | CALCIUM | MG/KG | 1850 | | 466 J | 865 J | 4740 | 2980 J | 1250 J | 1300 J | 2100 J | 1730 J | 600 J | 939 J | 5140 J | 1380 | 1950 | 415 J | 430 J | 391 J | 184 J | 5420 J | 956 J | 626 J | 2960 |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 13.7 | | 11 J | 6.4 J | 10.1 J | 28.7 | 152 J | 31.4 J | 16.8 J | 26.4 J | 5.8 J | 9.3 J | 10.1 J | 8.7 J | 37.3 J | 26.1 J | 7.4 | 7.3 | 9.1 | 57.1 J | 123 | 12.6 | 37.1 J |
| METALS | COBALT | MG/KG | 0.6 J | | 0.92 J | 0.55 J | 1.2 J | 2.3 J | 1.7 J | 0.38 J | 3.6 J | 1.2 J | 0.44 J | 5.8 J | 4.9 J | 1.8 J | 2.6 J | 0.52 U | 3.2 J | 2.8 J | 0.4 J | 4.1 J | 2.1 J | 0.24 J | 4 J |
| METALS | COPPER | MG/KG | 7.9 J | | 12.7 | | | 24.7 | 121 | 8.8 | 14.4 | 12.7 | 2.6 J | 12.8 | 17.6 | 45.5 J | 38.6 | 16.8 | 9.2 | 8 | 4.5 | 51.8 J | 39.9 | 4.1 J | 39.4 |
| METALS | CYANIDE | MG/KG | 6.9 J | | 0.62 | 0.04 U | 1.1 | 10.1 | 123 | 66.6 | 1.4 | 3.8 | 0.58 U | 0.78 | 0.57 U | 0.5 U | 12.5 | 41.2 | 3.9 | 6.1 | 0.91 | 23.1 J | 44.2 J | 1.9 | |
| METALS | IRON | MG/KG | 15800 | | 4100 | 3790 | 4060 | 10200 | 7430 | 2410 | 9110 | 4890 | 2320 | 2970 | 6160 | 5750 | 17700 | 1560 | 3120 | 2880 | 5030 | 25800 J | 5800 | 880 | 29400 |
| METALS | LEAD | MG/KG | 60.3 | | 143 | 66.5 | 147 | 271 | 4000 | 186 | 259 | 386 | 26.5 | 175 | 134 | 60.5 | 291 | 180 | 136 | 138 | 27 | 489 J | 2330 | 75.7 | 281 J |
| METALS | MAGNESIUM | MG/KG | 248 J | | 126 J | 163 J | 930 J | 441 J | 243 J | 54.8 J | 1550 | 212 J | 65.1 J | 211 J | 1010 | 252 J | 618 J | 44.3 J | 14.9 U | 24.5 J | 51.3 J | 1010 J | 26.2 J | 70.9 J | 763 J |
| METALS | MANGANESE | MG/KG | 71.6 | | 8.7 J | 20.3 | 104 | 120 | | | | | | | | 41.7 J | 77.2 J | 6.1 J | 23.5 | 21.1 | 13.1 | 841 J | 19.3 | 6.4 | 660 |
| METALS | MERCURY | MG/KG | 0.22 | | 1 | 0.11 J | 0.19 | 0.45 | 0.75 | 0.055 U | 0.23 | 0.8 | 0.059 U | 1.6 | 0.61 | 0.062 J | 0.45 | 0.043 J | | | 0.046 U | | | 0.06 UJ | 0.42 |
| METALS | NICKEL | MG/KG | 1.5 J | | 1.5 J | 2.2 J | 7.7 J | 5.1 J | 3.7 J | 0.47 J | 5.7 J | 1.9 J | 0.35 U | 1.2 J | 0.92 J | 1.2 J | 8 J | 0.92 J | 1.7 J | 1.4 J | 1 J | 9 J | 3.4 J | 0.89 J | 6.2 J |
| METALS | POTASSIUM | MG/KG | 149 J | | 66.9 J | 63.5 J | 69.3 J | 199 J | 116 J | 81.8 J | 1660 J | 148 J | 66.8 J | 93.7 J | 651 J | 147 J | 320 J | 86.4 U | 82.8 J | 86.7 J | 135 J | 409 J | 109 J | 55.6 J | 299 J |
| METALS | SELENIUM | MG/KG | 1.5 J | | 0.62 J | 1.1 U | 1.6 U | 0.92 U | 0.92 UJ | 0.77 UJ | 0.62 UJ | 0.65 UJ | 0.68 UJ | 0.59 UJ | 0.8 UJ | 0.77 U | 1.3 U | 0.89 U | 0.79 J | 0.64 U | 0.68 U | 1.2 J | 0.75 U | 1.1 U | 1.4 |
| METALS | SILVER | MG/KG | 0.081 J | | 0.07 J | 0.24 U | 0.36 U | 0.28 U | 0.28 U | 0.24 U | 0.19 U | 0.2 U | 0.21 U | 0.18 U | 0.2 U | 0.4 J | 0.61 J | 0.37 U | 0.2 U | 0.2 U | 0.21 U | 0.35 UJ | 0.69 J | 0.2 U | 0.55 U |
| METALS | SODIUM | MG/KG | 83.6 J | | 39 J | 32.7 U | 421 J | 74.6 U | 74.8 U | 62.3 U | 50.2 U | 53 U | 54.9 U | 47.6 U | 52.9 U | 88.8 U | 194 J | 104 U | 53.9 U | 52.2 U | 55.5 U | 382 J | 60.6 J | 99 J | 337 J |
| METALS | THALLIUM | MG/KG | 0.49 U | | 0.31 U | 0.99 U | 1.5 U | 1.8 U | 1.8 U | 1.5 U | 1.2 U | 1.3 U | 1.4 U | 1.2 U | 1.3 U | 0.85 U | 1.4 U | 0.99 U | 1.3 U | 1.3 U | 1.4 U | 2.2 UJ | 1.5 U | 1.4 U | 1.4 UJ |
| METALS | VANADIUM | MG/KG | 10 J | | 5.6 J | 12.1 | 8.6 J | 13.4 | 14.6 | 3.4 J | 14.9 | 10.1 | 4.4 J | 6.4 J | 5.5 J | 7.7 J | 26.1 | 2.7 J | 7.1 J | 6.7 J | 9.3 | 24.4 J | 7.7 J | 4.1 J | 23.7 |
| METALS | ZINC | MG/KG | 86.9 | | 130 | 30.2 | 156 | 177 | 462 | 21.5 | 114 | 98.1 | 57.1 | 99 | 102 | 122 J | 276 | 52.8 | 32.1 | 28.8 | 18.4 | 451 J | 216 | 66.3 | 292 |
| PEST/PCB | 4,4'-DDD | MG/KG | 0.0053 U | | 0.015 | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | 0.0053 U | | 0.006 | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | 0.0053 U | | 0.0061 | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | 0.0028 U | | 0.0017 U | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | 0.0028 U | | 0.0017 U | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | 0.0028 U | | 0.0038 J | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | 0.053 U | | 0.034 U | 0.074 U | 0.11 U | 0.026 U | 0.026 U | 0.023 U | 0.018 U | 0.019 U | 0.02 U | 0.018 U | 0.019 U | 0.018 U | 0.03 U | 0.021 U | 0.019 U | 0.019 U | 0.019 U | 0.033 UJ | 0.022 U | 0.044 U | 0.091 U |
| PEST/PCB | AROCLOR-1221 | MG/KG | 0.11 U | | 0.069 U | 0.074 U | 0.11 U | 0.026 U | 0.026 U | 0.023 U | 0.018 U | 0.019 U | 0.02 U | 0.018 U | 0.019 U | 0.018 U | 0.03 U | 0.021 U | 0.019 U | 0.019 U | 0.019 U | 0.033 UJ | 0.022 U | 0.044 U | 0.091 U |
| PEST/PCB | AROCLOR-1232 | MG/KG | 0.053 U | | 0.034 U | 0.074 U | 0.11 U | 0.026 U | 0.026 U | 0.023 U | 0.018 U | 0.019 U | 0.02 U | 0.018 U | 0.019 U | 0.018 U | 0.03 U | 0.021 U | 0.019 U | 0.019 U | 0.019 U | 0.033 UJ | 0.022 U | 0.044 U | 0.091 U |
| PEST/PCB | AROCLOR-1242 | MG/KG | 0.053 U | | 0.034 U | 0.074 U | 0.11 U | 0.026 U | 0.026 U | 0.023 U | 0.018 U | 0.019 U | 0.02 U | 0.018 U | 0.019 U | 0.018 U | 0.03 U | 0.021 U | 0.019 U | 0.019 U | 0.019 U | 0.033 UJ | 0.022 U | 0.044 U | 0.091 U |
| PEST/PCB | AROCLOR-1248 | MG/KG | 0.053 U | | 0.034 U | 0.074 U | 0.11 U | 0.026 U | 0.026 U | 0.023 U | 0.018 U | 0.019 U | 0.02 U | 0.018 U | 0.019 U | 0.018 U | 0.03 U | 0.021 U | 0.019 U | 0.019 U | 0.019 U | 0.033 UJ | 0.022 U | 0.044 U | 0.091 U |
| PEST/PCB | AROCLOR-1254 | MG/KG | 0.053 U | | 0.25 | 0.074 U | 0.11 U | 0.026 U | 0.067 | 0.023 U | 0.018 U | 0.019 U | 0.02 U | 0.018 U | 0.019 U | 0.021 | 0.03 U | 0.021 U | 0.019 U | 0.019 U | 0.019 U | 0.15 J | 0.034 J | 0.044 U | 0.091 U |
| PEST/PCB | AROCLOR-1260 | MG/KG | 0.078 | | 0.034 U | 0.074 U | 0.11 U | 0.27 | 0.055 | 0.023 U | 0.065 | 0.022 | 0.02 U | 0.027 J | 0.019 U | 0.018 U | 0.37 | 0.051 | 0.019 U | 0.019 U | 0.019 U | 0.42 J | 0.28 | 0.044 U | 0.9 |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | | | | | | | | | | | | | | | | | | | | 0.044 U | |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | | | | | | | | | | | | | | | | | | | | 0.044 U | |
| PEST/PCB | BETA-BHC | MG/KG | 0.0028 U | | 0.0017 U | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | 0.0028 U | | 0.0017 U | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | 0.0053 U | | 0.0034 U | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | 0.0028 U | | 0.0017 U | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | 0.0055 | | 0.0034 U | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | 0.0053 U | | 0.0034 U | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | 0.0053 U | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | 0.0053 U | | 0.0034 U | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | 0.0053 U | | 0.0034 U | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | 0.0028 U | | 0.0017 U | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | 0.0028 U | | 0.0017 U | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | 0.0028 U | | 0.0017 U | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | 0.0028 U | | 0.0017 U | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | 0.028 U | | 0.017 U | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | 0.28 U | | 0.17 U | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | HCSB0180/193 | HCSB0180/193 | HCSB0180/193 | HCSB0274 | HCSB0275 | HCSB0296 | HCSB0296 | HCSB0296 | HCSB0298 | HCSB0298 | HCSB0298 | HCSB0299 | HCSB0299 | HCSB0302 | HCSB0303 | HCSB0303 | HCSB0304 | HCSB0304 | HCSB0304 | HCSB0305 | HCSB0305 | HCSB0305 | HCSB0307 |
| | | Field Sample ID | HCSB0180-SS-AA-AB-0 | HCSB0180-SS-AC-AD-0 | HCSB0193-SS-AC-AD-0 | HCSB0274-SS-AA-AB-0 | HCSB0275-SS-AA-AB-0 | HCSB0296-SS-AA-AB-0 | HCSB0296-SS-AE-AF-0 | HCSB0296-SS-AM-AN-0 | HCSB0298-SS-AA-AB-0 | HCSB0298-SS-AE-AF-0 | HCSB0298-SS-AI-AJ-0 | HCSB0299-SS-AA-AB-0 | HCSB0299-SS-AI-AJ-0 | HCSB0302-SS-AA-AB-0 | HCSB0303-SS-AA-AB-0 | HCSB0303-SS-AE-AF-0 | HCSB0304-SS-AA-AB-0 | HCSB0304-SS-AA-AB-1 | HCSB0304-SS-AE-AF-0 | HCSB0305-SS-AA-AB-0 | HCSB0305-SS-AE-AF-0 | HCSB0305-SS-AI-AJ-0 | HCSB0307-SS-AA-AB-0 |
| | | Sample Date | 7/25/2005 | 7/25/2005 | 7/26/2005 | 7/27/2006 | 7/27/2006 | 8/8/2006 | 8/9/2006 | 8/9/2006 | 8/9/2006 | 8/9/2006 | 8/9/2006 | 8/9/2006 | 8/9/2006 | 8/10/2006 | 8/10/2006 | 8/10/2006 | 8/14/2006 | 8/14/2006 | 8/14/2006 | 8/14/2006 | 8/14/2006 | 2/27/2007 | 8/15/2006 |
| | | Depth (ft) | 0-0.5 | 1-1.5 | 1-1.5 | 0-0.5 | 0-0.5 | 0-0.5 | 2-2.5 | 6-6.5 | 0-0.5 | 2-2.5 | 4-4.5 | 0-0.5 | 4-4.5 | 0-0.5 | 0-0.5 | 2-2.5 | 0-0.5 | 0-0.5 | 2-2.5 | 0-0.5 | 2-2.5 | 4-4.5 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 0.53 UJ | | 0.34 UJ | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 1.3 U | | 0.85 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 1.3 U | | 0.85 UJ | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-CHLOROPHENOL | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-METHYLPHENOL | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-NITROANILINE | MG/KG | 1.3 U | | 0.85 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-NITROPHENOL | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 3-NITROANILINE | MG/KG | 1.3 U | | 0.85 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 1.3 U | | 0.85 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLOROANILINE | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 0.53 U | | 0.34 UJ | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-METHYLPHENOL | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-NITROANILINE | MG/KG | 1.3 U | | 0.85 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-NITROPHENOL | MG/KG | 1.3 U | | 0.85 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | ACENAPHTHENE | MG/KG | 0.53 U | | 0.11 J | 0.13 J | 0.014 J | 0.8 J | 0.32 J | 0.46 U | 0.59 J | 0.097 J | 0.39 U | 0.29 J | 0.053 J | 0.021 J | 0.26 J | 0.41 UJ | 0.38 U | 0.028 J | 0.38 U | 0.7 J | 0.26 J | 2.2 U | 0.55 J |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.53 U | | 0.34 U | 0.041 J | 0.55 U | 7.4 U | 0.098 J | 0.46 U | 1.2 U | 0.37 U | 0.39 U | 0.036 J | 0.049 J | 0.35 UJ | 1.7 UJ | 0.41 UJ | 0.38 U | 0.37 U | 0.38 U | 8.3 UJ | 0.11 J | 2.2 U | 3 U |
| SVOC | ACETOPHENONE | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | ANTHRACENE | MG/KG | 0.53 U | | 0.17 J | 0.21 J | 0.043 J | 1.7 J | 0.64 J | 0.46 U | 0.94 J | 0.2 J | 0.39 U | 0.56 J | 0.19 J | 0.037 J | 0.54 J | 0.022 J | 0.027 J | 0.089 J | 0.38 U | 2.3 J | 0.58 J | 2.2 U | 0.77 J |
| SVOC | ATRAZINE | MG/KG | 0.53 U | | 0.34 UJ | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZALDEHYDE | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.18 J | | 0.72 | 0.85 | 0.2 J | 13 | 3.4 | 0.091 J | 3.1 | 0.5 | 0.03 J | 2.1 | 2.1 | 0.12 J | 3.4 J | 0.12 J | 0.18 J | 0.41 | 0.38 U | 17 J | 2 | 2.2 U | 5.2 |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.27 J | | 0.63 | 1.1 | 0.27 J | 13 | 3.2 | 0.094 J | 2.6 | 0.5 | 0.032 J | 2.2 | 2.3 | 0.13 J | 4.1 J | 0.14 J | 0.17 J | 0.36 J | 0.38 U | 23 J | 1.8 | 2.2 U | 7 |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 0.42 J | | 0.9 | 0.72 | 0.18 J | 20 | 3.4 | 0.12 J | 2.8 | 0.53 | 0.032 J | 2.7 | 2.4 | 0.14 J | 5.4 J | 0.13 J | 0.18 J | 0.35 J | 0.38 U | 22 J | 1.6 | 2.2 U | 9.1 |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.21 J | | 0.4 | 0.97 | 0.3 J | 13 | 2.2 | 0.054 J | 2.1 | 0.24 J | 0.018 J | 1.3 | 1.9 | 0.065 J | 1.8 J | 0.062 J | 0.12 J | 0.18 J | 0.38 U | 18 J | 0.89 | 2.2 U | 7 |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.14 J | | 0.31 J | 0.95 | 0.27 J | 11 | 3.5 | 0.096 J | 2.6 | 0.6 | 0.041 J | 2.1 | 2.2 | 0.21 J | 5.4 J | 0.19 J | 0.24 J | 0.45 | 0.38 U | 33 J | 2.2 | 2.2 U | 7.9 |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 0.53 U | | 0.2 J | | | | | | | | | | | | | | | | | | | | |
| SVOC | CAPROLACTAM | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | CARBAZOLE | MG/KG | 0.53 U | | 0.081 J | | | | | | | | | | | | | | | | | | | | |
| SVOC | CHRYSENE | MG/KG | 0.3 J | | 0.81 | 1.1 | 0.3 J | 20 | 3.7 | 0.11 J | 3.2 | 0.53 | 0.035 J | 2.3 | 2.4 | 0.14 J | 4.8 J | 0.15 J | 0.22 J | 0.47 | 0.38 U | 25 J | 2 | 2.2 U | 7.7 |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.53 U | | 0.12 J | 0.28 J | 0.55 U | 4.9 J | 0.73 J | 0.46 U | 0.52 J | 0.077 J | 0.39 U | 0.38 J | 0.54 J | 0.018 J | 0.53 J | 0.02 J | 0.035 J | 0.06 J | 0.38 U | 4.7 J | 0.33 J | 2.2 U | 2.6 J |
| SVOC | DIBENZOFURAN | MG/KG | 0.53 U | | 0.05 J | | | | | | | | | | | | | | | | | | | | |
| SVOC | DIETHYLPHTHALATE | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | FLUORANTHENE | MG/KG | 0.48 J | | 1.5 | 2.5 | 0.51 J | 41 | 5.8 | 0.18 J | 6.1 | 0.89 | 0.06 J | 3.2 | 2.3 | 0.19 J | 5.9 J | 0.19 J | 0.38 J | 0.8 | 0.017 J | 47 J | 3.3 | 2.2 U | 15 |
| SVOC | FLUORENE | MG/KG | 0.53 U | | 0.074 J | 0.12 J | 0.016 J | 0.56 J | 0.29 J | 0.46 U | 0.4 J | 0.1 J | 0.39 U | 0.22 J | 0.049 J | 0.019 J | 0.22 J | 0.41 UJ | 0.38 U | 0.029 J | 0.38 U | 0.8 J | 0.27 J | 2.2 U | 0.37 J |
| SVOC | HEXACHLOROBENZENE | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROETHANE | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.22 J | | 0.41 | 0.87 | 0.26 J | 12 | 2.2 | 0.057 J | 1.7 | 0.23 J | 0.019 J | 1.2 | 1.6 | 0.07 J | 1.9 J | 0.07 J | 0.11 J | 0.19 J | 0.38 U | 17 J | 1 | 2.2 U | 6.1 |
| SVOC | ISOPHORONE | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | NAPHTHALENE | MG/KG | 0.53 U | | 0.34 U | 0.024 J | 0.55 U | 7.4 U | 0.098 J | 0.46 U | 0.092 J | 0.033 J | 0.39 U | 0.085 J | 0.025 J | 0.061 J | 1.7 UJ | 0.41 UJ | 0.38 U | 0.37 U | 0.38 U | 8.3 UJ | 0.16 J | 2.2 U | 0.18 J |
| SVOC | NITROBENZENE | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | PENTACHLOROPHENOL | MG/KG | 1.3 U | | 0.85 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | PHENANTHRENE | MG/KG | 0.16 J | | 0.56 | 1.5 | 0.25 J | 14 | 2.4 | 0.089 J | 4.8 | 0.83 | 0.038 J | 2.4 | 0.75 | 0.14 J | 3.3 J | 0.12 J | 0.16 J | 0.48 | 0.38 U | 18 J | 2.1 | 2.2 U | 5.7 |
| SVOC | PHENOL | MG/KG | 0.53 U | | 0.34 U | | | | | | | | | | | | | | | | | | | | |
| SVOC | PYRENE | MG/KG | 0.35 J | | 0.92 J | 2.1 | 0.48 J | 47 | 7 J | 0.28 J | 6.8 J | 1.3 J | 0.085 J | 5.2 J | 3.7 J | 0.33 J | 9.6 J | 0.35 J | 0.36 J | 0.93 | 0.018 J | 43 J | 4 | 2.2 U | 14 |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | HCSB0180/193 | HCSB0180/193 | HCSB0180/193 | HCSB0274 | HCSB0275 | HCSB0296 | HCSB0296 | HCSB0296 | HCSB0298 | HCSB0298 | HCSB0298 | HCSB0299 | HCSB0299 | HCSB0302 | HCSB0303 | HCSB0303 | HCSB0304 | HCSB0304 | HCSB0304 | HCSB0305 | HCSB0305 | HCSB0305 | HCSB0307 |
| | | Field Sample ID | HCSB0180-SS-AA-AB-0 | HCSB0180-SS-AC-AD-0 | HCSB0193-SS-AC-AD-0 | HCSB0274-SS-AA-AB-0 | HCSB0275-SS-AA-AB-0 | HCSB0296-SS-AA-AB-0 | HCSB0296-SS-AE-AF-0 | HCSB0296-SS-AM-AN-0 | HCSB0298-SS-AA-AB-0 | HCSB0298-SS-AE-AF-0 | HCSB0298-SS-AI-AJ-0 | HCSB0299-SS-AA-AB-0 | HCSB0299-SS-AI-AJ-0 | HCSB0302-SS-AA-AB-0 | HCSB0303-SS-AA-AB-0 | HCSB0303-SS-AE-AF-0 | HCSB0304-SS-AA-AB-0 | HCSB0304-SS-AA-AB-1 | HCSB0304-SS-AE-AF-0 | HCSB0305-SS-AA-AB-0 | HCSB0305-SS-AE-AF-0 | HCSB0305-SS-AI-AJ-0 | HCSB0307-SS-AA-AB-0 |
| | | Sample Date | 7/25/2005 | 7/25/2005 | 7/26/2005 | 7/27/2006 | 7/27/2006 | 8/8/2006 | 8/9/2006 | 8/9/2006 | 8/9/2006 | 8/9/2006 | 8/9/2006 | 8/9/2006 | 8/9/2006 | 8/10/2006 | 8/10/2006 | 8/10/2006 | 8/14/2006 | 8/14/2006 | 8/14/2006 | 8/14/2006 | 8/14/2006 | 2/27/2007 | 8/15/2006 |
| | | Depth (ft) | 0-0.5 | 1-1.5 | 1-1.5 | 0-0.5 | 0-0.5 | 0-0.5 | 2-2.5 | 6-6.5 | 0-0.5 | 2-2.5 | 4-4.5 | 0-0.5 | 4-4.5 | 0-0.5 | 0-0.5 | 2-2.5 | 0-0.5 | 0-0.5 | 2-2.5 | 0-0.5 | 2-2.5 | 4-4.5 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | ACETONE | MG/KG | | 0.023 | | | | | | | | | | | | | | | | | | | | | |
| VOC | BENZENE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOFORM | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOMETHANE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | CARBON DISULFIDE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | CARBON TETRACHLORIDE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROBENZENE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROETHANE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROFORM | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROMETHANE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | CYCLOHEXANE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | 0.016 UJ | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | ETHYLBENZENE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | ISOPROPYLBENZENE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ACETATE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | | 0.0089 J | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYLCYCLOHEXANE | MG/KG | | 0.0049 J | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | TETRACHLOROETHENE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | TOLUENE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | | 0.016 U | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | HCSB0307 | HCSB0307 | HCSB0308 | HCSB0308 | HCSB0309 | HCSB0309 | HCSB0310 | HCSB0310 | HCSB0311 | HCSB0311 | HCSB0311 | HCSB0312 | HCSB0312 | HCSB0498 | HCSB0499 | HCSB0500 | HCSB0501 | HCSB0501 | MPSB0027 | MPSB0027 | MPSB0042 | MPSB0042 | MPSB0042 |
| | | Field Sample ID | HCSB0307-SS-AE-AF-0 | HCSB0307-SS-AI-AJ-0 | HCSB0308-SS-AA-AB-0 | HCSB0308-SS-AE-AF-0 | HCSB0309-SS-AA-AB-0 | HCSB0309-SS-AE-AF-0 | HCSB0310-SS-AA-AB-0 | HCSB0310-SS-AE-AF-0 | HCSB0311-SS-AA-AB-0 | HCSB0311-SS-AE-AF-0 | HCSB0311-SS-AI-AJ-0 | HCSB0312-SS-AA-AB-0 | HCSB0312-SS-AF-AG-0 | HCSB0498-SS-AC-AD-0 | HCSB0499-SS-AF-AG-0 | HCSB0500-SS-AA-AB-0 | HCSB0501-SS-AB-AC-0 | HCSB0501-SS-AB-AC-1 | MPSB0027-SS-AA-AB-0 | MPSB0027-SS-AD-AE-0 | MPSB0042-SS-AA-AB-0 | MPSB0042-SS-AD-AE-0 | MPSB0042-SS-AL-AM-0 |
| | | Sample Date | 8/15/2006 | 2/27/2007 | 8/15/2006 | 8/15/2006 | 8/15/2006 | 8/15/2006 | 8/15/2006 | 8/15/2006 | 8/15/2006 | 8/15/2006 | 8/15/2006 | 8/17/2006 | 8/17/2006 | 6/16/2014 | 6/16/2014 | 6/16/2014 | 6/16/2014 | 6/16/2014 | 12/16/2009 | 12/16/2009 | 1/12/2010 | 1/12/2010 | 1/12/2010 |
| | | Depth (ft) | 2-2.5 | 4-4.5 | 0-0.5 | 2-2.5 | 0-0.5 | 2-2.5 | 0-0.5 | 2-2.5 | 0-0.5 | 2-2.5 | 4-4.5 | 0-0.5 | 2.5-3 | 1-1.5 | 2.5-3 | 0-0.5 | 0.5-1 | 0.5-1 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 5.5-6 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | 450 J | 38 J | 240 J | 88 J | 71 J | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | 200 J | 28 J | 120 J | 79 J | 55 J | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | 84 J | 12 J | 38 J | 20 J | 20 J | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | 140 J | 50 J | 90 J | 28 U | 37 J | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | 100 J | 49 J | 99 J | 43 J | 57 J | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | 560 J | 390 J | 690 J | 320 J | 430 J | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | 1600 J | 750 J | 1800 J | 880 J | 610 J | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | 1900 J | 170 J | 1200 J | 510 J | 280 J | | | | | |
| METALS | ALUMINUM | MG/KG | 807 | 11000 J | 2240 | 2180 | 4780 | 234 | 2440 | 515 | 1880 | 1020 | 1460 | 958 J | 2260 J | | | | | | 2580 | | 1030 | | 4060 |
| METALS | ANTIMONY | MG/KG | 1.4 UJ | 15.3 J | 1.7 UJ | 3.6 J | 7.9 J | 1.4 UJ | 2.2 UJ | 1.3 UJ | 3.1 J | 1.4 UJ | 1.5 UJ | 0.71 U | 0.65 U | | | | | | 5.6 UJ | | 5.9 U | | 5.5 U |
| METALS | ARSENIC | MG/KG | 15.5 | 5270 J | 2.2 J | 8.2 J | 222 | 0.85 UJ | 22.8 | 0.79 UJ | 7.3 J | 0.83 UJ | 0.88 UJ | 2.7 | 0.78 U | | | | | | 2.6 | | 1.6 | | 4.2 |
| METALS | BARIUM | MG/KG | 55.7 | 6780 J | 293 | 167 | 256 | 16.5 J | 364 | 13.5 J | 41.6 J | 3.2 J | 19.5 J | 96.4 | 22.7 J | | | | | | 216 | | 19.7 U | | 101 |
| METALS | BERYLLIUM | MG/KG | 0.08 J | 0.56 J | 0.07 U | 0.09 J | 0.26 J | 0.05 U | 0.16 J | 0.05 U | 0.12 J | 0.05 U | 0.07 J | 0.13 J | 0.05 J | | | | | | 0.22 J | | 0.49 U | | 0.4 U |
| METALS | CADMIUM | MG/KG | 0.07 U | 10.8 J | 0.09 U | 0.24 J | 0.11 U | 0.07 U | 0.41 J | 0.07 U | 0.15 J | 0.07 U | 0.07 U | 0.21 J | 0.07 J | | | | | | 0.36 J | | 0.17 J | | 0.46 U |
| METALS | CALCIUM | MG/KG | 442 J | 7060 J | 278 J | 582 J | 4120 | 206 J | 2080 | 88.9 J | 2500 | 56.3 J | 34.3 U | 833 J | 271 J | | | | | | 592 | | 93.6 J | | 403 U |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 8.4 J | 4040 J | 7.9 J | 23.1 J | 38.1 J | 2 | 46.7 | 2.3 J | 8.5 J | 4.3 J | 7.5 J | 12 | 5.2 J | | | | | | 8 | | 6.1 | | 12.9 |
| METALS | COBALT | MG/KG | 1.3 J | 6.5 J | 1 J | 2.9 J | 5.3 J | 0.51 U | 0.97 J | 0.47 U | 0.73 U | 0.49 U | 0.52 U | 0.91 J | 0.94 J | | | | | | 0.6 J | | 0.4 J | | 2.7 J |
| METALS | COPPER | MG/KG | 9.7 | 765 J | 21 | 29.9 | 43.1 | 0.72 J | 26.1 J | 0.44 J | 16.7 | 0.54 J | 1.3 J | 12.1 | 1.7 J | | | | | | 8.2 | | 8.1 | | 2.7 |
| METALS | CYANIDE | MG/KG | | 953 J | 0.72 U | | | 0.6 U | | 0.58 U | 0.9 U | 0.58 U | 0.61 U | 0.6 U | 0.55 U | | | | | | 2.8 U | | 0.53 J | | 2.8 U |
| METALS | IRON | MG/KG | 5200 | 23600 J | 6150 | 4980 | 38500 | 404 | 6140 | 338 | 4700 | 1570 | 2030 | 3200 | 1040 | | | | | | 4420 | | 3370 | | 13200 |
| METALS | LEAD | MG/KG | 103 J | 25300 J | 37.1 J | 279 J | 298 J | 7.7 J | 439 J | 3.6 J | 372 J | 3.3 J | 3.1 J | 104 | 3.3 | | | | | | 62.5 | | 9.5 | | 4.1 |
| METALS | MAGNESIUM | MG/KG | 99.9 J | 688 J | 117 J | 170 J | 961 J | 32.2 U | 417 J | 29.7 U | 319 J | 31.3 U | 33.2 U | 276 J | 14.6 U | | | | | | 121 J | | 49.9 J | | 403 U |
| METALS | MANGANESE | MG/KG | 14.7 | 63.6 J | 6.2 | 12.2 | 1360 | 10.6 | 57.9 | 5.1 | 16.7 | 3.5 | 5.7 | 10.4 | 4.9 | | | | | | 12.3 | | 6.8 | | 5.6 |
| METALS | MERCURY | MG/KG | 0.21 | 2.6 J | 0.6 | 2.3 | 0.51 | 0.04 U | 0.31 | 0.055 U | 0.3 | 0.054 U | 0.045 U | 0.21 | 0.065 J | | | | | | 0.14 | | 0.11 U | | 0.092 U |
| METALS | NICKEL | MG/KG | 1.6 J | 12.8 J | 1.7 J | 3.6 J | 7 J | 0.43 U | 3.7 J | 0.4 U | 3.9 J | 0.42 U | 0.45 J | 1.6 J | 0.54 J | | | | | | 1.5 J | | 0.83 J | | 0.42 J |
| METALS | POTASSIUM | MG/KG | 82.3 U | 519 J | 195 J | 134 J | 351 J | 84 U | 255 J | 77.7 U | 318 J | 81.8 U | 123 J | 547 J | 55.6 J | | | | | | 196 J | | 492 U | | 403 U |
| METALS | SELENIUM | MG/KG | 0.85 U | 3 J | 1.1 U | 1 U | 2 | 0.87 U | 1.6 | 0.8 U | 1.3 J | 0.85 U | 0.9 U | 0.71 U | 0.65 U | | | | | | 3.3 UJ | | 3.4 U | | 3.2 U |
| METALS | SILVER | MG/KG | 0.36 U | 1.3 J | 0.44 U | 0.42 U | 0.55 U | 0.36 U | 0.57 U | 0.34 U | 0.52 U | 0.35 U | 0.37 U | 0.22 U | 0.2 U | | | | | | 0.94 U | | 0.98 U | | 0.93 U |
| METALS | SODIUM | MG/KG | 98.8 U | 152 J | 124 U | 118 U | 167 J | 101 U | 159 U | 93.2 U | 146 U | 98.1 U | 104 U | 57.9 U | 52.6 U | | | | | | 9.4 J | | 492 U | | 403 U |
| METALS | THALLIUM | MG/KG | 0.94 UJ | 2.8 UJ | 1.2 UJ | 1.1 UJ | 1.4 UJ | 0.96 UJ | 1.5 UJ | 0.89 UJ | 1.4 UJ | 0.94 UJ | 0.99 UJ | 1.4 U | 1.3 U | | | | | | 2.4 U | | 0.21 J | | 2.3 U |
| METALS | VANADIUM | MG/KG | 7.8 J | 29.6 J | 9 J | 14.1 | 27.4 | 2.3 J | 13.6 J | 2.4 J | 16.5 | 3.6 J | 8.8 J | 6.7 J | 3.7 J | | | | | | 8.6 | | 7.5 | | 21.9 |
| METALS | ZINC | MG/KG | 90.5 | 1680 J | 116 | 207 | 344 | 4 | 183 | 1.8 J | 50.8 | 2 J | 2.2 J | 38.3 J | 17.9 J | | | | | | 22.6 | | 9.1 | | 727 |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | | | | | | | | 0.0037 U | | 0.0038 U | | 0.0037 U |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | | | | | | | | 0.0037 U | | 0.0038 U | | 0.0037 U |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | | | | | | | | 0.0037 U | | 0.0023 J | | 0.0037 U |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | | | | | | | | 0.0019 U | | 0.0019 U | | 0.0019 U |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | 0.0019 U | | 0.0019 U | | 0.0019 U |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | 0.0019 U | | 0.0019 U | | 0.0019 U |
| PEST/PCB | AROCLOR-1016 | MG/KG | 0.019 U | 0.084 UJ | 0.025 U | 0.047 U | 0.063 U | 0.02 U | 0.032 U | 0.019 U | 0.03 U | 0.02 U | 0.021 U | 0.02 U | 0.019 UJ | | | | | | 0.037 U | | 0.038 U | | 0.037 U |
| PEST/PCB | AROCLOR-1221 | MG/KG | 0.019 U | 0.084 UJ | 0.025 U | 0.047 U | 0.063 U | 0.02 U | 0.032 U | 0.019 U | 0.03 U | 0.02 U | 0.021 U | 0.02 U | 0.019 U | | | | | | 0.037 U | | 0.038 U | | 0.037 U |
| PEST/PCB | AROCLOR-1232 | MG/KG | 0.019 U | 0.084 UJ | 0.025 U | 0.047 U | 0.063 U | 0.02 U | 0.032 U | 0.019 U | 0.03 U | 0.02 U | 0.021 U | 0.02 U | 0.019 U | | | | | | 0.037 U | | 0.038 U | | 0.037 U |
| PEST/PCB | AROCLOR-1242 | MG/KG | 0.019 U | 0.084 UJ | 0.025 U | 0.047 U | 0.063 U | 0.02 U | 0.032 U | 0.019 U | 0.03 U | 0.02 U | 0.021 U | 0.02 U | 0.019 U | | | | | | 0.037 U | | 0.038 U | | 0.037 U |
| PEST/PCB | AROCLOR-1248 | MG/KG | 0.019 U | 0.084 UJ | 0.025 U | 0.047 U | 0.063 U | 0.02 U | 0.032 U | 0.019 U | 0.03 U | 0.02 U | 0.021 U | 0.02 U | 0.019 U | | | | | | 0.037 U | | 0.038 U | | 0.037 U |
| PEST/PCB | AROCLOR-1254 | MG/KG | 0.16 | 0.084 UJ | 0.025 U | 0.31 J | 0.063 U | 0.02 U | 0.032 U | 0.019 U | 0.03 U | 0.02 U | 0.021 U | 0.02 U | 0.019 U | | | | | | 0.037 U | | 0.038 U | | 0.037 U |
| PEST/PCB | AROCLOR-1260 | MG/KG | 0.071 J | 0.084 UJ | 0.025 U | 0.047 U | 0.7 | 0.02 U | 0.25 | 0.019 U | 0.039 J | 0.02 U | 0.021 U | 0.02 U | 0.019 U | | | | | | 0.037 U | | 0.038 U | | 0.037 U |
| PEST/PCB | AROCLOR-1262 | MG/KG | | 0.084 UJ | | | | | | | | | | | | | | | | | 0.037 U | | 0.038 U | | 0.037 U |
| PEST/PCB | AROCLOR-1268 | MG/KG | | 0.084 UJ | | | | | | | | | | | | | | | | | 0.037 U | | 0.038 U | | 0.037 U |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | 0.0019 U | | 0.0019 U | | 0.0019 U |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | 0.0019 U | | 0.0019 U | | 0.0019 U |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | | | | | | | | 0.0037 U | | 0.0038 U | | 0.0037 U |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | | | | | | | | 0.0019 U | | 0.0019 U | | 0.0019 U |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | | | | | | | | 0.0037 U | | 0.0038 U | | 0.0037 U |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | | | | | | | | 0.0037 U | | 0.0038 U | | 0.0037 U |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | 0.0037 U | | 0.0038 U | | 0.0037 U |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | | | | | | | | 0.0037 U | | 0.0038 U | | 0.0037 U |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | | | | | | | | 0.0037 U | | 0.0038 U | | 0.0037 U |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | | | | | | | | 0.0019 U | | 0.0019 U | | 0.0019 U |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | 0.0019 U | | 0.0019 U | | 0.0019 U |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | | | | | | | | 0.0019 U | | 0.0019 U | | 0.0019 U |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | | | | | | | | 0.0019 U | | 0.0019 U | | 0.0019 U |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | | | | | | | | 0.019 U | | 0.019 U | | 0.019 U |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | | | | | | | | 0.19 U | | 0.19 U | | 0.19 U |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | HCSB0307 | HCSB0307 | HCSB0308 | HCSB0308 | HCSB0309 | HCSB0309 | HCSB0310 | HCSB0310 | HCSB0311 | HCSB0311 | HCSB0311 | HCSB0312 | HCSB0312 | HCSB0498 | HCSB0499 | HCSB0500 | HCSB0501 | HCSB0501 | MPSB0027 | MPSB0027 | MPSB0042 | MPSB0042 | MPSB0042 |
| | | Field Sample ID | HCSB0307-SS-AE-AF-0 | HCSB0307-SS-AI-AJ-0 | HCSB0308-SS-AA-AB-0 | HCSB0308-SS-AE-AF-0 | HCSB0309-SS-AA-AB-0 | HCSB0309-SS-AE-AF-0 | HCSB0310-SS-AA-AB-0 | HCSB0310-SS-AE-AF-0 | HCSB0311-SS-AA-AB-0 | HCSB0311-SS-AE-AF-0 | HCSB0311-SS-AI-AJ-0 | HCSB0312-SS-AA-AB-0 | HCSB0312-SS-AF-AG-0 | HCSB0498-SS-AC-AD-0 | HCSB0499-SS-AF-AG-0 | HCSB0500-SS-AA-AB-0 | HCSB0501-SS-AB-AC-0 | HCSB0501-SS-AB-AC-1 | MPSB0027-SS-AA-AB-0 | MPSB0027-SS-AD-AE-0 | MPSB0042-SS-AA-AB-0 | MPSB0042-SS-AD-AE-0 | MPSB0042-SS-AL-AM-0 |
| | | Sample Date | 8/15/2006 | 2/27/2007 | 8/15/2006 | 8/15/2006 | 8/15/2006 | 8/15/2006 | 8/15/2006 | 8/15/2006 | 8/15/2006 | 8/15/2006 | 8/15/2006 | 8/17/2006 | 8/17/2006 | 6/16/2014 | 6/16/2014 | 6/16/2014 | 6/16/2014 | 6/16/2014 | 12/16/2009 | 12/16/2009 | 1/12/2010 | 1/12/2010 | 1/12/2010 |
| | | Depth (ft) | 2-2.5 | 4-4.5 | 0-0.5 | 2-2.5 | 0-0.5 | 2-2.5 | 0-0.5 | 2-2.5 | 0-0.5 | 2-2.5 | 4-4.5 | 0-0.5 | 2.5-3 | 1-1.5 | 2.5-3 | 0-0.5 | 0.5-1 | 0.5-1 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 5.5-6 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | | | | | | | | | | | | | | 0.26 J | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 UJ | 0.75 J | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | | | | | | | | | | | | | | 3.7 U | 2.8 U | 5 UJ | 3.7 U | 3.6 U | 0.36 UJ | | 0.37 U | | 0.38 U |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | | | | | | | | | | | | | | 0.37 U | 0.28 U | 0.5 UJ | 0.37 U | 0.36 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | | | | | | | | | | | | | | 0.37 U | 0.28 U | 0.5 UJ | 0.37 U | 0.36 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | | | | | | | | | | | | | | 0.44 J | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | 2-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | 2-NITROANILINE | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.36 U | | 0.37 U | | 0.38 U |
| SVOC | 2-NITROPHENOL | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.19 UJ | | 0.19 U |
| SVOC | 3-NITROANILINE | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.36 U | | 0.37 U | | 0.38 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | 3.7 U | 2.8 U | 5 UJ | 3.7 U | 3.6 U | 0.36 UJ | | 0.37 U | | 0.38 U |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | 4-CHLOROANILINE | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.19 UJ | | 0.19 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | 4-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | 4-NITROANILINE | MG/KG | | | | | | | | | | | | | | 3.7 U | 2.8 U | 5 UJ | 3.7 U | 3.6 U | 0.36 U | | 0.37 U | | 0.38 U |
| SVOC | 4-NITROPHENOL | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.36 U | | 0.37 U | | 0.38 U |
| SVOC | ACENAPHTHENE | MG/KG | 0.12 J | 0.28 J | 0.045 J | 0.33 J | 0.42 J | 0.4 U | 0.075 J | 0.38 U | 0.037 J | 0.39 U | 0.42 U | 0.4 U | 0.37 U | 0.4 J | 1.4 U | 0.6 J | 0.31 J | 0.37 J | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.38 U | 0.2 J | 0.49 U | 0.93 U | 4.2 U | 0.4 U | 1.3 U | 0.38 U | 0.59 U | 0.39 U | 0.42 U | 0.4 U | 0.37 U | 0.27 J | 1.4 U | 2.5 UJ | 0.31 J | 0.51 J | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | ACETOPHENONE | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.028 J | | 0.19 U |
| SVOC | ANTHRACENE | MG/KG | 0.15 J | 0.75 J | 0.057 J | 0.42 J | 1.1 J | 0.4 U | 0.17 J | 0.38 U | 0.052 J | 0.39 U | 0.42 U | 0.4 U | 0.37 U | 0.83 J | 0.33 J | 0.99 J | 0.85 J | 1.1 J | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | ATRAZINE | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | BENZALDEHYDE | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.088 J | | 0.19 U |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.6 | 2.4 J | 0.18 J | 2.4 | 9.2 | 0.4 U | 1.6 | 0.38 U | 0.32 J | 0.39 U | 0.42 U | 0.057 J | 0.37 U | 3.7 | 1.5 | 4.9 J | 4.7 | 7.2 | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.57 | 2.6 J | 0.18 J | 2.5 | 13 | 0.018 J | 2.3 | 0.38 U | 0.39 J | 0.39 U | 0.42 U | 0.072 J | 0.37 U | 4.4 | 1.7 | 6.2 J | 6.6 | 8.4 | 0.19 U | | 0.019 J | | 0.19 U |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 0.57 | 3 J | 0.18 J | 2.2 | 14 | 0.02 J | 2.8 | 0.38 U | 0.42 J | 0.39 U | 0.42 U | 0.069 J | 0.37 U | 7.1 | 2.6 | 9.8 J | 10 | 14 | 0.19 U | | 0.019 J | | 0.19 U |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.44 | 1.4 J | 0.15 J | 1.5 | 12 | 0.4 U | 1.8 | 0.38 U | 0.22 J | 0.39 U | 0.42 U | 0.062 J | 0.37 U | 3.5 | 1.2 J | 4.7 J | 5.3 | 6 | 0.19 UJ | | 0.19 U | | 0.19 U |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.72 | 2.6 J | 0.27 J | 2.7 | 15 | 0.026 J | 2.5 | 0.38 U | 0.5 J | 0.39 U | 0.42 U | 0.085 J | 0.37 U | 2.7 | 0.9 | 3.8 J | 4.1 | 4.8 | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.034 J | | 0.023 J |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | | | | | | | | | | | | | | 0.18 U | 0.14 U | 0.25 UJ | 0.18 U | 0.18 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | CAPROLACTAM | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.025 J | | 0.02 J |
| SVOC | CARBAZOLE | MG/KG | | | | | | | | | | | | | | 0.35 J | 1.4 U | 0.6 J | 0.55 J | 0.6 J | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | CHRYSENE | MG/KG | 0.65 | 3.5 J | 0.22 J | 2.9 | 16 | 0.019 J | 2.9 | 0.38 U | 0.45 J | 0.39 U | 0.42 U | 0.087 J | 0.37 U | 6 | 2.3 | 7.7 J | 7.6 | 9.9 | 0.19 U | | 0.025 J | | 0.19 U |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.16 J | 0.63 J | 0.047 J | 0.56 J | 3.3 J | 0.4 U | 0.67 J | 0.38 U | 0.066 J | 0.39 U | 0.42 U | 0.4 U | 0.37 U | 1.2 | 0.4 | 1.6 J | 1.4 | 1.8 | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | DIBENZOFURAN | MG/KG | | | | | | | | | | | | | | 0.27 J | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | DIETHYLPHTHALATE | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.024 J | | 0.19 U |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | FLUORANTHENE | MG/KG | 1.3 | 9.3 J | 0.46 J | 3.7 | 27 | 0.035 J | 4.4 | 0.022 J | 0.74 | 0.39 U | 0.42 U | 0.17 J | 0.37 U | 7.9 | 3.3 | 10 J | 11 | 13 | 0.02 J | | 0.032 J | | 0.19 U |
| SVOC | FLUORENE | MG/KG | 0.08 J | 0.46 J | 0.027 J | 0.3 J | 0.42 J | 0.4 U | 0.082 J | 0.38 U | 0.051 J | 0.39 U | 0.42 U | 0.4 U | 0.37 U | 0.45 J | 1.4 U | 0.56 J | 0.26 J | 0.27 J | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | HEXACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | 0.18 U | 0.14 U | 0.25 UJ | 0.18 U | 0.18 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | | | | | | | | | | | | | | 0.37 U | 0.28 U | 0.5 UJ | 0.37 U | 0.36 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 UJ | | 0.19 UJ | | 0.19 U |
| SVOC | HEXACHLOROETHANE | MG/KG | | | | | | | | | | | | | | 0.18 U | 0.14 U | 0.25 UJ | 0.18 U | 0.18 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.43 | 1.3 J | 0.14 J | 1.6 | 11 | 0.4 U | 1.7 | 0.38 U | 0.19 J | 0.39 U | 0.42 U | 0.049 J | 0.37 U | 4.5 | 1.6 | 6.2 J | 6.9 | 7.8 | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | ISOPHORONE | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | NAPHTHALENE | MG/KG | 0.031 J | 1.5 J | 0.49 U | 0.06 J | 4.2 U | 0.4 U | 1.3 U | 0.38 U | 0.59 U | 0.39 U | 0.42 U | 0.4 U | 0.37 U | 1.2 J | 0.52 J | 1.3 J | 0.3 J | 0.35 J | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | NITROBENZENE | MG/KG | | | | | | | | | | | | | | 0.18 U | 0.14 U | 0.25 UJ | 0.18 U | 0.18 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | | | | | | | | | | | | | | 0.18 U | 0.14 U | 0.25 UJ | 0.18 U | 0.18 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | 3.7 U | 2.8 U | 5 UJ | 3.7 U | 3.6 U | 0.36 U | | 0.059 J | | 0.38 U |
| SVOC | PHENANTHRENE | MG/KG | 0.52 | 2.6 J | 0.25 J | 2 | 9.6 | 0.4 U | 1.8 | 0.38 U | 0.55 J | 0.39 U | 0.42 U | 0.069 J | 0.37 U | 2.9 | 0.96 J | 3.9 J | 3.2 | 3.3 | 0.19 U | | 0.19 U | | 0.19 U |
| SVOC | PHENOL | MG/KG | | | | | | | | | | | | | | 1.8 U | 1.4 U | 2.5 UJ | 1.8 U | 1.8 U | 0.19 U | | 0.025 J | | 0.19 U |
| SVOC | PYRENE | MG/KG | 1.6 | 4.9 J | 0.46 J | 5.7 | 28 | 0.04 J | 5.6 | 0.027 J | 1.1 | 0.39 U | 0.42 U | 0.13 J | 0.37 U | 5.2 | 2.5 | 6.9 J | 6.6 | 7.5 | 0.19 U | | 0.028 J | | 0.19 U |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | HCSB0307 | HCSB0307 | HCSB0308 | HCSB0308 | HCSB0309 | HCSB0309 | HCSB0310 | HCSB0310 | HCSB0311 | HCSB0311 | HCSB0311 | HCSB0312 | HCSB0312 | HCSB0498 | HCSB0499 | HCSB0500 | HCSB0501 | HCSB0501 | MPSB0027 | MPSB0027 | MPSB0042 | MPSB0042 | MPSB0042 |
| | | Field Sample ID | HCSB0307-SS-AE-AF-0 | HCSB0307-SS-AI-AJ-0 | HCSB0308-SS-AA-AB-0 | HCSB0308-SS-AE-AF-0 | HCSB0309-SS-AA-AB-0 | HCSB0309-SS-AE-AF-0 | HCSB0310-SS-AA-AB-0 | HCSB0310-SS-AE-AF-0 | HCSB0311-SS-AA-AB-0 | HCSB0311-SS-AE-AF-0 | HCSB0311-SS-AI-AJ-0 | HCSB0312-SS-AA-AB-0 | HCSB0312-SS-AF-AG-0 | HCSB0498-SS-AC-AD-0 | HCSB0499-SS-AF-AG-0 | HCSB0500-SS-AA-AB-0 | HCSB0501-SS-AB-AC-0 | HCSB0501-SS-AB-AC-1 | MPSB0027-SS-AA-AB-0 | MPSB0027-SS-AD-AE-0 | MPSB0042-SS-AA-AB-0 | MPSB0042-SS-AD-AE-0 | MPSB0042-SS-AL-AM-0 |
| | | Sample Date | 8/15/2006 | 2/27/2007 | 8/15/2006 | 8/15/2006 | 8/15/2006 | 8/15/2006 | 8/15/2006 | 8/15/2006 | 8/15/2006 | 8/15/2006 | 8/15/2006 | 8/17/2006 | 8/17/2006 | 6/16/2014 | 6/16/2014 | 6/16/2014 | 6/16/2014 | 6/16/2014 | 12/16/2009 | 12/16/2009 | 1/12/2010 | 1/12/2010 | 1/12/2010 |
| | | Depth (ft) | 2-2.5 | 4-4.5 | 0-0.5 | 2-2.5 | 0-0.5 | 2-2.5 | 0-0.5 | 2-2.5 | 0-0.5 | 2-2.5 | 4-4.5 | 0-0.5 | 2.5-3 | 1-1.5 | 2.5-3 | 0-0.5 | 0.5-1 | 0.5-1 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 5.5-6 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | 15 UJ | 0.049 U | 0.17 UJ | 8.2 U | 8.7 U | | | | | |
| VOC | 2-HEXANONE | MG/KG | | | | | | | | | | | | | | 2.9 U | 0.012 U | 0.042 UJ | 1.6 U | 1.7 U | | 0.009 U | | 0.01 U | 0.0097 U |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | | | | | | | | | | | | | 2.9 U | 0.012 U | 0.042 UJ | 1.6 U | 1.7 U | | 0.009 U | | 0.01 U | 0.0041 J |
| VOC | ACETONE | MG/KG | | | | | | | | | | | | | | 2.9 U | 0.15 | 1.2 J | 1.6 U | 1.7 U | | 0.009 U | | 0.01 U | 0.0041 J |
| VOC | BENZENE | MG/KG | | | | | | | | | | | | | | 0.27 J | 0.0025 U | 0.0013 J | 0.073 J | 0.07 J | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | BROMODICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | BROMOFORM | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | BROMOMETHANE | MG/KG | | | | | | | | | | | | | | 0.59 UJ | 0.0025 U | 0.0084 UJ | 0.33 UJ | 0.35 UJ | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | CARBON DISULFIDE | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0024 J | 0.04 J | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | CARBON TETRACHLORIDE | MG/KG | | | | | | | | | | | | | | 0.59 UJ | 0.0025 U | 0.0084 UJ | 0.33 UJ | 0.35 UJ | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | CHLOROBENZENE | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | CHLOROETHANE | MG/KG | | | | | | | | | | | | | | 0.59 UJ | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | CHLOROFORM | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | CHLOROMETHANE | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | 0.68 | 0.00049 J | 0.0071 J | 0.067 J | 0.11 J | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | CYCLOHEXANE | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | DICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | ETHYLBENZENE | MG/KG | | | | | | | | | | | | | | 0.19 J | 0.0025 U | 0.0084 UJ | 0.2 J | 0.16 J | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.053 J | 0.35 UJ | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | METHYL ACETATE | MG/KG | | | | | | | | | | | | | | 2.9 U | 0.012 U | 0.042 UJ | 1.6 U | 1.7 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | METHYL ETHYL KETONE | MG/KG | | | | | | | | | | | | | | 2.9 U | 0.036 | 0.29 J | 1.6 U | 1.7 U | | 0.009 U | | 0.01 U | 0.0097 U |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | | | | | | | | | | 1.8 | 0.0025 U | 0.033 J | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | TETRACHLOROETHENE | MG/KG | | | | | | | | | | | | | | 0.13 J | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | TOLUENE | MG/KG | | | | | | | | | | | | | | 0.43 J | 0.0025 U | 0.002 J | 0.5 | 0.41 | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | 0.1 J | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 UJ | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | | | | | | | | | | | | | 0.13 J | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | | | | | | | | | | | | | 0.59 U | 0.0025 U | 0.0084 UJ | 0.33 U | 0.35 U | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | 0.31 J | 0.00047 J | 0.0033 J | 0.19 J | 0.15 J | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | XYLENES (TOTAL) | MG/KG | | | | | | | | | | | | | | 1.25 J | 0.00047 J | 0.0083 J | 0.96 J | 0.74 J | | 0.0045 U | | 0.0051 U | 0.0049 U |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | 0.94 | 0.0025 U | 0.005 J | 0.77 | 0.59 | | 0.0045 U | | 0.0051 U | 0.0049 U |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0043 | MPSB0043 | MPSB0043 | MPSB0044 | MPSB0044 | MPSB0044 | MPSB0045 | MPSB0045 | MPSB0045 | MPSB0046 | MPSB0046 | MPSB0046 | MPSB0049 | MPSB0049 | MPSB0049 | MPSB0049 | MPSB0049 | MPSB0050 | MPSB0050 | MPSB0050 | MPSB0050 | MPSB0050 | MPSB0052 |
| | | Field Sample ID | MPSB0043-SS-AA-AB-0 | MPSB0043-SS-AB-AC-0 | MPSB0043-SS-AH-AI-0 | MPSB0044-SS-AA-AB-0 | MPSB0044-SS-AD-AE-0 | MPSB0044-SS-AG-AH-0 | MPSB0045-SS-AA-AB-0 | MPSB0045-SS-AD-AE-0 | MPSB0045-SS-AH-AI-0 | MPSB0046-SS-AA-AB-0 | MPSB0046-SS-AD-AE-0 | MPSB0046-SS-AE-AF-0 | MPSB0049-SS-AA-AB-0 | MPSB0049-SS-AD-AE-0 | MPSB0049-SS-AE-AF-0 | MPSB0049-SS-AE-AF-1 | MPSB0049-SS-AL-AM-0 | MPSB0050-SS-AA-AB-0 | MPSB0050-SS-AD-AE-0 | MPSB0050-SS-AF-AG-0 | MPSB0050-SS-AM-AN-0 | MPSB0050-SS-AT-AU-0 | MPSB0052-SS-AA-AB-0 |
| | | Sample Date | 1/12/2010 | 1/12/2010 | 1/12/2010 | 1/12/2010 | 1/12/2010 | 1/12/2010 | 1/13/2010 | 1/13/2010 | 1/13/2010 | 1/13/2010 | 1/13/2010 | 1/13/2010 | 1/14/2010 | 1/14/2010 | 1/14/2010 | 1/14/2010 | 1/14/2010 | 1/14/2010 | 1/14/2010 | 1/14/2010 | 1/14/2010 | 1/14/2010 | 1/18/2010 |
| | | Depth (ft) | 0-0.5 | 0.5-1 | 3.5-4 | 0-0.5 | 1.5-2 | 3-3.5 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 2-2.5 | 0-0.5 | 1.5-2 | 2-2.5 | 2-2.5 | 5.5-6 | 0-0.5 | 1.5-2 | 2.5-3 | 6-6.5 | 9.5-10 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | 2180 | 1100 | 367 | 3010 | 930 | 137 | 816 | 243 | 3690 | 7420 | | 3580 | 3830 J | | 2440 J | 2390 J | 2270 J | 1830 J | | 3920 J | 2540 J | 2490 J | 885 |
| METALS | ANTIMONY | MG/KG | 5.1 U | 4.6 U | 4.4 U | 5.6 U | 6 U | 5.7 U | 7 UJ | 4.5 UJ | 5.8 UJ | 5.2 UJ | | 5 UJ | 7.6 UJ | | 5.9 UJ | 12.2 J | 5.4 UJ | 5.9 UJ | | 4 J | 0.74 J | 5.9 UJ | 4.8 UJ |
| METALS | ARSENIC | MG/KG | 2.1 | 1.3 | 0.73 U | 5.7 | 4.1 | 0.95 U | 2.2 | 0.42 J | 3.3 | 7.9 | | 1.2 | 9.9 | | 1.7 | 1.9 | 1.3 | 2.8 | | 3.4 | 2.4 | 1.9 | 1.1 |
| METALS | BARIUM | MG/KG | 16 U | 15 U | 14.6 U | 103 | 96.3 | 19 U | 41 | 15 U | 19 U | 46.1 | | 17 U | 98.2 J | | 1020 J | 639 J | 2090 J | 26.8 J | | 1270 J | 181 J | 207 J | 16 U |
| METALS | BERYLLIUM | MG/KG | 0.4 U | 0.39 U | 0.36 U | 0.47 U | 0.5 U | 0.47 U | 0.58 U | 0.062 J | 0.48 U | 0.36 J | | 0.085 J | 0.18 J | | 0.088 J | 0.065 J | 0.089 J | 0.07 J | | 0.17 J | 0.11 J | 0.081 J | 0.4 U |
| METALS | CADMIUM | MG/KG | 0.16 J | 0.39 U | 0.36 U | 0.13 J | 0.11 J | 0.47 U | 0.096 J | 0.38 U | 0.48 U | 0.14 J | | 0.41 U | 0.22 J | | 0.49 U | 0.1 J | 0.45 U | 0.49 U | | 0.27 J | 0.51 U | 0.49 U | 0.4 U |
| METALS | CALCIUM | MG/KG | 400 U | 386 U | 112 J | 1380 | 851 | 473 U | 1070 | 40.6 J | 190 J | 1910 | | 325 J | 23400 | | 126 J | 110 J | 205 J | 886 | | 1160 | 369 J | 453 J | 60.6 J |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 8.3 | 6.1 | 1.3 | 11.4 | 9.2 | 2 | 4 | 1.9 | 8.6 | 19.3 | | 5.5 | 19 J | | 8.9 J | 9.1 J | 9.3 J | 6.6 J | | 47.4 J | 25.4 J | 8.3 J | 4.4 |
| METALS | COBALT | MG/KG | 0.47 J | 0.15 J | 0.58 J | 1.6 J | 0.42 J | 4.7 U | 0.7 J | 3.7 U | 4.8 U | 4.4 | | 3.1 J | 1.5 J | | 1.3 J | 0.98 J | 1.6 J | 0.28 J | | 1.5 J | 1.5 J | 2 J | 0.27 J |
| METALS | COPPER | MG/KG | 2.1 J | 1.7 J | 0.19 J | 9.4 | 6.2 | 2.4 U | 4.5 | 0.48 J | 0.64 J | 24 | | 2.1 | 19.4 J | | 15.3 J | 11.7 J | 34.1 J | 4.9 J | | 12.2 J | 24.1 J | 20 J | 1.9 J |
| METALS | CYANIDE | MG/KG | 2.7 U | 2.7 U | 2.7 U | 0.42 J | 2 J | 2.8 U | 0.1 J | 2.9 U | 2.7 U | 0.11 J | | 2.8 U | 3.8 U | | 2.9 U | 2.8 U | 2.8 U | 3 U | | 2.9 U | 2.8 U | 2.9 U | 2.8 U |
| METALS | IRON | MG/KG | 6910 | 3280 | 528 | 5520 | 2280 | 211 | 2300 | 464 | 5390 | 16300 | | 4900 | 8110 J | | 5440 J | 5450 J | 5470 J | 4430 J | | 7680 J | 6060 J | 5110 J | 2390 |
| METALS | LEAD | MG/KG | 10.9 | 6.8 | 2.1 | 133 | 210 | 2.9 | 49.8 | 5.9 | 2.3 | 58.2 | | 6.3 | 69.2 | | | | 47 | 151 | | 387 | 72.3 | 48.1 | 12.9 |
| METALS | MAGNESIUM | MG/KG | 400 U | 386 U | 8.7 J | 856 | 502 U | 473 U | 143 J | 35.1 J | 27.8 J | 1770 | | 244 J | 9980 J | | 60.1 J | 59.6 J | 72.4 J | 325 J | | 385 J | 170 J | 74.5 J | 41.9 J |
| METALS | MANGANESE | MG/KG | 5.2 | 2.8 | 6 | 46.8 | 23.3 | 6.5 | 14.9 | 4.3 | 2.9 | 169 | | 56.3 | 94.3 J | | 7.1 J | 6.3 J | 7.3 J | 13.9 J | | 31 J | 18 J | 11.4 J | 6.4 |
| METALS | MERCURY | MG/KG | 0.082 U | 0.085 U | 0.1 U | 0.28 | 0.33 | 0.098 U | 0.11 | 0.1 U | 0.09 U | 0.11 | | 0.1 U | 0.2 J | | 0.094 J | 0.062 J | 0.11 J | 0.032 J | | 0.12 J | 0.23 J | 2.2 J | 0.034 J |
| METALS | NICKEL | MG/KG | 0.52 J | 0.23 J | 0.14 J | 3.3 J | 1.6 J | 0.24 J | 0.78 J | 3 U | 3.8 U | 7.4 | | 1.6 J | 3 J | | 1.1 J | 0.87 J | 2 J | 0.55 J | | 2.6 J | 1.5 J | 1.6 J | 0.32 J |
| METALS | POTASSIUM | MG/KG | 400 U | 386 U | 365 U | 757 | 502 U | 473 U | 584 U | 375 U | 479 U | 1470 | | 413 U | 694 J | | 158 J | 128 J | 135 J | 127 J | | 186 J | 154 J | 125 J | 86.2 J |
| METALS | SELENIUM | MG/KG | 3 U | 2.7 U | 2.6 U | 3.3 U | 3.5 U | 3.3 U | 4.1 U | 2.6 U | 3.4 U | 3 U | | 2.9 U | 4.4 U | | 3.5 U | 3.1 U | 3.2 U | 3.5 U | | 3.4 U | 3.6 U | 3.4 U | 2.8 U |
| METALS | SILVER | MG/KG | 0.85 U | 0.77 U | 0.73 U | 0.94 U | 1 U | 0.95 U | 1.2 U | 0.75 U | 0.96 U | 0.87 U | | 0.82 U | 1.3 U | | 0.99 U | 0.87 U | 0.9 U | 0.99 U | | 0.97 U | 1 U | 0.98 U | 0.81 U |
| METALS | SODIUM | MG/KG | 400 U | 386 U | 365 U | 471 U | 502 U | 473 U | 11 J | 8.2 J | 479 U | 53.1 J | | 11.7 J | 35.1 J | | 493 U | 9.4 J | 450 U | 493 U | | 20.1 J | 509 U | 490 U | 404 U |
| METALS | THALLIUM | MG/KG | 2.1 U | 1.9 U | 1.8 U | 2.4 U | 2.5 U | 2.4 U | 2.9 UJ | 1.9 UJ | 2.4 UJ | 2.2 UJ | | 2.1 UJ | 3.2 UJ | | 2.5 UJ | 2.2 UJ | 2.3 UJ | 2.5 UJ | | 2.4 UJ | 2.5 UJ | 2.4 UJ | 2 UJ |
| METALS | VANADIUM | MG/KG | 11.1 | 6 | 3.6 U | 10.4 | 8 | 4.7 U | 5.8 J | 1.6 J | 19 | 16.8 | | 7.8 | 12.7 J | | 10.6 J | 10.7 J | 9.7 J | 6.1 J | | 11 J | 9.8 J | 9.3 J | 6.4 |
| METALS | ZINC | MG/KG | 4.8 U | 8.5 | 8.8 | 46 | 40 | 14.1 | 18.1 | 2 J | 1.3 J | 74.6 | | 11.3 | 79.1 J | | 318 J | 213 J | 454 J | 14.8 J | | 92.7 J | 135 J | 132 J | 4.3 J |
| PEST/PCB | 4,4'-DDD | MG/KG | 0.0035 U | 0.0036 U | | 0.0037 U | 0.0026 J | 0.0038 U | 0.0045 U | 0.0038 U | | 0.0021 J | | 0.0037 U | 0.0051 U | | 0.018 | 0.0089 J | 0.0089 J | 0.004 U | | 0.0052 | 0.0036 U | 0.0039 U | 0.0037 U |
| PEST/PCB | 4,4'-DDE | MG/KG | 0.0035 U | 0.0036 U | | 0.0024 J | 0.0062 | 0.0038 U | 0.0045 U | 0.0038 U | | 0.004 U | | 0.0037 U | 0.008 | | 0.0037 U | 0.0037 U | 0.0021 J | 0.004 U | | 0.0037 U | 0.0036 U | 0.0039 U | 0.0037 U |
| PEST/PCB | 4,4'-DDT | MG/KG | 0.0035 U | 0.0036 U | | 0.0023 J | 0.0038 U | 0.0038 U | 0.0045 U | 0.0038 U | | 0.0071 J | | 0.0037 U | 0.011 J | | | | 0.016 J | 0.0025 J | | 0.0037 U | 0.0036 U | 0.0039 U | 0.0037 U |
| PEST/PCB | ALDRIN | MG/KG | 0.0018 U | 0.0019 U | | 0.0019 U | 0.002 U | 0.002 U | 0.0023 U | 0.002 U | | 0.0021 U | | 0.0019 U | 0.0026 U | | 0.012 J | 0.0095 J | 0.011 J | | | 0.0019 U | 0.0019 U | 0.002 U | 0.0019 U |
| PEST/PCB | ALPHA-BHC | MG/KG | 0.0018 U | 0.0019 U | | 0.0019 U | 0.002 U | 0.002 U | 0.0023 U | 0.002 U | | 0.0021 U | | 0.0019 U | 0.0026 U | | 0.0019 U | 0.0019 U | 0.0019 U | 0.0021 U | | 0.0019 U | 0.0019 U | 0.002 U | 0.0019 U |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | 0.0018 U | 0.0019 U | | 0.0019 U | 0.002 U | 0.002 U | 0.0023 U | 0.002 U | | 0.0051 | | 0.0019 U | 0.0026 U | | 0.0019 U | 0.0023 J | 0.0026 J | 0.0021 U | | 0.0019 U | 0.0019 U | 0.002 U | 0.0019 U |
| PEST/PCB | AROCLOR-1016 | MG/KG | 0.035 U | 0.036 U | | 0.037 U | 0.038 U | 0.038 U | 0.045 U | 0.038 U | | 0.04 U | | 0.037 U | 0.051 U | | 1.1 U | 1.1 U | 1.1 U | 0.04 U | | 0.037 U | 0.036 U | 0.039 U | 0.037 U |
| PEST/PCB | AROCLOR-1221 | MG/KG | 0.035 U | 0.036 U | | 0.037 U | 0.038 U | 0.038 U | 0.045 U | 0.038 U | | 0.04 U | | 0.037 U | 0.051 U | | 1.1 U | 1.1 U | 1.1 U | 0.04 U | | 0.037 U | 0.036 U | 0.039 U | 0.037 U |
| PEST/PCB | AROCLOR-1232 | MG/KG | 0.035 U | 0.036 U | | 0.037 U | 0.038 U | 0.038 U | 0.045 U | 0.038 U | | 0.04 U | | 0.037 U | 0.051 U | | 1.1 U | 1.1 U | 1.1 U | 0.04 U | | 0.037 U | 0.036 U | 0.039 U | 0.037 U |
| PEST/PCB | AROCLOR-1242 | MG/KG | 0.035 U | 0.036 U | | 0.037 U | 0.038 U | 0.038 U | 0.045 U | 0.038 U | | 0.04 U | | 0.037 U | 0.051 U | | 1.1 U | 1.1 U | 1.1 U | 0.04 U | | 0.037 U | 0.036 U | 0.039 U | 0.037 U |
| PEST/PCB | AROCLOR-1248 | MG/KG | 0.035 U | 0.036 U | | 0.037 U | 0.038 U | 0.038 U | 0.045 U | 0.038 U | | 0.04 U | | 0.037 U | 0.051 U | | 1.1 U | 1.1 U | 1.1 U | 0.04 U | | 0.037 U | 0.036 U | 0.039 U | 0.037 U |
| PEST/PCB | AROCLOR-1254 | MG/KG | 0.035 U | 0.036 U | | 0.023 J | 0.038 U | 0.038 U | 0.045 U | 0.038 U | | 0.04 U | | 0.037 U | 0.046 J | | 1.1 U | 1.1 U | 1.1 U | 0.04 U | | 0.037 U | 0.036 U | 0.039 U | 0.037 U |
| PEST/PCB | AROCLOR-1260 | MG/KG | 0.035 U | 0.036 U | | 0.022 J | 0.038 U | 0.038 U | 0.045 U | 0.038 U | | 0.11 | | 0.037 U | 0.035 J | | 1.1 U | 1.1 U | 1.1 U | 0.04 U | | 0.037 U | 0.036 U | 0.039 U | 0.037 U |
| PEST/PCB | AROCLOR-1262 | MG/KG | 0.035 U | 0.036 U | | 0.037 U | 0.038 U | 0.038 U | 0.045 U | 0.038 U | | 0.04 U | | 0.037 U | 0.051 U | | 1.1 U | 1.1 U | 1.1 U | 0.04 U | | 0.037 U | 0.036 U | 0.039 U | 0.037 U |
| PEST/PCB | AROCLOR-1268 | MG/KG | 0.035 U | 0.036 U | | 0.037 U | 0.038 U | 0.038 U | 0.045 U | 0.038 U | | 0.04 U | | 0.037 U | 0.051 U | | 1.1 U | 1.1 U | 1.1 U | 0.04 U | | 0.037 U | 0.036 U | 0.039 U | 0.037 U |
| PEST/PCB | BETA-BHC | MG/KG | 0.0018 U | 0.0019 U | | 0.0019 U | 0.002 U | 0.002 U | 0.0023 U | 0.002 U | | 0.0021 U | | 0.0019 U | | | | | | 0.0019 J | | 0.0019 U | | | 0.0019 U |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | 0.0018 U | 0.0019 U | | 0.0019 U | 0.002 U | 0.002 U | 0.0023 U | 0.002 U | | 0.0021 U | | 0.0019 U | 0.0026 U | | 0.06 | 0.052 | 0.044 J | 0.0021 U | | 0.0019 U | 0.0019 U | 0.0015 J | 0.0019 U |
| PEST/PCB | DIELDRIN | MG/KG | 0.0035 U | 0.0036 U | | 0.0037 U | 0.0038 U | 0.0038 U | 0.0045 U | 0.0038 U | | 0.005 J | | 0.0037 U | 0.003 J | | | 0.0037 U | | 0.004 U | | 0.0037 U | 0.0036 U | 0.0039 U | 0.0037 U |
| PEST/PCB | ENDOSULFAN I | MG/KG | 0.0018 U | 0.0019 U | | 0.0019 U | 0.002 U | 0.002 U | 0.0023 U | 0.002 U | | 0.0021 U | | 0.0019 U | 0.0026 U | | 0.0019 U | 0.0019 U | 0.0019 U | 0.0021 U | | 0.0019 U | 0.0019 U | 0.002 U | 0.0019 U |
| PEST/PCB | ENDOSULFAN II | MG/KG | 0.0035 U | 0.0036 U | | 0.0037 U | 0.0038 U | 0.0038 U | 0.0045 U | 0.0038 U | | 0.004 U | | 0.0037 U | 0.0051 U | | 0.0037 U | 0.0037 U | 0.0037 U | 0.004 U | | 0.0037 U | 0.0036 U | 0.0039 U | 0.0037 U |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | 0.0035 U | 0.0036 U | | 0.0037 U | 0.0038 U | 0.0038 U | 0.0045 U | 0.0038 U | | | | 0.0037 U | 0.0051 U | | 0.0037 U | 0.0037 U | 0.0037 U | 0.004 U | | 0.0037 U | 0.0036 U | 0.0039 U | 0.0037 U |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | 0.0035 U | 0.0036 U | | 0.0023 J | 0.0038 U | 0.0038 U | 0.0045 U | 0.0038 U | | 0.004 U | | 0.0037 U | 0.0051 U | | 0.0037 U | 0.0022 J | 0.0021 J | 0.004 U | | 0.0037 U | 0.0036 U | 0.0039 U | 0.0037 U |
| PEST/PCB | ENDRIN KETONE | MG/KG | 0.0035 U | 0.0036 U | | 0.0037 U | 0.0027 J | 0.0038 U | 0.0045 U | 0.0038 U | | 0.004 U | | 0.0037 U | 0.0051 U | | | | | 0.004 U | | 0.0037 U | 0.0036 U | 0.0039 U | 0.0037 U |
| PEST/PCB | ENDRIN | MG/KG | 0.0035 U | 0.0036 U | | 0.0037 U | 0.0038 U | 0.0038 U | 0.0045 U | 0.0038 U | | 0.004 U | | 0.0037 U | 0.0051 U | | 0.0037 U | 0.0037 U | 0.0037 U | 0.004 U | | 0.0037 U | 0.0036 U | 0.0039 U | 0.0037 U |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | 0.0018 U | 0.0019 U | | 0.0019 U | 0.002 U | 0.002 U | 0.0023 U | 0.002 U | | 0.0021 U | | 0.0019 U | 0.0026 U | | 0.0091 | 0.015 | 0.01 J | 0.0021 U | | 0.0019 U | 0.0019 U | 0.002 U | 0.0019 U |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | 0.0018 U | 0.0019 U | | 0.0019 U | 0.002 U | 0.002 U | 0.0023 U | 0.002 U | | 0.0032 J | | 0.0019 U | 0.0026 U | | 0.0076 J | 0.0047 J | 0.0041 J | 0.0021 U | | 0.0019 U | 0.0019 U | 0.002 U | 0.0019 U |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | 0.0018 U | 0.0019 U | | 0.0019 U | 0.002 U | 0.002 U | 0.0023 U | 0.002 U | | 0.0021 U | | 0.0019 U | 0.0026 U | | | 0.0019 U | | 0.0021 U | | 0.0019 U | 0.0019 U | 0.002 U | 0.0019 U |
| PEST/PCB | HEPTACHLOR | MG/KG | 0.0018 U | 0.0019 U | | 0.0019 U | 0.002 U | 0.002 U | 0.0023 U | 0.002 U | | 0.0021 U | | 0.0019 U | 0.0026 U | | 0.0019 U | 0.0023 | 0.0019 U | 0.0021 U | | 0.0019 U | 0.0019 U | 0.002 U | 0.0019 U |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | 0.018 U | 0.019 U | | 0.019 U | 0.02 U | 0.02 U | 0.023 U | 0.02 U | | 0.021 U | | 0.019 U | 0.026 U | | 0.019 U | 0.019 U | 0.019 U | 0.021 U | | 0.019 U | 0.14 | 0.02 U | 0.019 U |
| PEST/PCB | TOXAPHENE | MG/KG | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.2 U | 0.23 U | 0.2 U | | 0.21 U | | 0.19 U | 0.26 U | | 0.19 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.19 U | 0.2 U | 0.19 U |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0043 | MPSB0043 | MPSB0043 | MPSB0044 | MPSB0044 | MPSB0044 | MPSB0045 | MPSB0045 | MPSB0045 | MPSB0046 | MPSB0046 | MPSB0046 | MPSB0049 | MPSB0049 | MPSB0049 | MPSB0049 | MPSB0049 | MPSB0050 | MPSB0050 | MPSB0050 | MPSB0050 | MPSB0050 | MPSB0052 |
| | | Field Sample ID | MPSB0043-SS-AA-AB-0 | MPSB0043-SS-AB-AC-0 | MPSB0043-SS-AH-AI-0 | MPSB0044-SS-AA-AB-0 | MPSB0044-SS-AD-AE-0 | MPSB0044-SS-AG-AH-0 | MPSB0045-SS-AA-AB-0 | MPSB0045-SS-AD-AE-0 | MPSB0045-SS-AH-AI-0 | MPSB0046-SS-AA-AB-0 | MPSB0046-SS-AD-AE-0 | MPSB0046-SS-AE-AF-0 | MPSB0049-SS-AA-AB-0 | MPSB0049-SS-AD-AE-0 | MPSB0049-SS-AE-AF-0 | MPSB0049-SS-AE-AF-1 | MPSB0049-SS-AL-AM-0 | MPSB0050-SS-AA-AB-0 | MPSB0050-SS-AD-AE-0 | MPSB0050-SS-AF-AG-0 | MPSB0050-SS-AM-AN-0 | MPSB0050-SS-AT-AU-0 | MPSB0052-SS-AA-AB-0 |
| | | Sample Date | 1/12/2010 | 1/12/2010 | 1/12/2010 | 1/12/2010 | 1/12/2010 | 1/12/2010 | 1/13/2010 | 1/13/2010 | 1/13/2010 | 1/13/2010 | 1/13/2010 | 1/13/2010 | 1/14/2010 | 1/14/2010 | 1/14/2010 | 1/14/2010 | 1/14/2010 | 1/14/2010 | 1/14/2010 | 1/14/2010 | 1/14/2010 | 1/14/2010 | 1/18/2010 |
| | | Depth (ft) | 0-0.5 | 0.5-1 | 3.5-4 | 0-0.5 | 1.5-2 | 3-3.5 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 2-2.5 | 0-0.5 | 1.5-2 | 2-2.5 | 2-2.5 | 5.5-6 | 0-0.5 | 1.5-2 | 2.5-3 | 6-6.5 | 9.5-10 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.23 | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.065 J | 0.19 U |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 7.1 | 5.3 | 3.7 | 0.21 U | | 0.96 U | 0.025 J | 0.2 U | 0.19 U |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 2.8 | 1.9 J | 3 | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 0.34 U | 0.36 U | 0.36 U | 0.37 U | 0.37 U | 0.37 U | 0.45 U | 0.37 U | 0.38 U | 0.41 U | | 0.37 U | 0.51 U | | 3.7 U | 3.7 U | 3.7 U | 0.4 U | | 1.9 U | 0.36 U | 0.39 U | 0.37 U |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.83 | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 | 0.13 J | 0.038 J | 0.19 U |
| SVOC | 2-METHYLPHENOL | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 2-NITROANILINE | MG/KG | 0.34 U | 0.36 U | 0.36 U | 0.37 U | 0.37 U | 0.37 U | 0.45 U | 0.37 U | 0.38 U | 0.41 U | | 0.37 U | 0.51 U | | 3.7 U | 3.7 U | 3.7 U | 0.4 U | | 1.9 U | 0.36 U | 0.39 U | 0.37 U |
| SVOC | 2-NITROPHENOL | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 0.18 U | 0.18 UJ | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 3-NITROANILINE | MG/KG | 0.34 U | 0.36 U | 0.36 U | 0.37 U | 0.37 U | 0.37 U | 0.45 U | 0.37 U | 0.38 U | 0.41 U | | 0.37 U | 0.51 U | | 3.7 U | 3.7 U | 3.7 U | 0.4 U | | 1.9 U | 0.36 U | 0.39 U | 0.37 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 0.34 U | 0.36 U | 0.36 U | 0.37 U | 0.37 U | 0.37 U | 0.45 U | 0.37 U | 0.38 U | 0.41 U | | 0.37 U | 0.51 U | | 3.7 U | 3.7 U | 3.7 U | 0.4 U | | 1.9 U | 0.36 U | 0.39 U | 0.37 U |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 UJ | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 4-CHLOROANILINE | MG/KG | 0.18 U | 0.18 UJ | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 UJ | 1.9 U | 1.9 UJ | 0.21 U | | 0.96 UJ | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 4-METHYLPHENOL | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 0.53 J | 0.35 J | 0.72 J | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 4-NITROANILINE | MG/KG | 0.34 U | 0.36 U | 0.36 U | 0.37 U | 0.37 U | 0.37 U | 0.45 U | 0.37 U | 0.38 U | 0.41 U | | 0.37 U | 0.51 U | | 3.7 U | 3.7 U | 3.7 U | 0.4 U | | 1.9 U | 0.36 U | 0.39 U | 0.37 U |
| SVOC | 4-NITROPHENOL | MG/KG | 0.34 U | 0.36 U | 0.36 U | 0.37 U | 0.37 U | 0.37 U | 0.45 U | 0.37 U | 0.38 U | 0.41 U | | 0.37 U | 0.51 U | | 3.7 U | 3.7 U | 3.7 U | 0.4 U | | 1.9 U | 0.36 U | 0.39 U | 0.37 U |
| SVOC | ACENAPHTHENE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.028 J | 2.3 | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.034 J | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.23 J | 0.15 J | 0.15 J | 0.19 U |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | ACETOPHENONE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | ANTHRACENE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.071 J | 4.1 | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.032 J | | 0.19 U | 0.13 J | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.096 J | 0.23 | 0.26 | 0.19 U |
| SVOC | ATRAZINE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | BENZALDEHYDE | MG/KG | 0.022 J | 0.03 J | 0.19 U | 0.025 J | 0.026 J | 0.19 U | 0.027 J | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.18 U | 0.18 U | 0.19 UJ | 0.24 | 5.2 | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.17 J | | 0.19 U | 0.95 | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.23 J | 0.43 | 0.67 | 0.024 J |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.18 U | 0.18 U | 0.19 UJ | 0.25 | 3.5 | 0.19 U | 0.047 | 0.19 U | 0.19 U | 0.2 J | | 0.19 U | 1.1 | | 1.9 U | 1.9 U | 1.9 U | 0.026 | | 0.21 J | 0.35 | 0.59 | 0.029 J |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 0.18 U | 0.18 U | 0.19 UJ | 0.29 | 3.6 | 0.19 U | 0.034 J | 0.19 U | 0.19 U | 0.19 J | | 0.19 U | 1.1 | | 1.9 U | 1.9 U | 1.9 U | 0.027 J | | 0.31 J | 0.4 | 0.74 | 0.025 J |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.18 U | 0.18 U | 0.19 UJ | 0.086 J | 0.58 | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.2 J | | 0.19 U | 0.67 | | 1.9 U | 1.9 U | 1.9 U | 0.21 UJ | | 0.13 J | 0.15 J | 0.22 J | 0.19 UJ |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.18 U | 0.18 U | 0.19 UJ | 0.2 | 2.7 | 0.19 U | 0.026 J | 0.19 U | 0.19 U | 0.16 J | | 0.19 U | 1 | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.2 J | 0.32 | 0.46 | 0.031 J |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 0.022 J | 0.18 U | 0.19 U | 0.021 J | 0.021 J | 0.19 U | 0.023 J | 0.19 U | 0.19 U | 0.044 J | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | CAPROLACTAM | MG/KG | 0.03 J | 0.18 U | 0.19 U | 0.032 J | 0.024 J | 0.19 U | 0.23 U | 0.02 J | 0.027 J | 0.054 J | | 0.031 J | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | CARBAZOLE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.028 J | 1.6 | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.066 J | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.11 J | 0.12 J | 0.19 U |
| SVOC | CHRYSENE | MG/KG | 0.18 U | 0.18 U | 0.19 UJ | 0.29 | 5.4 | 0.19 U | 0.038 J | 0.19 U | 0.19 U | 0.22 | | 0.19 U | 1.3 | | 1.9 U | 1.9 U | 1.9 U | 0.028 J | | 0.3 J | 0.5 | 0.76 | 0.037 J |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.18 U | 0.18 U | 0.19 UJ | 0.033 J | 0.37 | 0.19 U | 0.011 | 0.19 U | 0.19 U | 0.042 J | | 0.19 U | 0.16 J | | 1.9 U | 1.9 U | 1.9 U | 0.0046 | | 0.96 U | 0.025 J | 0.057 J | 0.19 U |
| SVOC | DIBENZOFURAN | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 1.7 | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.12 J | 0.1 J | 0.081 J | 0.19 U |
| SVOC | DIETHYLPHTHALATE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.02 J | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.023 J | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.021 J | | 0.19 U | 0.043 J | | 4 | 2.7 | 6.2 | 0.025 J | | 0.96 U | 0.033 J | 0.021 J | 0.19 U |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | FLUORANTHENE | MG/KG | 0.18 U | 0.18 U | 0.19 UJ | 0.5 | 10 | 0.19 U | 0.054 J | 0.19 U | 0.19 U | 0.25 | | 0.19 U | 2 | | 1.9 U | 1.9 U | 1.9 U | 0.038 J | | 0.61 J | 1.1 | 1.5 | 0.058 J |
| SVOC | FLUORENE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.026 J | 2.2 | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.034 J | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.18 J | 0.14 J | 0.13 J | 0.19 U |
| SVOC | HEXACHLOROBENZENE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 0.18 U | 0.18 UJ | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | HEXACHLOROETHANE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.18 U | 0.18 U | 0.19 UJ | 0.092 J | 0.71 | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.17 J | | 0.19 U | 0.73 | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.11 J | 0.16 J | 0.24 | 0.19 U |
| SVOC | ISOPHORONE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | NAPHTHALENE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 1.2 | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 2.4 | 0.038 J | 0.041 J | 0.19 U |
| SVOC | NITROBENZENE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | 0.34 U | 0.36 U | 0.048 J | 0.37 U | 0.37 U | 0.37 U | 0.45 U | 0.37 U | 0.38 U | 0.41 U | | 0.37 U | 1 | | 490 | 290 | 410 | 0.4 U | | 1.9 U | 1.4 | 0.22 J | 0.37 U |
| SVOC | PHENANTHRENE | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.31 | 17 | 0.19 U | 0.029 J | 0.19 U | 0.19 U | 0.16 J | | 0.19 U | 0.87 | | 1.9 U | 1.9 U | 1.9 U | 0.21 U | | 0.6 J | 1.1 | 1.4 | 0.035 J |
| SVOC | PHENOL | MG/KG | 0.18 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.23 U | 0.19 U | 0.19 U | 0.21 U | | 0.19 U | 0.26 U | | 0.33 J | 0.23 J | 0.39 J | 0.21 U | | 0.96 U | 0.19 U | 0.2 U | 0.19 U |
| SVOC | PYRENE | MG/KG | 0.18 U | 0.18 U | 0.19 UJ | 0.36 | 12 | 0.19 U | 0.042 J | 0.19 U | 0.19 U | 0.33 | | 0.19 U | 1.6 | | 1.9 UJ | 1.9 U | 1.9 UJ | 0.029 J | | 0.76 J | 0.55 | 0.87 | 0.038 J |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0043 | MPSB0043 | MPSB0043 | MPSB0044 | MPSB0044 | MPSB0044 | MPSB0045 | MPSB0045 | MPSB0045 | MPSB0046 | MPSB0046 | MPSB0046 | MPSB0049 | MPSB0049 | MPSB0049 | MPSB0049 | MPSB0049 | MPSB0050 | MPSB0050 | MPSB0050 | MPSB0050 | MPSB0050 | MPSB0050 | MPSB0052 |
| | | Field Sample ID | MPSB0043-SS-AA-AB-0 | MPSB0043-SS-AB-AC-0 | MPSB0043-SS-AH-AI-0 | MPSB0044-SS-AA-AB-0 | MPSB0044-SS-AD-AE-0 | MPSB0044-SS-AG-AH-0 | MPSB0045-SS-AA-AB-0 | MPSB0045-SS-AD-AE-0 | MPSB0045-SS-AH-AI-0 | MPSB0046-SS-AA-AB-0 | MPSB0046-SS-AD-AE-0 | MPSB0046-SS-AE-AF-0 | MPSB0049-SS-AA-AB-0 | MPSB0049-SS-AD-AE-0 | MPSB0049-SS-AE-AF-0 | MPSB0049-SS-AE-AF-1 | MPSB0049-SS-AL-AM-0 | MPSB0050-SS-AA-AB-0 | MPSB0050-SS-AD-AE-0 | MPSB0050-SS-AF-AG-0 | MPSB0050-SS-AM-AN-0 | MPSB0050-SS-AT-AU-0 | MPSB0052-SS-AA-AB-0 |
| | | Sample Date | 1/12/2010 | 1/12/2010 | 1/12/2010 | 1/12/2010 | 1/12/2010 | 1/12/2010 | 1/13/2010 | 1/13/2010 | 1/13/2010 | 1/13/2010 | 1/13/2010 | 1/13/2010 | 1/14/2010 | 1/14/2010 | 1/14/2010 | 1/14/2010 | 1/14/2010 | 1/14/2010 | 1/14/2010 | 1/14/2010 | 1/14/2010 | 1/14/2010 | 1/18/2010 |
| | | Depth (ft) | 0-0.5 | 0.5-1 | 3.5-4 | 0-0.5 | 1.5-2 | 3-3.5 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 2-2.5 | 0-0.5 | 1.5-2 | 2-2.5 | 2-2.5 | 5.5-6 | 0-0.5 | 1.5-2 | 2.5-3 | 6-6.5 | 9.5-10 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | 0.0056 U | 0.0058 U | | | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | 0.0056 U | 0.0058 U | | | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0022 J | 0.071 J | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | 0.0056 U | 0.0058 U | | | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | 0.0056 U | 0.0058 U | | | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | 0.0056 U | 0.0058 U | | | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | 0.0056 U | 0.0058 U | | | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0035 J | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | 0.011 U | 0.012 U | | 0.011 U | 0.011 U | | 0.01 U | 0.0086 U | | 0.011 U | 0.0089 U | | 0.011 U | 0.011 U | 0.59 U | 0.61 U | | 0.0095 U | 4.3 U | 0.59 U | 0.68 U | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | 0.011 U | 0.012 U | | 0.011 U | 0.011 U | | 0.01 U | 0.0086 U | | 0.011 U | 0.0089 U | | 0.011 U | 0.011 U | 0.59 U | 0.61 U | | 0.0095 U | 4.3 U | 0.59 U | 0.68 U | |
| VOC | ACETONE | MG/KG | | 0.007 J | 0.009 J | | 0.021 | 0.0081 J | | 0.0089 J | 0.019 | | 0.011 U | 0.0089 U | | 0.085 | 0.16 J | 0.15 J | 0.14 J | | 0.0095 U | 4.3 U | 0.59 U | 0.68 U | |
| VOC | BENZENE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0042 J | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | BROMOCHLOROMETHANE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | BROMODICHLOROMETHANE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | BROMOFORM | MG/KG | | 0.0056 U | 0.0058 U | | | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | BROMOMETHANE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | CARBON DISULFIDE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0038 J | 0.0035 J | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | CARBON TETRACHLORIDE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | CHLOROBENZENE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | CHLOROETHANE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | CHLOROFORM | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | CHLOROMETHANE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 UJ | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | CYCLOHEXANE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.085 J | 0.34 U | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | DICHLOROMETHANE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | ETHYLBENZENE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0022 J | 0.075 J | 0.61 J | 0.12 J | | 0.0048 U | 0.7 J | 0.29 U | 1.3 | |
| VOC | ISOPROPYLBENZENE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0041 J | 0.059 J | 0.3 U | | 0.0048 U | 2.2 U | 0.35 | 0.12 J | |
| VOC | METHYL ACETATE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.1 J | 0.15 J | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | METHYL ETHYL KETONE | MG/KG | | 0.011 U | 0.012 U | | 0.008 J | 0.011 U | | 0.01 U | 0.0086 U | | 0.011 U | 0.0089 U | | 0.037 | 0.091 J | 0.59 U | 0.61 U | | 0.0082 J | 4.3 U | 0.59 U | 0.68 U | |
| VOC | METHYLCYCLOHEXANE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0076 | 0.009 J | 0.3 U | 0.3 U | | 0.0048 U | 3.2 | 0.86 | 0.36 | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0045 J | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | TETRACHLOROETHENE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.014 | 0.038 J | 0.21 J | 0.068 J | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | TOLUENE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.015 J | 0.3 U | 0.4 | | 0.0031 J | 2.2 U | 0.29 U | 0.34 U | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0079 J | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0055 U | 0.0054 U | 0.3 U | 0.3 U | | 0.0048 U | 2.2 U | 0.29 U | 0.34 U | |
| VOC | XYLENE, O- | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0022 J | 0.071 J | 0.68 J | 0.14 J | | 0.0048 U | 2.2 U | 0.29 U | 1.5 | |
| VOC | XYLENES (TOTAL) | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0107 J | 0.351 J | 3.18 J | 0.54 J | | 0.0021 J | 1.4 J | 0.19 J | 5.8 | |
| VOC | XYLENES, M & P | MG/KG | | 0.0056 U | 0.0058 U | | 0.0054 U | 0.0056 U | | 0.0052 U | 0.0043 U | | 0.0056 U | 0.0044 U | | 0.0085 | 0.28 J | 2.5 J | 0.4 | | 0.0021 J | 1.4 J | 0.19 J | 4.3 | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0052 | MPSB0052 | MPSB0052 | MPSB0053 | MPSB0053 | MPSB0053 | MPSB0054 | MPSB0054 | MPSB0054 | MPSB0055 | MPSB0055 | MPSB0055 | MPSB0055 | MPSB0055 | MPSB0055 | MPSB0056 | MPSB0056 | MPSB0056 | MPSB0056 | MPSB0056 | MPSB0057 | MPSB0057 | MPSB0057 | MPSB0057 |
| | | Field Sample ID | MPSB0052-SS-AD-AE-0 | MPSB0052-SS-AH-AI-0 | MPSB0052-SS-AJ-AK-0 | MPSB0053-SS-AA-AB-0 | MPSB0053-SS-AD-AE-0 | MPSB0053-SS-AH-AI-0 | MPSB0054-SS-AA-AB-0 | MPSB0054-SS-AD-AE-0 | MPSB0054-SS-AT-AU-0 | MPSB0055-SS-AA-AB-0 | MPSB0055-SS-AD-AE-0 | MPSB0055-SS-AL-AM-0 | MPSB0055-SS-AL-AM-1 | MPSB0055-SS-AT-AU-0 | MPSB0055-SS-AT-AU-1 | MPSB0056-SS-AA-AB-0 | MPSB0056-SS-AD-AE-0 | MPSB0056-SS-AJ-AK-0 | MPSB0056-SS-AT-AU-0 | MPSB0057-SS-AA-AB-0 | MPSB0057-SS-AD-AE-0 | MPSB0057-SS-AH-AI-0 | MPSB0057-SS-AJ-AK-0 |
| | | Sample Date | 1/18/2010 | 1/18/2010 | 1/18/2010 | 1/18/2010 | 1/18/2010 | 1/18/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/20/2010 | 1/20/2010 | 1/20/2010 | 1/20/2010 |
| | | Depth (ft) | 1.5-2 | 3.5-4 | 4.5-5 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 9.5-10 | 0-0.5 | 1.5-2 | 5.5-6 | 5.5-6 | 9.5-10 | 9.5-10 | 0-0.5 | 1.5-2 | 4.5-5 | 9.5-10 | 0-0.5 | 1.5-2 | 3.5-4 | 4.5-5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | | 1290 | 2200 | 3710 | | 2920 | 2070 | | 1980 | 760 | | 963 | 883 | 2990 | 3180 | 2320 | | 1860 | 963 | 1320 | | 2000 | 1070 |
| METALS | ANTIMONY | MG/KG | | 5.7 UJ | 5.9 UJ | 6.4 UJ | | 5.5 UJ | 5.8 UJ | | 5.1 UJ | 6.2 UJ | | 4.9 UJ | 5.6 UJ | 6.2 UJ | 6.3 UJ | 6.6 UJ | | 6 UJ | 5.9 UJ | 4.8 UJ | | 5.2 UJ | 6 UJ |
| METALS | ARSENIC | MG/KG | | 1.4 | 0.54 J | 3.1 | | 2.8 | 1.5 | | 1.3 | 0.74 J | | 0.71 J | 0.86 J | 3.1 | 2.5 | 2.4 | | 1.3 | 0.83 J | 6.3 | | 10.4 | 2.8 |
| METALS | BARIUM | MG/KG | | 103 | 20 U | 21 U | | 38.9 | 19 U | | 264 J | 667 J | | 61.6 J | 68.1 J | 21 U | 21 U | 653 J | | 80.8 J | 20 U | 101 J | | 380 J | 231 J |
| METALS | BERYLLIUM | MG/KG | | 0.17 J | 0.49 U | 0.1 J | | 0.11 J | 0.48 U | | 0.42 U | 0.52 U | | 0.41 U | 0.46 U | 0.52 U | 0.12 J | 0.55 U | | 0.5 U | 0.5 U | 0.063 J | | 0.11 J | 0.069 J |
| METALS | CADMIUM | MG/KG | | 0.48 U | 0.49 U | 0.53 U | | 0.46 U | 0.48 U | | 0.42 U | 0.52 U | | 0.41 U | 0.46 U | 0.52 U | 0.52 U | 0.1 J | | 0.5 U | 0.49 U | 0.071 J | | 0.1 J | 0.16 J |
| METALS | CALCIUM | MG/KG | | 40.5 J | 494 U | 217 J | | 139 J | 131 J | | 17.9 J | 63.1 J | | 22.2 J | 29 J | 91.4 J | 80.6 J | 525 J | | 84.7 J | 52 J | 760 | | 650 | 200 J |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | | 9.8 | 4.6 | 10.8 | | 9.5 | 4.9 | | 7.5 | 4.7 | | 5.8 | 6 | 10.5 | 10.6 | 9.6 | | 7.9 | 4.5 | 8.2 | | 16.5 | 7.9 |
| METALS | COBALT | MG/KG | | 1.1 J | 0.16 J | 2.8 J | | 2 J | 0.42 J | | 1.2 J | 0.83 J | | 0.42 J | 0.55 J | 5.2 U | 5.2 U | 2.7 J | | 6.5 | 5 U | 0.44 J | | 0.98 J | 0.56 J |
| METALS | COPPER | MG/KG | | 4.6 | 1.4 J | 12.9 | | 8.9 | 2.5 | | 12.3 | 17.8 | | 5.3 | 6 | 2.6 U | 2.6 U | 25.6 | | 6.1 | 2.5 U | 7.6 | | 14.6 | 82.5 |
| METALS | CYANIDE | MG/KG | | 2.8 U | 2.9 U | 3 U | | 2.9 U | 2.9 U | | 2.8 U | 3 U | | 2.8 U | 2.8 U | 3.1 U | 3.1 U | 0.88 J | | 0.35 J | 3.1 U | 0.23 J | | 6.4 | 0.062 J |
| METALS | IRON | MG/KG | | 3830 | 1810 | 4190 | | 5560 | 3360 | | 4410 | 3270 | | 2050 | 2020 | 7450 | 7240 | 4790 | | 4960 | 1070 | 3190 | | 4210 | 3640 |
| METALS | LEAD | MG/KG | | 53.8 | 3.3 | 76 | | 78.4 | 19.3 | | 16.4 | 32.2 | | 11.1 | 12.1 | 3 | 3.4 | 73 | | 17.9 | 2.9 | 102 | | 261 | 116 |
| METALS | MAGNESIUM | MG/KG | | 320 J | 26.2 J | 158 J | | 130 J | 137 J | | 30 J | 54.8 J | | 18.2 J | 16.5 J | 63.4 J | 68.4 J | 268 J | | 35.8 J | 12.9 J | 187 J | | 227 J | 20 J |
| METALS | MANGANESE | MG/KG | | 12 | 4.1 | 35.7 | | 12.4 | 22.5 | | 4.3 | 4.9 | | 3.8 | 4.3 | 9 | 10.4 | 29.9 | | 3.8 | 8 | 22.1 | | 52.4 | 11.3 |
| METALS | MERCURY | MG/KG | | 0.071 J | 0.081 U | 1.2 J | | 1.6 J | | | | | | | | | | | | | | | | | |
| METALS | NICKEL | MG/KG | | 0.54 J | 0.32 J | 1.5 J | | 1.5 J | 0.62 J | | 0.9 J | 2.8 J | | 0.44 J | 0.56 J | 4.1 U | 4.2 U | 2.1 J | | 2.3 J | 4 U | 0.97 J | | 1.2 J | 0.54 J |
| METALS | POTASSIUM | MG/KG | | 905 | 30.7 J | 377 J | | 276 J | 190 J | | 112 J | 84.7 J | | 56.4 J | 47.6 J | 230 J | 240 J | 233 J | | 106 J | 104 J | 157 J | | 131 J | 103 J |
| METALS | SELENIUM | MG/KG | | 3.3 U | 3.5 U | 3.7 U | | 3.2 U | 3.4 U | | 3 U | 3.6 U | | 2.9 U | 3.2 U | 3.6 U | 3.7 U | 3.9 U | | 3.5 U | 3.5 U | 2.8 U | | 3.1 U | 3.5 U |
| METALS | SILVER | MG/KG | | 0.95 U | 0.99 U | 1.1 U | | 0.91 U | 0.96 U | | 0.85 U | 1 U | | 0.82 U | 0.93 U | 1 U | 1 U | 1.1 U | | 1 U | 0.99 U | 0.8 U | | 0.87 U | 1 U |
| METALS | SODIUM | MG/KG | | 477 U | 494 U | 530 U | | 14.3 J | 480 U | | 423 U | 515 U | | 409 U | 463 U | 516 U | 523 U | 20.2 J | | 501 U | 8.9 J | 11 J | | 11.5 J | 500 U |
| METALS | THALLIUM | MG/KG | | 2.4 UJ | 2.5 UJ | 2.6 UJ | | 2.3 UJ | 2.4 U | | 2.1 U | 2.6 U | | 2 U | 2.3 U | 2.6 U | 2.6 U | 2.8 U | | 2.5 U | 2.5 U | 2 U | | 2.2 U | 2.5 U |
| METALS | VANADIUM | MG/KG | | 4.2 J | 4.6 J | 10.9 | | 11.8 | 5.9 | | 6.6 | 3.8 J | | 4.4 | 4.2 J | 10.7 | 9.8 | 8.5 | | 8.6 | 3.9 J | 7.2 | | 7.2 | 6.7 |
| METALS | ZINC | MG/KG | | 30.6 | 10.2 | 23.7 | | 19.8 | 8.7 J | | 67.6 J | 54.5 J | | 21.2 J | 23.1 J | 1.5 J | 1.9 J | 212 J | | 37 J | 0.88 J | 52.3 J | | 148 J | 130 J |
| PEST/PCB | 4,4'-DDD | MG/KG | | 0.0037 U | 0.0038 U | 0.004 U | | 0.0038 U | 0.0038 U | | 0.0036 U | 0.0039 U | | 0.0037 U | 0.0037 U | | | 0.004 U | | 0.0077 | | 0.0048 | | 0.063 | 0.0092 |
| PEST/PCB | 4,4'-DDE | MG/KG | | 0.0037 U | 0.0038 U | 0.004 U | | 0.0025 J | 0.0038 U | | 0.0036 U | 0.0039 U | | 0.0037 U | 0.0037 U | | | 0.004 U | | 0.004 U | | 0.0023 J | | 0.0081 | 0.0037 U |
| PEST/PCB | 4,4'-DDT | MG/KG | | 0.0037 U | 0.0038 U | 0.0051 | | 0.0046 | 0.0038 U | | 0.0036 U | 0.0039 U | | 0.0037 U | 0.0037 U | | | 0.0097 J | | 0.004 U | | 0.007 J | | 0.0049 J | 0.0037 U |
| PEST/PCB | ALDRIN | MG/KG | | 0.0019 U | 0.0019 U | 0.0021 U | | 0.002 U | 0.002 U | | 0.0019 U | 0.002 U | | 0.0019 U | 0.0019 U | | | 0.0018 J | | 0.0021 U | | 0.0021 U | | 0.0019 U | 0.0019 U |
| PEST/PCB | ALPHA-BHC | MG/KG | | 0.0019 U | 0.0019 U | 0.0021 U | | 0.002 U | 0.002 U | | 0.0019 U | 0.002 U | | 0.0019 U | 0.0019 U | | | 0.002 U | | 0.0021 U | | 0.0021 U | | 0.0019 U | 0.0019 U |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | 0.0019 U | 0.0019 U | 0.0021 U | | 0.002 U | 0.002 U | | 0.0019 U | 0.002 U | | 0.0019 U | 0.0019 U | | | 0.0048 J | | 0.0021 U | | 0.0019 J | | 0.0039 | 0.0019 U |
| PEST/PCB | AROCLOR-1016 | MG/KG | | 0.037 U | 0.038 U | 0.04 U | | 0.038 U | 0.038 U | | 0.036 U | 0.039 U | | 0.037 U | 0.037 U | | | 0.04 U | | 0.04 U | | 0.04 U | | 0.036 U | 0.037 U |
| PEST/PCB | AROCLOR-1221 | MG/KG | | 0.037 U | 0.038 U | 0.04 U | | 0.038 U | 0.038 U | | 0.036 U | 0.039 U | | 0.037 U | 0.037 U | | | 0.04 U | | 0.04 U | | 0.04 U | | 0.036 U | 0.037 U |
| PEST/PCB | AROCLOR-1232 | MG/KG | | 0.037 U | 0.038 U | 0.04 U | | 0.038 U | 0.038 U | | 0.036 U | 0.039 U | | 0.037 U | 0.037 U | | | 0.04 U | | 0.04 U | | 0.04 U | | 0.036 U | 0.037 U |
| PEST/PCB | AROCLOR-1242 | MG/KG | | 0.037 U | 0.038 U | 0.04 U | | 0.038 U | 0.038 U | | 0.036 U | 0.039 U | | 0.037 U | 0.037 U | | | 0.04 U | | 0.04 U | | 0.04 U | | 0.036 U | 0.037 U |
| PEST/PCB | AROCLOR-1248 | MG/KG | | 0.037 U | 0.038 U | 0.04 U | | 0.038 U | 0.038 U | | 0.036 U | 0.039 U | | 0.037 U | 0.037 U | | | 0.04 U | | 0.04 U | | 0.04 U | | 0.036 U | 0.037 U |
| PEST/PCB | AROCLOR-1254 | MG/KG | | 0.037 U | 0.038 U | 0.04 U | | 0.038 U | 0.038 U | | 0.036 U | 0.039 U | | 0.037 U | 0.037 U | | | 0.04 U | | 0.04 U | | 0.04 U | | 0.036 U | 0.037 U |
| PEST/PCB | AROCLOR-1260 | MG/KG | | 0.037 U | 0.038 U | 0.04 U | | 0.038 U | 0.038 U | | 0.036 U | 0.039 U | | 0.037 U | 0.037 U | | | 0.04 U | | 0.04 U | | 0.04 U | | 0.036 J | 0.037 U |
| PEST/PCB | AROCLOR-1262 | MG/KG | | 0.037 U | 0.038 U | 0.04 U | | 0.038 U | 0.038 U | | 0.036 U | 0.039 U | | 0.037 U | 0.037 U | | | 0.04 U | | 0.04 U | | 0.04 U | | 0.036 U | 0.037 U |
| PEST/PCB | AROCLOR-1268 | MG/KG | | 0.037 U | 0.038 U | 0.04 U | | 0.038 U | 0.038 U | | 0.036 U | 0.039 U | | 0.037 U | 0.037 U | | | 0.04 U | | 0.04 U | | 0.04 U | | 0.036 U | 0.037 U |
| PEST/PCB | BETA-BHC | MG/KG | | 0.0019 U | 0.0019 U | 0.0021 U | | 0.002 U | 0.002 U | | 0.0055 J | 0.0024 J | | 0.0019 U | 0.0019 U | | | | | 0.0021 U | | 0.0021 U | | 0.0019 U | 0.0078 |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | 0.0019 U | 0.0019 U | 0.0021 U | | 0.002 U | 0.002 U | | 0.0019 U | 0.002 U | | 0.0019 U | 0.0019 U | | | 0.002 U | | 0.0052 J | | 0.0021 U | | 0.0019 U | 0.0019 U |
| PEST/PCB | DIELDRIN | MG/KG | | 0.0037 U | 0.0038 U | 0.004 U | | 0.0038 U | 0.0038 U | | 0.0036 U | 0.0039 U | | 0.0037 U | 0.0037 U | | | 0.004 U | | 0.004 U | | 0.0035 J | | 0.0086 | 0.0027 J |
| PEST/PCB | ENDOSULFAN I | MG/KG | | 0.0019 U | 0.0019 U | 0.0021 U | | 0.002 U | 0.002 U | | 0.0023 | 0.002 U | | 0.0019 U | 0.0019 U | | | 0.0011 J | | 0.0021 U | | 0.0021 U | | 0.0019 U | 0.0019 U |
| PEST/PCB | ENDOSULFAN II | MG/KG | | 0.0037 U | 0.0038 U | 0.004 U | | 0.0038 U | 0.0038 U | | 0.0036 U | 0.0039 U | | 0.0037 U | 0.0037 U | | | 0.004 U | | 0.004 U | | 0.004 U | | 0.0036 U | 0.0037 U |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | 0.0037 U | 0.0038 U | 0.004 U | | 0.0038 U | 0.0038 U | | 0.0036 U | 0.0039 U | | 0.0037 U | 0.0037 U | | | 0.004 U | | 0.004 U | | 0.004 U | | 0.0036 U | 0.0037 U |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | 0.0037 U | 0.0038 U | 0.004 U | | 0.0038 U | 0.0038 U | | 0.0036 U | 0.0039 U | | 0.0037 U | 0.0037 U | | | 0.004 U | | 0.004 U | | 0.004 U | | 0.0023 J | 0.0037 U |
| PEST/PCB | ENDRIN KETONE | MG/KG | | 0.0037 U | 0.0038 U | 0.004 U | | 0.0038 U | 0.0038 U | | 0.0034 J | 0.0039 U | | 0.0037 U | 0.0037 U | | | 0.0045 J | | 0.004 U | | 0.004 U | | 0.0036 U | 0.0037 U |
| PEST/PCB | ENDRIN | MG/KG | | 0.0037 U | 0.0038 U | 0.004 U | | 0.0038 U | 0.0038 U | | 0.0036 U | 0.0039 U | | 0.0037 U | 0.0037 U | | | 0.004 U | | 0.004 U | | 0.004 U | | 0.0036 U | 0.0037 U |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | 0.0019 U | 0.0019 U | 0.0021 U | | 0.002 U | 0.002 U | | 0.0019 U | 0.002 U | | 0.0019 U | 0.0019 U | | | 0.002 U | | 0.0021 U | | 0.0021 U | | 0.0019 U | 0.0019 U |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | 0.0019 U | 0.0019 U | 0.0021 U | | 0.002 U | 0.002 U | | 0.0019 U | 0.002 U | | 0.0019 U | 0.0019 U | | | 0.0026 J | | 0.0021 U | | 0.0018 J | | 0.0039 J | 0.0019 U |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | 0.0019 U | 0.0019 U | 0.0021 U | | 0.002 U | 0.002 U | | 0.0019 U | 0.002 U | | 0.0019 U | 0.0019 U | | | 0.002 U | | 0.0021 U | | 0.0021 U | | 0.0012 J | 0.0019 U |
| PEST/PCB | HEPTACHLOR | MG/KG | | 0.0019 U | 0.0019 U | 0.0021 U | | 0.002 U | 0.002 U | | 0.0019 U | 0.002 U | | 0.0019 U | 0.0019 U | | | 0.002 U | | 0.0021 U | | 0.0021 U | | 0.0019 U | 0.0019 U |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | 0.019 U | 0.019 U | 0.021 U | | 0.02 U | 0.02 U | | 0.019 U | 0.02 U | | 0.019 U | 0.019 U | | | 0.02 U | | 0.021 U | | 0.021 U | | 0.019 U | 0.019 U |
| PEST/PCB | TOXAPHENE | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | | | 0.2 U | | 0.21 U | | 0.21 U | | 0.19 U | 0.19 U |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0052 | MPSB0052 | MPSB0052 | MPSB0053 | MPSB0053 | MPSB0053 | MPSB0054 | MPSB0054 | MPSB0054 | MPSB0055 | MPSB0055 | MPSB0055 | MPSB0055 | MPSB0055 | MPSB0055 | MPSB0056 | MPSB0056 | MPSB0056 | MPSB0056 | MPSB0056 | MPSB0057 | MPSB0057 | MPSB0057 | MPSB0057 |
| | | Field Sample ID | MPSB0052-SS-AD-AE-0 | MPSB0052-SS-AH-AI-0 | MPSB0052-SS-AJ-AK-0 | MPSB0053-SS-AA-AB-0 | MPSB0053-SS-AD-AE-0 | MPSB0053-SS-AH-AI-0 | MPSB0054-SS-AA-AB-0 | MPSB0054-SS-AD-AE-0 | MPSB0054-SS-AT-AU-0 | MPSB0055-SS-AA-AB-0 | MPSB0055-SS-AD-AE-0 | MPSB0055-SS-AL-AM-0 | MPSB0055-SS-AL-AM-1 | MPSB0055-SS-AT-AU-0 | MPSB0055-SS-AT-AU-1 | MPSB0056-SS-AA-AB-0 | MPSB0056-SS-AD-AE-0 | MPSB0056-SS-AJ-AK-0 | MPSB0056-SS-AT-AU-0 | MPSB0057-SS-AA-AB-0 | MPSB0057-SS-AD-AE-0 | MPSB0057-SS-AH-AI-0 | MPSB0057-SS-AJ-AK-0 |
| | | Sample Date | 1/18/2010 | 1/18/2010 | 1/18/2010 | 1/18/2010 | 1/18/2010 | 1/18/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/20/2010 | 1/20/2010 | 1/20/2010 | 1/20/2010 |
| | | Depth (ft) | 1.5-2 | 3.5-4 | 4.5-5 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 9.5-10 | 0-0.5 | 1.5-2 | 5.5-6 | 5.5-6 | 9.5-10 | 9.5-10 | 0-0.5 | 1.5-2 | 4.5-5 | 9.5-10 | 0-0.5 | 1.5-2 | 3.5-4 | 4.5-5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.042 J | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.027 J | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.14 J | | 0.057 J | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.46 | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.062 J | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | | 0.37 U | 0.37 U | 0.4 U | | 0.39 U | 0.39 U | | 0.37 U | 0.39 U | | 0.37 U | 0.37 U | 0.41 U | 0.41 U | 0.4 U | | 0.41 U | 0.41 U | 0.4 U | | 0.36 U | 0.37 U |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.14 J | 0.21 U | 0.21 U | | 0.024 J | 0.19 U |
| SVOC | 2-METHYLPHENOL | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | 2-NITROANILINE | MG/KG | | 0.37 U | 0.37 U | 0.4 U | | 0.39 U | 0.39 U | | 0.37 U | 0.39 U | | 0.37 U | 0.37 U | 0.41 U | 0.41 U | 0.4 U | | 0.41 U | 0.41 U | 0.4 U | | 0.36 U | 0.37 U |
| SVOC | 2-NITROPHENOL | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | 3-NITROANILINE | MG/KG | | 0.37 U | 0.37 U | 0.4 U | | 0.39 U | 0.39 U | | 0.37 U | 0.39 U | | 0.37 U | 0.37 U | 0.41 U | 0.41 U | 0.4 U | | 0.41 U | 0.41 U | 0.4 U | | 0.36 U | 0.37 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | | 0.37 U | 0.37 U | 0.4 U | | 0.39 U | 0.39 U | | 0.37 U | 0.39 U | | 0.37 U | 0.37 U | 0.41 U | 0.41 U | 0.4 U | | 0.41 U | 0.41 U | 0.4 U | | 0.36 U | 0.37 U |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | 4-CHLOROANILINE | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | 4-METHYLPHENOL | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | 4-NITROANILINE | MG/KG | | 0.37 U | 0.37 U | 0.4 U | | 0.39 U | 0.39 U | | 0.37 U | 0.39 U | | 0.37 U | 0.37 U | 0.41 U | 0.41 U | 0.4 U | | 0.41 U | 0.41 U | 0.4 U | | 0.36 U | 0.37 U |
| SVOC | 4-NITROPHENOL | MG/KG | | 0.37 U | 0.37 U | 0.4 U | | 0.39 U | 0.39 U | | 0.37 U | 0.39 U | | 0.37 U | 0.37 U | 0.41 U | 0.41 U | 0.4 U | | 0.41 U | 0.41 U | 0.4 U | | 0.36 U | 0.37 U |
| SVOC | ACENAPHTHENE | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.022 J | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.051 J | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | ACENAPHTHYLENE | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.035 J | 0.19 U |
| SVOC | ACETOPHENONE | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.023 J | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.037 J | | 0.19 J | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | ANTHRACENE | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.033 J | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.023 J | | 0.21 U | 0.21 U | 0.21 U | | 0.036 J | 0.19 U |
| SVOC | ATRAZINE | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | BENZALDEHYDE | MG/KG | | 0.19 U | 0.19 U | 0.026 J | | 0.024 J | 0.2 U | | 0.022 J | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.032 J | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | | 0.047 J | 0.19 U | 0.11 J | | 0.042 J | 0.2 U | | 0.12 J | 0.033 J | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.09 J | | 0.031 J | 0.21 U | 0.062 J | | 0.16 J | 0.023 J |
| SVOC | BENZO(A)PYRENE | MG/KG | | 0.048 J | 0.19 U | 0.14 J | | 0.053 J | 0.023 | | 0.11 J | 0.036 J | | 0.19 U | 0.19 U | 0.0054 | 0.0071 | 0.1 J | | 0.032 J | 0.0063 | 0.082 J | | 0.27 | 0.02 J |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | | 0.035 J | 0.19 U | 0.1 J | | 0.056 J | 0.2 U | | 0.097 J | 0.026 J | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.081 J | | 0.03 J | 0.21 U | 0.08 J | | 0.22 | 0.02 J |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | | 0.021 J | 0.19 UJ | 0.053 J | | 0.023 J | 0.2 U | | 0.13 J | 0.03 J | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.047 J | | 0.21 U | 0.21 U | 0.081 J | | 0.18 J | 0.19 U |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | | 0.042 J | 0.19 U | 0.13 J | | 0.045 J | 0.2 U | | 0.11 J | 0.031 J | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.099 J | | 0.026 J | 0.21 U | 0.078 J | | 0.24 | 0.022 J |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | | 0.19 U | 0.19 U | 0.036 J | | 0.2 U | 0.2 U | | 0.02 J | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.021 J |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.027 J | | 0.12 J | 0.13 J | | 0.035 J | 0.032 J | 0.026 J | 0.032 J | 0.18 J | | 0.043 J | 0.024 J | 0.034 J | | 0.037 J | 0.09 J |
| SVOC | CAPROLACTAM | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | CARBAZOLE | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.068 J | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | CHRYSENE | MG/KG | | 0.053 J | 0.19 U | 0.15 J | | 0.062 J | 0.021 J | | 0.14 J | 0.039 J | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.13 J | | 0.043 J | 0.21 U | 0.089 J | | 0.21 | 0.028 J |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | | 0.19 U | 0.19 U | 0.046 J | | 0.012 | 0.0039 J | | 0.025 J | 0.0081 | | 0.19 U | 0.19 U | 0.0041 U | 0.0041 U | 0.21 U | | 0.0081 | 0.0041 U | 0.023 | | 0.054 J | 0.19 U |
| SVOC | DIBENZOFURAN | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | DIETHYLPHTHALATE | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | | 0.19 U | 0.19 U | 0.021 J | | 0.2 U | 0.028 J | | 0.048 J | 0.041 J | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.16 J | | 0.021 J | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | FLUORANTHENE | MG/KG | | 0.085 J | 0.19 U | 0.23 | | 0.094 J | 0.024 J | | 0.18 J | 0.049 J | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.16 J | | 0.068 J | 0.21 U | 0.089 J | | 0.24 | 0.037 J |
| SVOC | FLUORENE | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | HEXACHLOROBENZENE | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | HEXACHLOROETHANE | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | | 0.02 J | 0.19 U | 0.046 J | | 0.026 J | 0.2 U | | 0.11 J | 0.033 J | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.05 J | | 0.023 J | 0.21 U | 0.075 J | | 0.2 | 0.19 U |
| SVOC | ISOPHORONE | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | NAPHTHALENE | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.49 | 0.21 U | 0.21 U | | 0.045 J | 0.19 U |
| SVOC | NITROBENZENE | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | | 0.37 U | 0.37 U | 0.065 J | | 0.12 J | 0.33 J | | 1.9 | 0.49 | | 0.12 J | 0.13 J | 0.41 U | 0.41 U | 8.7 | | 2.6 | 0.41 U | 0.4 U | | 0.36 U | 0.13 J |
| SVOC | PHENANTHRENE | MG/KG | | 0.06 J | 0.19 U | 0.11 J | | 0.055 J | 0.2 U | | 0.13 J | 0.034 J | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.1 J | | 0.074 J | 0.21 U | 0.044 J | | 0.091 J | 0.19 U |
| SVOC | PHENOL | MG/KG | | 0.19 U | 0.19 U | 0.21 U | | 0.2 U | 0.2 U | | 0.19 U | 0.2 U | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | | 0.19 U | 0.19 U |
| SVOC | PYRENE | MG/KG | | 0.063 J | 0.19 U | 0.15 J | | 0.063 J | 0.036 J | | 0.23 | 0.067 J | | 0.19 U | 0.19 U | 0.21 U | 0.21 U | 0.15 J | | 0.062 J | 0.21 U | 0.096 J | | 0.22 | 0.036 J |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0052 | MPSB0052 | MPSB0052 | MPSB0053 | MPSB0053 | MPSB0053 | MPSB0054 | MPSB0054 | MPSB0054 | MPSB0055 | MPSB0055 | MPSB0055 | MPSB0055 | MPSB0055 | MPSB0055 | MPSB0056 | MPSB0056 | MPSB0056 | MPSB0056 | MPSB0057 | MPSB0057 | MPSB0057 | MPSB0057 | MPSB0057 |
| | | Field Sample ID | MPSB0052-SS-AD-AE-0 | MPSB0052-SS-AH-AI-0 | MPSB0052-SS-AJ-AK-0 | MPSB0053-SS-AA-AB-0 | MPSB0053-SS-AD-AE-0 | MPSB0053-SS-AH-AI-0 | MPSB0054-SS-AA-AB-0 | MPSB0054-SS-AD-AE-0 | MPSB0054-SS-AT-AU-0 | MPSB0055-SS-AA-AB-0 | MPSB0055-SS-AD-AE-0 | MPSB0055-SS-AL-AM-0 | MPSB0055-SS-AL-AM-1 | MPSB0055-SS-AT-AU-0 | MPSB0055-SS-AT-AU-1 | MPSB0056-SS-AA-AB-0 | MPSB0056-SS-AD-AE-0 | MPSB0056-SS-AJ-AK-0 | MPSB0056-SS-AT-AU-0 | MPSB0057-SS-AA-AB-0 | MPSB0057-SS-AD-AE-0 | MPSB0057-SS-AH-AI-0 | MPSB0057-SS-AJ-AK-0 |
| | | Sample Date | 1/18/2010 | 1/18/2010 | 1/18/2010 | 1/18/2010 | 1/18/2010 | 1/18/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/19/2010 | 1/20/2010 | 1/20/2010 | 1/20/2010 | 1/20/2010 |
| | | Depth (ft) | 1.5-2 | 3.5-4 | 4.5-5 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 9.5-10 | 0-0.5 | 1.5-2 | 5.5-6 | 5.5-6 | 9.5-10 | 9.5-10 | 0-0.5 | 1.5-2 | 4.5-5 | 9.5-10 | 0-0.5 | 1.5-2 | 3.5-4 | 4.5-5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | 1,1-DICHLOROETHANE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | 1,1-DICHLOROETHENE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 UJ |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | 1,2-DIBROMOETHANE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | 1,2-DICHLOROETHANE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | 0.011 U | 0.011 U | 0.01 U | | 0.014 U | 0.012 U | | 0.0099 U | 0.0096 U | | 0.011 U | 0.012 U | 0.011 U | 0.011 U | 0.011 U | | 0.01 U | 0.016 U | 0.011 U | | 0.0099 U | 0.58 U | 2.8 U |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | 0.011 U | 0.011 U | 0.01 U | | 0.014 U | 0.012 U | | 0.0099 U | 0.0096 U | | 0.011 U | 0.012 U | 0.011 U | 0.011 U | 0.011 U | | 0.01 U | 0.016 U | 0.011 U | | 0.0099 U | 0.58 U | 2.8 U |
| VOC | ACETONE | MG/KG | 0.0045 J | 0.011 U | 0.01 U | | 0.014 U | 0.0053 J | | 0.0099 U | 0.0096 U | | 0.011 U | 0.012 U | 0.0044 J | 0.022 | 0.026 | | 0.01 U | 0.053 | 0.008 J | | 0.0099 U | 0.58 U | 2.8 U |
| VOC | BENZENE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 UJ |
| VOC | BROMOCHLOROMETHANE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | BROMODICHLOROMETHANE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | BROMOFORM | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | BROMOMETHANE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 UJ | 1.4 UJ |
| VOC | CARBON DISULFIDE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.007 J | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | CARBON TETRACHLORIDE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | CHLOROBENZENE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | CHLOROETHANE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | CHLOROFORM | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | CHLOROMETHANE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | CYCLOHEXANE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | DICHLOROMETHANE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | ETHYLBENZENE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.028 | 0.0055 U | | 0.0049 U | 0.072 J | 1.4 U |
| VOC | ISOPROPYLBENZENE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | METHYL ACETATE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | METHYL ETHYL KETONE | MG/KG | 0.011 U | 0.011 U | 0.01 U | | 0.014 U | 0.012 U | | 0.0099 U | 0.0096 U | | 0.011 U | 0.012 U | 0.011 UJ | 0.011 U | 0.011 U | | 0.01 U | 0.021 J | 0.011 U | | 0.0099 U | 0.58 U | 2.8 U |
| VOC | METHYLCYCLOHEXANE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.012 | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | TETRACHLOROETHENE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | TOLUENE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.14 J | 1.4 U |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.008 U | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | XYLENE, O- | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.024 | 0.0055 U | | 0.0049 U | 0.29 U | 1.4 U |
| VOC | XYLENES (TOTAL) | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.045 | 0.0094 | | 0.0049 U | 0.18 J | 1.4 U |
| VOC | XYLENES, M & P | MG/KG | 0.0056 U | 0.0056 U | 0.0051 U | | 0.0071 U | 0.006 U | | 0.005 U | 0.0048 U | | 0.0054 U | 0.0058 U | 0.0053 U | 0.0055 U | 0.0057 U | | 0.0051 U | 0.021 | 0.0094 | | 0.0049 U | 0.18 J | 1.4 U |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0057 | MPSB0057 | MPSB0057 | MPSB0058 | MPSB0058 | MPSB0058 | MPSB0059 | MPSB0059 | MPSB0059 | MPSB0059 | MPSB0060 | MPSB0060 | MPSB0060 | MPSB0060 | MPSB0060 | MPSB0065 | MPSB0065 | MPSB0065 | MPSB0066 | MPSB0066 | MPSB0066 | MPSB0067 | MPSB0067 |
| | | Field Sample ID | MPSB0057-SS-AN-AO-0 | MPSB0057-SS-AN-AO-1 | MPSB0057-SS-AR-AS-0 | MPSB0058-SS-AA-AB-0 | MPSB0058-SS-AD-AE-0 | MPSB0058-SS-AT-AU-0 | MPSB0059-SS-AA-AB-0 | MPSB0059-SS-AD-AE-0 | MPSB0059-SS-AL-AM-0 | MPSB0059-SS-AP-AQ-0 | MPSB0060-SS-AA-AB-0 | MPSB0060-SS-AD-AE-0 | MPSB0060-SS-AN-AO-0 | MPSB0060-SS-AO-AP-0 | MPSB0060-SS-AO-AP-1 | MPSB0065-SS-AA-AB-0 | MPSB0065-SS-AD-AE-0 | MPSB0065-SS-AR-AS-0 | MPSB0066-SS-AA-AB-0 | MPSB0066-SS-AD-AE-0 | MPSB0066-SS-AJ-AK-0 | MPSB0067-SS-AA-AB-0 | MPSB0067-SS-AA-AB-1 |
| | | Sample Date | 1/20/2010 | 1/20/2010 | 1/20/2010 | 1/20/2010 | 1/20/2010 | 1/20/2010 | 1/21/2010 | 1/21/2010 | 1/21/2010 | 1/21/2010 | 1/21/2010 | 1/21/2010 | 1/21/2010 | 1/21/2010 | 1/21/2010 | 1/28/2010 | 1/28/2010 | 1/28/2010 | 1/28/2010 | 1/28/2010 | 1/28/2010 | 2/1/2010 | 2/1/2010 |
| | | Depth (ft) | 6.5-7 | 6.5-7 | 8.5-9 | 0-0.5 | 1.5-2 | 9.5-10 | 0-0.5 | 1.5-2 | 5.5-6 | 7.5-8 | 0-0.5 | 1.5-2 | 6.5-7 | 7-7.5 | 7-7.5 | 0-0.5 | 1.5-2 | 8.5-9 | 0-0.5 | 1.5-2 | 4.5-5 | 0-0.5 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | 1370 | 1180 | 1100 | 2000 | 3520 | 1520 | 1980 | | 1790 | 2460 | 1120 | | 2610 | 1760 | 2500 | 2470 | | 1630 | 1760 | | 1600 | 1800 | 1720 |
| METALS | ANTIMONY | MG/KG | 4.6 UJ | 6.3 UJ | 6 UJ | 6 UJ | 4.9 UJ | 5.7 UJ | 7 UJ | | 5.3 UJ | 5.1 UJ | 6.1 UJ | | 5.8 UJ | 5.2 UJ | 6.4 UJ | 6.2 UJ | | 4.6 UJ | 5.6 UJ | | 5.1 UJ | 5 UJ | 4.9 UJ |
| METALS | ARSENIC | MG/KG | 6.8 | 7.2 | 5.7 | 9.3 | 5.2 | 1.9 | 2.9 J | | 4.9 J | 5.5 J | 1.6 J | | 1.1 J | 0.46 J | 0.68 J | 3.5 | | 2.2 | 1.8 | | 1 | 2.8 J | 3 J |
| METALS | BARIUM | MG/KG | 29.9 J | 27.9 J | 20 U | 244 J | 92.1 J | 19 U | 46.4 | | 16.7 J | 13.4 J | 71.5 | | 46.7 | 17 U | 21 U | 21 U | | 19.3 | 19 U | | 67.7 | 6.1 J | 6.2 J |
| METALS | BERYLLIUM | MG/KG | 0.058 J | 0.53 U | 0.5 U | 0.095 J | 0.092 J | 0.082 J | 0.11 J | | 0.1 J | 0.11 J | 0.07 J | | 0.081 J | 0.086 J | 0.088 J | 0.52 U | | 0.39 U | 0.47 U | | 0.42 U | 0.07 J | 0.053 J |
| METALS | CADMIUM | MG/KG | 0.38 U | 0.53 U | 0.5 U | 0.27 J | 0.41 U | 0.48 U | 0.58 U | | 0.44 U | 0.42 U | 0.51 U | | 0.087 J | 0.081 J | 0.11 J | 0.52 U | | 0.39 U | 0.47 U | | 0.42 U | 0.42 U | 0.41 U |
| METALS | CALCIUM | MG/KG | 193 J | 192 J | 176 J | 11800 | 413 | 164 J | 2440 | | 1710 | 750 | 1300 | | 115 J | 51.2 J | 64.8 J | 357 J | | 12.3 J | 54.6 J | | 18 J | 135 J | 114 J |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 6.7 | 6.8 | 6.2 | 11.7 | 13.7 | 8 | 7.2 | | 18.4 | 48.8 | 4.6 | | 6.9 | 5.1 J | 7.3 J | 11.3 | | 16.1 | 6.1 | | 4.2 | 8.8 | 10.8 |
| METALS | COBALT | MG/KG | 0.56 J | 0.41 J | 0.16 J | 1.2 J | 0.8 J | 0.13 J | 0.62 J | | 0.62 J | 0.43 J | 0.41 J | | 2.3 J | 2.4 J | 3 J | 0.18 J | | 0.45 J | 4.7 U | | 0.33 J | 0.42 J | 0.54 J |
| METALS | COPPER | MG/KG | 61.8 | 53 | 14 | 14.5 | 5.1 | 9.4 | 7.2 | | 6.1 | 5.5 | 4.7 | | 13 | 5.1 | 8.4 | 3.7 | | 2.4 | 2.5 | | 2.4 | 3.1 | 3.2 |
| METALS | CYANIDE | MG/KG | 2.8 U | 2.8 U | 2.9 U | 0.1 J | 1.2 J | 2.9 U | 0.083 J | | 0.13 J | 0.32 J | 3.1 U | | 3 U | 3 U | 3 U | 2.9 U | | 2.6 U | 2.8 U | | 2.7 U | 2.9 U | 2.8 U |
| METALS | IRON | MG/KG | 4550 | 4630 | 4740 | 5320 | 8720 | 4900 | 4360 | | 6700 | 10400 | 2850 | | 3460 | 1840 | 2470 | 7880 J | | 8090 J | 3970 J | | 3200 J | 11300 | 13600 |
| METALS | LEAD | MG/KG | 35.7 | 36.3 | 16.9 | 167 | 69.6 | 9.2 | 19.5 | | 49.9 | 26.8 | 20 | | 21.4 | 13.5 | 15.3 | | | | | | | 2.7 | 2.4 |
| METALS | MAGNESIUM | MG/KG | 42.6 J | 36.4 J | 32.8 J | 6650 | 119 J | 56.6 J | 818 | | 954 | 393 J | 236 J | | 46.5 J | 28 J | 33 J | 125 J | | 22.4 J | 86.6 J | | 33.1 J | 34.5 J | 29 J |
| METALS | MANGANESE | MG/KG | 8.1 | 8.3 | 6.9 | 30.3 | 31.5 | 6 | 38.7 | | 15.2 | 11 | 15.4 | | 4.7 | 4.2 | 5.2 | 23.7 J | | 3.9 J | 5.9 J | | 6.4 J | 4.5 | 6 |
| METALS | MERCURY | MG/KG | | | | | | | 0.12 | | 0.066 J | 0.073 J | 0.056 J | | 0.26 | 0.26 | 0.22 | 0.1 U | | 0.078 U | 0.11 U | | 0.086 U | 0.11 U | 0.095 U |
| METALS | NICKEL | MG/KG | 3.1 U | 4.2 U | 4 U | 0.9 J | 0.23 J | 3.8 U | 1.1 J | | 0.75 J | 3.4 U | 0.7 J | | 2.1 J | 1.7 J | 2.4 J | 4.1 U | | 3.1 U | 0.32 J | | 0.2 J | 0.33 J | 0.18 J |
| METALS | POTASSIUM | MG/KG | 155 J | 527 U | 145 J | 496 U | 406 U | 477 U | 161 J | | 103 J | 128 J | 96.3 J | | 142 J | 118 J | 141 J | 251 J | | 40.5 J | 172 J | | 75.8 J | 71.9 J | 41.8 J |
| METALS | SELENIUM | MG/KG | 2.7 U | 3.7 U | 3.5 U | 1 J | 2.8 U | 3.3 U | 4.1 U | | 3.1 U | 0.52 J | 3.6 U | | 3.4 U | 3 U | 3.7 U | 0.51 J | | 0.4 J | 3.3 U | | 3 U | 2.9 UJ | 2.9 UJ |
| METALS | SILVER | MG/KG | 0.77 U | 1.1 U | 1 U | 0.99 U | 0.81 U | 0.95 U | 1.2 U | | 1 | 2.2 | 1 U | | 0.97 U | 0.86 U | 1.1 U | 1 U | | 0.77 U | 0.94 U | | 0.85 U | 0.83 U | 0.82 U |
| METALS | SODIUM | MG/KG | 384 U | 527 U | 500 U | 8.3 J | 7.1 J | 477 U | 582 U | | 440 U | 421 U | 8.9 J | | 485 U | 431 U | 532 U | 31.4 J | | 386 U | 470 U | | 423 U | 416 U | 409 U |
| METALS | THALLIUM | MG/KG | 1.9 U | 2.6 U | 2.5 U | 2.5 U | 2 U | 2.4 U | 2.9 U | | 2.2 U | 2.1 U | 2.6 U | | 2.4 U | 2.2 U | 2.7 U | 2.6 U | | 1.9 U | 2.4 U | | 2.1 U | 2.1 U | 2 U |
| METALS | VANADIUM | MG/KG | 9.2 | 8.8 | 9.7 | 7.6 | 10.4 | 10.9 | 7.6 | | 7.5 | 26.6 | 5 J | | 7.6 | 6 | 7.8 | 11.4 | | 7.7 | 9.4 | | 5.4 | 20.2 | 24.6 |
| METALS | ZINC | MG/KG | 32.4 J | 23.7 J | 2.9 J | 90.4 J | 35.8 J | 3.3 J | 32.4 | | 28.5 | 17 | 47.1 | | 104 | 95.5 | 128 | 11.6 | | 26.2 | 5.6 U | | 22.1 | 6.8 | 6.9 |
| PEST/PCB | 4,4'-DDD | MG/KG | 0.0038 | 0.0025 J | 0.0038 U | | 0.0027 J | 0.0039 U | 0.0043 U | | 0.0024 J | | 0.0041 U | | 0.0039 U | | | 0.0038 U | | 0.0034 U | 0.0037 U | | 0.0036 U | 0.0038 U | 0.0036 U |
| PEST/PCB | 4,4'-DDE | MG/KG | 0.0037 U | 0.0036 U | 0.0038 U | 0.0049 J | 0.0037 U | 0.0039 U | 0.0043 U | | 0.0032 J | | 0.0041 U | | 0.0039 U | | | 0.0038 U | | 0.0034 U | 0.0037 U | | 0.0036 U | 0.0038 U | 0.0036 U |
| PEST/PCB | 4,4'-DDT | MG/KG | 0.0037 U | 0.0036 U | 0.0038 U | 0.017 J | 0.0037 U | 0.0039 U | 0.0043 U | | 0.0036 U | | 0.0041 U | | 0.0039 U | | | 0.0038 U | | 0.0034 U | 0.0037 U | | 0.0036 U | 0.0038 U | 0.0036 U |
| PEST/PCB | ALDRIN | MG/KG | 0.0019 U | 0.0019 U | 0.002 U | 0.002 U | 0.0019 U | 0.002 U | 0.0022 U | | 0.0019 U | | 0.0021 U | | 0.002 U | | | 0.002 U | | 0.0018 U | 0.0019 U | | 0.0019 U | 0.002 U | 0.0019 U |
| PEST/PCB | ALPHA-BHC | MG/KG | 0.0019 U | 0.0019 U | 0.002 U | 0.002 U | 0.0019 U | 0.002 U | 0.0022 U | | 0.0019 U | | 0.0021 U | | 0.002 U | | | 0.002 U | | 0.0018 U | 0.0019 U | | 0.0019 U | 0.002 U | 0.0019 U |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | 0.0019 U | 0.0019 U | 0.002 U | | 0.0042 | 0.002 U | 0.0022 U | | 0.0019 U | | 0.0021 U | | 0.002 U | | | 0.002 U | | 0.0018 U | 0.0019 U | | 0.0019 U | 0.002 U | 0.0019 U |
| PEST/PCB | AROCLOR-1016 | MG/KG | 0.037 U | 0.036 U | 0.038 U | 0.038 U | 0.037 U | 0.039 U | 0.043 U | | 0.036 U | | 0.041 U | | 0.039 U | | | 0.038 U | | 0.034 U | 0.037 U | | 0.036 U | 0.038 U | 0.036 U |
| PEST/PCB | AROCLOR-1221 | MG/KG | 0.037 U | 0.036 U | 0.038 U | 0.038 U | 0.037 U | 0.039 U | 0.043 U | | 0.036 U | | 0.041 U | | 0.039 U | | | 0.038 U | | 0.034 U | 0.037 U | | 0.036 U | 0.038 U | 0.036 U |
| PEST/PCB | AROCLOR-1232 | MG/KG | 0.037 U | 0.036 U | 0.038 U | 0.038 U | 0.037 U | 0.039 U | 0.043 U | | 0.036 U | | 0.041 U | | 0.039 U | | | 0.038 U | | 0.034 U | 0.037 U | | 0.036 U | 0.038 U | 0.036 U |
| PEST/PCB | AROCLOR-1242 | MG/KG | 0.037 U | 0.036 U | 0.038 U | 0.038 U | 0.037 U | 0.039 U | 0.043 U | | 0.036 U | | 0.041 U | | 0.039 U | | | 0.038 U | | 0.034 U | 0.037 U | | 0.036 U | 0.038 U | 0.036 U |
| PEST/PCB | AROCLOR-1248 | MG/KG | 0.037 U | 0.036 U | 0.038 U | 0.038 U | 0.037 U | 0.039 U | 0.043 U | | 0.036 U | | 0.041 U | | 0.039 U | | | 0.038 U | | 0.034 U | 0.037 U | | 0.036 U | 0.038 U | 0.036 U |
| PEST/PCB | AROCLOR-1254 | MG/KG | 0.037 U | 0.036 U | 0.038 U | 0.038 U | 0.037 U | 0.039 U | 0.043 U | | 0.031 J | | 0.041 U | | 0.039 U | | | 0.038 U | | 0.034 U | 0.037 U | | 0.036 U | 0.038 U | 0.036 U |
| PEST/PCB | AROCLOR-1260 | MG/KG | 0.037 U | 0.036 U | 0.038 U | 0.023 J | 0.037 U | 0.039 U | 0.043 U | | 0.036 U | | 0.041 U | | 0.039 U | | | 0.038 U | | 0.034 U | 0.037 U | | 0.036 U | 0.038 U | 0.036 U |
| PEST/PCB | AROCLOR-1262 | MG/KG | 0.037 U | 0.036 U | 0.038 U | 0.038 U | 0.037 U | 0.039 U | 0.043 U | | 0.036 U | | 0.041 U | | 0.039 U | | | 0.038 U | | 0.034 U | 0.037 U | | 0.036 U | 0.038 U | 0.036 U |
| PEST/PCB | AROCLOR-1268 | MG/KG | 0.037 U | 0.036 U | 0.038 U | 0.038 U | 0.037 U | 0.039 U | 0.043 U | | 0.036 U | | 0.041 U | | 0.039 U | | | 0.038 U | | 0.034 U | 0.037 U | | 0.036 U | 0.038 U | 0.036 U |
| PEST/PCB | BETA-BHC | MG/KG | 0.022 J | 0.0019 U | 0.002 U | 0.002 U | 0.0019 U | | | | 0.0019 U | | | | 0.017 J | | | 0.002 U | | 0.0018 U | 0.0019 U | | 0.0019 U | 0.002 U | 0.0019 U |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | 0.0019 U | 0.0019 U | 0.002 U | 0.0018 J | 0.0019 U | 0.0015 J | 0.0022 U | | 0.0019 U | | 0.0021 U | | 0.002 U | | | 0.002 U | | 0.0018 U | 0.0019 U | | 0.0019 U | 0.002 U | 0.0019 U |
| PEST/PCB | DIELDRIN | MG/KG | 0.0037 U | 0.0036 U | 0.0038 U | | 0.0037 U | 0.0039 U | 0.0043 U | | 0.0036 U | | 0.0041 U | | 0.0039 U | | | 0.0038 U | | 0.0034 U | 0.0037 U | | 0.0036 U | 0.0038 U | 0.0036 U |
| PEST/PCB | ENDOSULFAN I | MG/KG | 0.0019 U | 0.0019 U | 0.002 U | | 0.0019 U | 0.002 U | 0.0022 U | | 0.0019 U | | 0.0021 U | | 0.002 U | | | 0.002 U | | 0.0018 U | 0.0019 U | | 0.0019 U | 0.002 U | 0.0019 U |
| PEST/PCB | ENDOSULFAN II | MG/KG | 0.0037 U | 0.0036 U | 0.0038 U | | 0.0037 U | 0.0039 U | 0.0043 U | | 0.0036 U | | 0.0041 U | | 0.0039 U | | | 0.0038 U | | 0.0034 U | 0.0037 U | | 0.0036 U | 0.0038 U | 0.0036 U |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | 0.0037 U | 0.0036 U | 0.0038 U | | 0.0037 U | 0.0039 U | 0.0043 U | | 0.0036 U | | 0.0041 U | | 0.0039 U | | | 0.0038 U | | 0.0034 U | 0.0037 U | | 0.0036 U | 0.0038 U | 0.0036 U |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | 0.0037 U | 0.0036 U | 0.0038 U | | 0.0037 U | 0.0039 U | 0.0043 U | | 0.0036 U | | 0.0041 U | | 0.0039 U | | | 0.0038 U | | 0.0034 U | 0.0037 U | | 0.0036 U | 0.0038 U | 0.0036 U |
| PEST/PCB | ENDRIN KETONE | MG/KG | 0.0037 U | 0.0036 U | 0.0038 U | 0.055 J | 0.0037 U | 0.0039 U | 0.0043 U | | 0.0036 U | | 0.0041 U | | 0.0039 U | | | 0.0038 U | | 0.0034 U | 0.0037 U | | 0.0036 U | 0.0038 U | 0.0036 U |
| PEST/PCB | ENDRIN | MG/KG | 0.0037 U | 0.0036 U | 0.0038 U | 0.0038 U | 0.0037 U | 0.0039 U | 0.0043 U | | 0.0036 U | | 0.0041 U | | 0.0039 U | | | 0.0038 U | | 0.0034 U | 0.0037 U | | 0.0036 U | 0.0038 U | 0.0036 U |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | 0.0019 U | 0.0019 U | 0.002 U | 0.002 U | 0.0019 U | 0.002 U | 0.0022 U | | 0.0019 U | | 0.0021 U | | 0.002 U | | | 0.002 U | | 0.0018 U | 0.0019 U | | 0.0019 U | 0.002 U | 0.0019 U |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | 0.0019 U | 0.0019 U | 0.002 U | | 0.004 | 0.002 U | 0.0022 U | | 0.0019 U | | 0.0021 U | | 0.002 U | | | 0.002 U | | 0.0018 U | 0.0019 U | | 0.0019 U | 0.002 U | 0.0019 U |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | 0.0019 U | 0.0019 U | 0.002 U | 0.0027 | 0.0019 U | 0.002 U | 0.0022 U | | 0.0019 U | | 0.0021 U | | 0.002 U | | | 0.002 U | | 0.0018 U | 0.0019 U | | 0.0019 U | 0.002 U | 0.0019 U |
| PEST/PCB | HEPTACHLOR | MG/KG | 0.0019 U | 0.0019 U | 0.002 U | 0.002 U | 0.0019 U | 0.002 U | 0.0022 U | | 0.0019 U | | 0.0021 U | | 0.002 U | | | 0.002 U | | 0.0018 U | 0.0019 U | | 0.0019 U | 0.002 U | 0.0019 U |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | 0.019 U | 0.019 U | 0.02 U | | 0.019 U | 0.02 U | 0.022 U | | 0.019 U | | 0.021 U | | 0.02 U | | | 0.02 U | | 0.018 U | 0.019 U | | 0.019 U | 0.02 U | 0.019 U |
| PEST/PCB | TOXAPHENE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | | 0.21 U | | 0.2 U | | | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0057 | MPSB0057 | MPSB0057 | MPSB0058 | MPSB0058 | MPSB0058 | MPSB0059 | MPSB0059 | MPSB0059 | MPSB0059 | MPSB0060 | MPSB0060 | MPSB0060 | MPSB0060 | MPSB0060 | MPSB0065 | MPSB0065 | MPSB0065 | MPSB0066 | MPSB0066 | MPSB0066 | MPSB0067 | MPSB0067 |
| | | Field Sample ID | MPSB0057-SS-AN-AO-0 | MPSB0057-SS-AN-AO-1 | MPSB0057-SS-AR-AS-0 | MPSB0058-SS-AA-AB-0 | MPSB0058-SS-AD-AE-0 | MPSB0058-SS-AT-AU-0 | MPSB0059-SS-AA-AB-0 | MPSB0059-SS-AD-AE-0 | MPSB0059-SS-AL-AM-0 | MPSB0059-SS-AP-AQ-0 | MPSB0060-SS-AA-AB-0 | MPSB0060-SS-AD-AE-0 | MPSB0060-SS-AN-AO-0 | MPSB0060-SS-AO-AP-0 | MPSB0060-SS-AO-AP-1 | MPSB0065-SS-AA-AB-0 | MPSB0065-SS-AD-AE-0 | MPSB0065-SS-AR-AS-0 | MPSB0066-SS-AA-AB-0 | MPSB0066-SS-AD-AE-0 | MPSB0066-SS-AJ-AK-0 | MPSB0067-SS-AA-AB-0 | MPSB0067-SS-AA-AB-1 |
| | | Sample Date | 1/20/2010 | 1/20/2010 | 1/20/2010 | 1/20/2010 | 1/20/2010 | 1/20/2010 | 1/21/2010 | 1/21/2010 | 1/21/2010 | 1/21/2010 | 1/21/2010 | 1/21/2010 | 1/21/2010 | 1/21/2010 | 1/21/2010 | 1/28/2010 | 1/28/2010 | 1/28/2010 | 1/28/2010 | 1/28/2010 | 1/28/2010 | 2/1/2010 | 2/1/2010 |
| | | Depth (ft) | 6.5-7 | 6.5-7 | 8.5-9 | 0-0.5 | 1.5-2 | 9.5-10 | 0-0.5 | 1.5-2 | 5.5-6 | 7.5-8 | 0-0.5 | 1.5-2 | 6.5-7 | 7-7.5 | 7-7.5 | 0-0.5 | 1.5-2 | 8.5-9 | 0-0.5 | 1.5-2 | 4.5-5 | 0-0.5 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 UJ | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.037 J | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 0.38 U | 0.37 U | 0.39 U | 0.38 U | 0.37 U | 0.39 U | 0.44 U | | 0.37 U | 0.76 U | 0.41 U | | 0.4 U | 0.41 U | 0.41 U | 0.39 U | | 0.35 U | 0.37 U | | 0.36 U | 0.38 U | 0.38 U |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.18 J | 0.18 J | 0.039 J | 0.036 J | 0.043 J | 0.022 J | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 2-METHYLPHENOL | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 2-NITROANILINE | MG/KG | 0.38 U | 0.37 U | 0.39 U | 0.38 U | 0.37 U | 0.39 U | 0.44 U | | 0.37 U | 0.76 U | 0.41 U | | 0.4 U | 0.41 U | 0.41 U | 0.39 U | | 0.35 U | 0.37 U | | 0.36 U | 0.38 U | 0.38 U |
| SVOC | 2-NITROPHENOL | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 3-NITROANILINE | MG/KG | 0.38 U | 0.37 U | 0.39 U | 0.38 U | 0.37 U | 0.39 U | 0.44 U | | 0.37 U | 0.76 U | 0.41 U | | 0.4 U | 0.41 U | 0.41 U | 0.39 U | | 0.35 U | 0.37 U | | 0.36 U | 0.38 U | 0.38 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 0.38 U | 0.37 U | 0.39 U | 0.38 U | 0.37 U | 0.39 U | 0.44 U | | 0.37 U | 0.76 U | 0.41 U | | 0.4 U | 0.41 U | 0.41 U | 0.39 U | | 0.35 U | 0.37 U | | 0.36 U | 0.38 U | 0.38 U |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 UJ | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 4-CHLOROANILINE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 UJ | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 4-METHYLPHENOL | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | 4-NITROANILINE | MG/KG | 0.38 U | 0.37 U | 0.39 U | 0.38 U | 0.37 U | 0.39 U | 0.44 U | | 0.37 U | 0.76 U | 0.41 U | | 0.4 U | 0.41 U | 0.41 U | 0.39 U | | 0.35 U | 0.37 U | | 0.36 U | 0.38 U | 0.38 U |
| SVOC | 4-NITROPHENOL | MG/KG | 0.38 U | 0.37 U | 0.39 U | 0.38 U | 0.37 U | 0.39 U | 0.44 U | | 0.37 U | 0.76 U | 0.41 U | | 0.4 U | 0.41 U | 0.41 U | 0.39 U | | 0.35 U | 0.37 U | | 0.36 U | 0.38 U | 0.38 U |
| SVOC | ACENAPHTHENE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.11 J | 0.19 U | 0.2 U | 0.22 U | | 0.026 J | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | ACETOPHENONE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | ANTHRACENE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.31 | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | ATRAZINE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | BENZALDEHYDE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.69 | 0.031 J | 0.2 U | 0.036 J | | 0.044 J | 0.39 UJ | 0.023 J | | 0.21 U | 0.21 U | 0.21 U | 0.021 J | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.19 U | 0.19 U | 0.0056 | 0.56 | 0.075 J | 0.007 | 0.041 J | | 0.048 J | 0.016 | 0.044 | | 0.04 U | 0.0058 U | 0.013 J | 0.022 J | | 0.18 U | 0.019 J | | 0.19 U | 0.016 | 0.19 U |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.51 | 0.12 J | 0.2 U | 0.044 J | | 0.044 J | 0.39 UJ | 0.023 J | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.29 | 0.056 J | 0.2 U | 0.046 J | | 0.057 J | 0.39 UJ | 0.039 J | | 0.21 U | 0.21 U | 0.21 U | 0.023 J | | 0.18 U | 0.021 J | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.51 | 0.19 U | 0.2 U | 0.043 J | | 0.057 J | 0.39 UJ | 0.024 J | | 0.21 U | 0.21 U | 0.21 U | 0.022 J | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 UJ | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.023 J | | 0.018 J | 0.02 J | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 0.037 J | 0.035 J | 0.2 U | 0.021 J | 0.044 J | 0.2 J | 0.03 J | | 0.038 J | 0.39 UJ | 0.033 J | | 0.071 J | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.029 J | 0.03 J |
| SVOC | CAPROLACTAM | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 UJ | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | CARBAZOLE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.13 J | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 UJ | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | CHRYSENE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.72 | 0.057 J | 0.2 U | 0.058 J | | 0.062 J | 0.39 UJ | 0.036 J | | 0.21 U | 0.21 U | 0.21 U | 0.026 J | | 0.18 U | 0.022 J | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.19 U | 0.19 U | 0.0039 U | 0.095 J | 0.19 U | 0.0039 U | 0.013 J | | 0.19 U | 0.0038 J | 0.01 J | | 0.04 U | 0.0041 U | 0.0016 J | 0.0057 J | | 0.18 U | 0.19 U | | 0.19 U | 0.0024 J | 0.19 U |
| SVOC | DIBENZOFURAN | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.082 J | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 UJ | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | DIETHYLPHTHALATE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 UJ | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 UJ | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.058 J | 0.19 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 0.023 J | 0.19 U | 0.2 U | 0.022 J | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 UJ | 0.21 U | | 0.023 J | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 UJ | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | FLUORANTHENE | MG/KG | 0.028 J | 0.03 J | 0.2 U | 1.3 | 0.038 J | 0.2 U | 0.079 J | | 0.086 J | 0.054 J | 0.034 J | | 0.21 U | 0.21 U | 0.21 U | 0.039 J | | 0.18 U | 0.036 J | | 0.19 U | 0.2 U | 0.027 J |
| SVOC | FLUORENE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.099 J | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 UJ | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | HEXACHLOROBENZENE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 UJ | 0.19 UJ |
| SVOC | HEXACHLOROETHANE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.34 | 0.058 J | 0.2 U | 0.04 J | | 0.049 J | 0.39 UJ | 0.026 J | | 0.21 U | 0.21 U | 0.21 U | 0.02 J | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | ISOPHORONE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | NAPHTHALENE | MG/KG | 0.11 J | 0.13 J | 0.022 J | 0.056 J | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | NITROBENZENE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | 0.38 U | 0.37 U | 0.39 U | 0.38 U | 0.37 U | 0.12 J | 0.44 U | | 0.37 U | 0.76 U | 0.25 J | | 0.78 | 0.39 J | 0.35 J | 0.39 U | | 0.35 U | 0.37 U | | 0.36 U | 0.38 U | 0.38 U |
| SVOC | PHENANTHRENE | MG/KG | 0.032 J | 0.029 J | 0.2 U | 1.3 | 0.19 U | 0.2 U | 0.045 J | | 0.073 J | 0.04 J | 0.024 J | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | PHENOL | MG/KG | 0.19 U | 0.19 U | 0.2 U | 0.2 U | 0.19 U | 0.2 U | 0.22 U | | 0.19 U | 0.39 U | 0.21 U | | 0.21 U | 0.21 U | 0.21 U | 0.2 U | | 0.18 U | 0.19 U | | 0.19 U | 0.2 U | 0.19 U |
| SVOC | PYRENE | MG/KG | 0.027 J | 0.022 J | 0.2 U | 0.93 | 0.07 J | 0.2 U | 0.074 J | | 0.096 J | 0.39 UJ | 0.051 J | | 0.21 U | 0.21 U | 0.21 U | 0.04 J | | 0.18 U | 0.036 J | | 0.19 U | 0.2 U | 0.03 J |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0057 | MPSB0057 | MPSB0057 | MPSB0058 | MPSB0058 | MPSB0058 | MPSB0059 | MPSB0059 | MPSB0059 | MPSB0059 | MPSB0060 | MPSB0060 | MPSB0060 | MPSB0060 | MPSB0060 | MPSB0065 | MPSB0065 | MPSB0065 | MPSB0066 | MPSB0066 | MPSB0066 | MPSB0067 | MPSB0067 |
| | | Field Sample ID | MPSB0057-SS-AN-AO-0 | MPSB0057-SS-AN-AO-1 | MPSB0057-SS-AR-AS-0 | MPSB0058-SS-AA-AB-0 | MPSB0058-SS-AD-AE-0 | MPSB0058-SS-AT-AU-0 | MPSB0059-SS-AA-AB-0 | MPSB0059-SS-AD-AE-0 | MPSB0059-SS-AL-AM-0 | MPSB0059-SS-AP-AQ-0 | MPSB0060-SS-AA-AB-0 | MPSB0060-SS-AD-AE-0 | MPSB0060-SS-AN-AO-0 | MPSB0060-SS-AO-AP-0 | MPSB0060-SS-AO-AP-1 | MPSB0065-SS-AA-AB-0 | MPSB0065-SS-AD-AE-0 | MPSB0065-SS-AR-AS-0 | MPSB0066-SS-AA-AB-0 | MPSB0066-SS-AD-AE-0 | MPSB0066-SS-AJ-AK-0 | MPSB0067-SS-AA-AB-0 | MPSB0067-SS-AA-AB-1 |
| | | Sample Date | 1/20/2010 | 1/20/2010 | 1/20/2010 | 1/20/2010 | 1/20/2010 | 1/20/2010 | 1/21/2010 | 1/21/2010 | 1/21/2010 | 1/21/2010 | 1/21/2010 | 1/21/2010 | 1/21/2010 | 1/21/2010 | 1/21/2010 | 1/28/2010 | 1/28/2010 | 1/28/2010 | 1/28/2010 | 1/28/2010 | 1/28/2010 | 2/1/2010 | 2/1/2010 |
| | | Depth (ft) | 6.5-7 | 6.5-7 | 8.5-9 | 0-0.5 | 1.5-2 | 9.5-10 | 0-0.5 | 1.5-2 | 5.5-6 | 7.5-8 | 0-0.5 | 1.5-2 | 6.5-7 | 7-7.5 | 7-7.5 | 0-0.5 | 1.5-2 | 8.5-9 | 0-0.5 | 1.5-2 | 4.5-5 | 0-0.5 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 UJ | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 UJ | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 UJ | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 UJ | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | 0.63 U | 0.6 U | 0.65 U | | 0.58 U | 0.67 U | | 0.01 U | 0.51 U | 10 U | | 0.011 U | 0.01 U | 0.011 U | 0.011 U | | 0.0096 U | 0.011 U | | 0.0098 U | 0.011 U | | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | 0.63 U | 0.6 U | 0.65 U | | 0.58 U | 0.67 U | | 0.01 U | 0.51 U | 10 U | | 0.011 U | 0.01 U | 0.011 U | 0.011 U | | 0.0096 U | 0.011 U | | 0.0098 U | 0.011 U | | |
| VOC | ACETONE | MG/KG | 0.63 U | 0.6 U | 0.65 U | | 0.58 U | 0.67 U | | 0.0043 J | 0.51 U | 10 U | | 0.0055 J | 0.009 J | 0.0087 J | 0.0087 J | | 0.0096 U | 0.011 U | | 0.011 | 0.011 U | | |
| VOC | BENZENE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | BROMOCHLOROMETHANE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | BROMOFORM | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | BROMOMETHANE | MG/KG | 0.32 UJ | 0.3 UJ | 0.32 UJ | | 0.29 UJ | 0.34 UJ | | 0.0052 U | 0.26 UJ | 5.1 UJ | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | CARBON DISULFIDE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | CARBON TETRACHLORIDE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 UJ | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | CHLOROBENZENE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | CHLOROETHANE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | CHLOROFORM | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0089 | 0.0075 | | 0.0075 | 0.0091 | | |
| VOC | CHLOROMETHANE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | CYCLOHEXANE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | DICHLOROMETHANE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 UJ | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | ETHYLBENZENE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.19 J | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | ISOPROPYLBENZENE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.061 J | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0031 J | 0.0053 U | | 0.0041 J | 0.0054 U | | |
| VOC | METHYL ACETATE | MG/KG | 0.063 J | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 UJ | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | METHYL ETHYL KETONE | MG/KG | 0.63 U | 0.6 U | 0.65 U | | 0.58 U | 0.67 U | | 0.0074 J | 0.51 U | 10 U | | 0.011 UJ | 0.01 UJ | 0.011 U | 0.011 U | | 0.0096 U | 0.011 U | | 0.0098 U | 0.011 U | | |
| VOC | METHYLCYCLOHEXANE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 UJ | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | TETRACHLOROETHENE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | TOLUENE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 UJ | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | 0.32 U | 0.3 U | 0.32 U | | 0.29 U | 0.34 U | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | XYLENE, O- | MG/KG | 0.14 J | 0.3 U | 0.063 J | | 0.29 U | 0.13 J | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | XYLENES (TOTAL) | MG/KG | 0.25 J | 0.3 U | 0.063 J | | 0.096 J | 2.03 J | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |
| VOC | XYLENES, M & P | MG/KG | 0.11 J | 0.3 U | 0.32 U | | 0.096 J | 1.9 | | 0.0052 U | 0.26 U | 5.1 U | | 0.0054 U | 0.005 U | 0.0055 U | 0.0054 U | | 0.0048 U | 0.0053 U | | 0.0049 U | 0.0054 U | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0067 | MPSB0067 | MPSB0068 | MPSB0068 | MPSB0068 | MPSB0069 | MPSB0069 | MPSB0069 | MPSB0069 | MPSB0069 | MPSB0070 | MPSB0070 | MPSB0070 | MPSB0071 | MPSB0071 | MPSB0071 | MPSB0101 | MPSB0102 | MPSB0103 | MPSB0103 | MPSB0104 | MPSB0117 | MPSB0118 |
| | | Field Sample ID | MPSB0067-SS-AD-AE-0 | MPSB0067-SS-AN-AO-0 | MPSB0068-SS-AA-AB-0 | MPSB0068-SS-AD-AE-0 | MPSB0068-SS-AJ-AK-0 | MPSB0069-SS-AA-AB-0 | MPSB0069-SS-AD-AE-0 | MPSB0069-SS-AH-AI-0 | MPSB0069-SS-AH-AI-1 | MPSB0069-SS-AN-AO-0 | MPSB0070-SS-AA-AB-0 | MPSB0070-SS-AD-AE-0 | MPSB0070-SS-AJ-AK-0 | MPSB0071-SS-AA-AB-0 | MPSB0071-SS-AD-AE-0 | MPSB0071-SS-AH-AI-0 | MPSB0101-SS-AM-AO-0 | MPSB0102-SS-AI-AK-0 | MPSB0103-SS-AN-AP-0 | MPSB0103-SS-AN-AP-1 | MPSB0104-SS-AR-AT-0 | MPSB0117-SS-AA-AB-0 | MPSB0118-SS-AA-AB-0 |
| | | Sample Date | 2/1/2010 | 2/1/2010 | 2/1/2010 | 2/1/2010 | 2/1/2010 | 2/3/2010 | 2/3/2010 | 2/3/2010 | 2/3/2010 | 2/3/2010 | 2/3/2010 | 2/3/2010 | 2/3/2010 | 2/3/2010 | 2/3/2010 | 2/3/2010 | 7/9/2012 | 7/11/2012 | 7/12/2012 | 7/12/2012 | 7/17/2012 | 9/13/2012 | 9/13/2012 |
| | | Depth (ft) | 1.5-2 | 6.5-7 | 0-0.5 | 1.5-2 | 4.5-5 | 0-0.5 | 1.5-2 | 3.5-4 | 3.5-4 | 6.5-7 | 0-0.5 | 1.5-2 | 4.5-5 | 0-0.5 | 1.5-2 | 3.5-4 | 6-7 | 4-5 | 6.5-7.5 | 6.5-7.5 | 8.5-9.5 | 0-0.5 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | | 2680 | 2490 | | 1680 | 1640 | | 1680 | 2250 | 2030 | 972 | | 902 | 835 | | 1570 | | | | | | | |
| METALS | ANTIMONY | MG/KG | | 5 UJ | 5.9 UJ | | 6.2 UJ | 5.5 UJ | | 4.5 UJ | 5.6 UJ | 5.4 UJ | 0.46 J | | 4.3 UJ | 4.7 UJ | | 5 UJ | | | | | | | |
| METALS | ARSENIC | MG/KG | | 1.3 J | 3.1 J | | 1.5 J | 2.5 | | 1.9 | 3.7 | 1.8 | 0.81 U | | 0.72 U | 0.87 | | 1.9 | | | | | | | |
| METALS | BARIUM | MG/KG | | 112 | 4060 | | 524 | 48.9 | | 32.7 J | 84.4 J | 28.4 | 16 U | | 14 U | 16 U | | 17 U | | | | | | | |
| METALS | BERYLLIUM | MG/KG | | 0.067 J | 0.14 J | | 0.072 J | 0.1 J | | 0.078 J | 0.091 J | 0.14 J | 0.079 J | | 0.044 J | 0.057 J | | 0.11 J | | | | | | | |
| METALS | CADMIUM | MG/KG | | 0.1 J | 0.49 U | | 0.51 U | 0.18 J | | 0.093 J | 0.14 J | 0.45 U | 0.41 U | | 0.36 U | 0.39 U | | 0.06 J | | | | | | | |
| METALS | CALCIUM | MG/KG | | 269 J | 1690 | | 64.4 J | 783 | | 265 J | 472 | 391 J | 22.8 J | | 360 U | 388 U | | 420 U | | | | | | | |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | | 14.9 | 11.4 | | 6.6 | 7 J | | 6.9 J | 9.5 J | 8.1 J | 2.4 J | | 3.1 J | 5.9 J | | 7.3 J | | | | | | | |
| METALS | COBALT | MG/KG | | 2.2 J | 2.3 J | | 0.71 J | 0.55 J | | 0.38 J | 0.51 J | 2.2 J | 4.1 U | | 0.14 J | 3.9 U | | 4.2 U | | | | | | | |
| METALS | COPPER | MG/KG | | 12.6 | 71.7 | | 13 | 4.2 | | | | 2.3 U | 2 U | | 1.8 U | 1.9 U | | 2.1 U | | | | | | | |
| METALS | CYANIDE | MG/KG | | 2.8 U | 0.18 J | | 2.7 U | 0.07 J | | 0.066 J | 0.092 J | 2.8 U | 2.7 U | | 2.6 U | 2.7 U | | 2.9 U | | | | | | | |
| METALS | IRON | MG/KG | | 4620 | 6310 | | 6340 | 3640 | | 4370 | 7520 | 6460 | 1060 | | 1710 | 3600 | | 6070 | | | | | | | |
| METALS | LEAD | MG/KG | | 17.8 | 95.3 | | 19 | 38.8 J | | 42.7 J | 148 J | 3.3 J | 8.9 J | | 0.9 J | 12.2 J | | 2.5 J | | | | | | | |
| METALS | MAGNESIUM | MG/KG | | 136 J | 512 | | 32.7 J | 215 J | | 65.1 J | 89.1 J | 61.2 J | 24.8 J | | 16.2 J | 23.9 J | | 24.3 J | | | | | | | |
| METALS | MANGANESE | MG/KG | | 9 | 54.6 | | 5.3 | 91.6 | | 6.6 | 9.1 | 20.6 | 6.1 | | 8.9 | 2 | | 7.4 | | | | | | | |
| METALS | MERCURY | MG/KG | | 0.053 J | 0.27 | | 0.16 | 0.091 J | | 0.025 J | 0.015 J | 0.02 J | 0.089 U | | 0.062 J | 0.025 J | | 0.02 J | | | | | | | |
| METALS | NICKEL | MG/KG | | 2.4 J | 3 J | | 0.8 J | 0.95 J | | 0.78 J | 0.85 J | 0.33 J | 0.29 J | | 0.14 J | 0.15 J | | 0.2 J | | | | | | | |
| METALS | POTASSIUM | MG/KG | | 115 J | 255 J | | 107 J | 170 J | | 56.7 J | 77.1 J | 206 J | 29 J | | 72.2 J | 69.1 J | | 165 J | | | | | | | |
| METALS | SELENIUM | MG/KG | | 2.9 UJ | 0.63 J | | 3.6 UJ | 3.2 U | | 2.6 U | 3.3 U | 3.2 U | 2.8 U | | 0.38 J | 2.7 U | | 2.9 U | | | | | | | |
| METALS | SILVER | MG/KG | | 0.83 U | 0.98 U | | 1 U | 0.92 U | | 0.75 U | 0.94 U | 0.22 J | 0.81 U | | 0.72 U | 0.78 U | | 0.84 U | | | | | | | |
| METALS | SODIUM | MG/KG | | 416 U | 12.2 J | | 514 U | 8.1 J | | 10 J | 11.9 J | 7.7 J | 406 U | | 360 U | 388 U | | 420 U | | | | | | | |
| METALS | THALLIUM | MG/KG | | 2.1 U | 2.5 U | | 2.6 U | 2.3 U | | 1.9 U | 2.3 U | 2.3 U | 2 U | | 1.8 U | 1.9 U | | 2.1 U | | | | | | | |
| METALS | VANADIUM | MG/KG | | 9.3 | 9.2 | | 7.7 | 6.7 | | 5.6 | 11.5 | 13.2 | 3.2 J | | 4.9 | 7.9 | | 11.1 | | | | | | | |
| METALS | ZINC | MG/KG | | 84.6 | 116 | | 108 | 26.8 | | 28.1 | 40.5 | 9.5 | 1.8 J | | 0.79 J | 2.8 J | | 1.8 J | | | | | | | |
| PEST/PCB | 4,4'-DDD | MG/KG | | 0.002 J | 0.0041 U | | 0.0037 U | 0.0039 U | | 0.0036 U | 0.0036 U | | 0.0036 U | | 0.0036 U | 0.0036 U | | 0.004 U | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | 0.0038 U | 0.0031 J | | 0.0037 U | 0.0053 | | 0.0036 U | 0.0036 U | | 0.0036 U | | 0.0036 U | 0.0036 U | | 0.004 U | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | 0.0038 U | 0.0057 J | | 0.0037 U | 0.0062 J | | 0.0036 U | 0.0036 U | | 0.0036 U | | 0.0036 U | 0.0036 U | | 0.004 U | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | 0.0019 U | 0.0021 U | | 0.002 J | 0.002 U | | 0.0018 U | 0.0019 U | | 0.0018 U | | 0.0019 U | 0.0019 U | | 0.0021 U | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | 0.0019 U | 0.0021 U | | 0.0019 U | 0.0011 J | | 0.0018 U | 0.0019 U | | 0.0018 U | | 0.0019 U | 0.0019 U | | 0.0021 U | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | 0.0019 U | 0.0076 | | 0.0019 U | 0.002 U | | 0.0018 U | 0.0019 U | | 0.0018 U | | 0.0019 U | 0.0019 U | | 0.0021 U | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | | 0.038 U | 0.041 U | | 0.037 U | 0.039 U | | 0.036 U | 0.036 U | | 0.036 U | | 0.036 U | 0.036 U | | 0.04 U | | | | | | | |
| PEST/PCB | AROCLOR-1221 | MG/KG | | 0.038 U | 0.041 U | | 0.037 U | 0.039 U | | 0.036 U | 0.036 U | | 0.036 U | | 0.036 U | 0.036 U | | 0.04 U | | | | | | | |
| PEST/PCB | AROCLOR-1232 | MG/KG | | 0.038 U | 0.041 U | | 0.037 U | 0.039 U | | 0.036 U | 0.036 U | | 0.036 U | | 0.036 U | 0.036 U | | 0.04 U | | | | | | | |
| PEST/PCB | AROCLOR-1242 | MG/KG | | 0.038 U | 0.041 U | | 0.037 U | 0.039 U | | 0.036 U | 0.036 U | | 0.036 U | | 0.036 U | 0.036 U | | 0.04 U | | | | | | | |
| PEST/PCB | AROCLOR-1248 | MG/KG | | 0.038 U | 0.041 U | | 0.037 U | 0.039 U | | 0.036 U | 0.036 U | | 0.036 U | | 0.036 U | 0.036 U | | 0.04 U | | | | | | | |
| PEST/PCB | AROCLOR-1254 | MG/KG | | 0.038 U | 0.041 U | | 0.037 U | 0.039 U | | 0.036 U | 0.036 U | | 0.036 U | | 0.036 U | 0.036 U | | 0.04 U | | | | | | | |
| PEST/PCB | AROCLOR-1260 | MG/KG | | 0.038 U | 0.04 J | | 0.037 U | 0.039 U | | 0.036 U | 0.036 U | | 0.036 U | | 0.036 U | 0.036 U | | 0.04 U | | | | | | | |
| PEST/PCB | AROCLOR-1262 | MG/KG | | 0.038 U | 0.041 U | | 0.037 U | 0.039 U | | 0.036 U | 0.036 U | | 0.036 U | | 0.036 U | 0.036 U | | 0.04 U | | | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | | 0.038 U | 0.041 U | | 0.037 U | 0.039 U | | 0.036 U | 0.036 U | | 0.036 U | | 0.036 U | 0.036 U | | 0.04 U | | | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | | | 0.0068 | | 0.0019 U | 0.002 U | | 0.0018 U | 0.0019 U | | 0.0018 U | | 0.0019 U | 0.0019 U | | 0.0021 U | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | 0.0021 U | | 0.0057 J | 0.002 U | | 0.0018 U | 0.0019 U | | 0.0018 U | | 0.0019 U | 0.0019 U | | 0.0021 U | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | 0.0038 U | 0.0039 J | | 0.0037 U | 0.0039 U | | 0.0036 U | 0.0036 U | | 0.0036 U | | 0.0036 U | 0.0036 U | | 0.004 U | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | 0.0016 J | 0.0021 U | | 0.0019 U | 0.002 U | | 0.0018 U | 0.0019 U | | 0.0018 U | | 0.0019 U | 0.0019 U | | 0.0021 U | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | 0.0038 U | 0.0041 U | | 0.0037 U | 0.0039 U | | 0.0036 U | 0.0036 U | | 0.0036 U | | 0.0036 U | 0.0036 U | | 0.004 U | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | 0.0038 U | 0.0041 U | | 0.0037 U | 0.0039 U | | 0.0036 U | 0.0036 U | | 0.0036 U | | 0.0036 U | 0.0036 U | | 0.004 U | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | 0.0038 U | 0.0025 J | | 0.0037 U | 0.0039 U | | 0.0036 U | 0.0036 U | | 0.0036 U | | 0.0036 U | 0.0036 U | | 0.004 U | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | 0.0038 U | 0.0041 U | | 0.0037 U | 0.0039 U | | 0.0036 U | 0.0036 U | | 0.0036 U | | 0.0036 U | 0.0036 U | | 0.004 U | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | 0.0038 U | 0.0041 U | | 0.0037 U | 0.0039 U | | 0.0036 U | 0.0036 U | | 0.0036 U | | 0.0036 U | 0.0036 U | | 0.004 U | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | 0.0019 U | 0.0021 U | | 0.0019 J | 0.002 U | | 0.0018 U | 0.0019 U | | 0.0018 U | | 0.0019 U | 0.0019 U | | 0.0021 U | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | 0.001 J | 0.0034 J | | 0.0019 U | 0.002 U | | 0.0018 U | 0.0019 U | | 0.0018 U | | 0.0019 U | 0.0019 U | | 0.0021 U | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | 0.0019 U | 0.0033 | | 0.0019 U | 0.002 U | | 0.0018 U | 0.0019 U | | 0.0018 U | | 0.0019 U | 0.0019 U | | 0.0021 U | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | 0.0068 | 0.0021 U | | 0.0019 U | 0.002 U | | 0.0018 U | 0.0019 U | | 0.0018 U | | 0.0019 U | 0.0019 U | | 0.0021 U | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | 0.019 U | 0.021 U | | 0.019 U | 0.02 U | | 0.018 U | 0.019 U | | 0.018 U | | 0.019 U | 0.019 U | | 0.021 U | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | 0.19 U | 0.21 U | | 0.19 U | 0.2 U | | 0.18 U | 0.19 U | | 0.18 U | | 0.19 U | 0.19 U | | 0.21 U | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0067 | MPSB0067 | MPSB0068 | MPSB0068 | MPSB0068 | MPSB0069 | MPSB0069 | MPSB0069 | MPSB0069 | MPSB0069 | MPSB0070 | MPSB0070 | MPSB0070 | MPSB0071 | MPSB0071 | MPSB0071 | MPSB0101 | MPSB0102 | MPSB0103 | MPSB0103 | MPSB0104 | MPSB0117 | MPSB0118 |
| | | Field Sample ID | MPSB0067-SS-AD-AE-0 | MPSB0067-SS-AN-AO-0 | MPSB0068-SS-AA-AB-0 | MPSB0068-SS-AD-AE-0 | MPSB0068-SS-AJ-AK-0 | MPSB0069-SS-AA-AB-0 | MPSB0069-SS-AD-AE-0 | MPSB0069-SS-AH-AI-0 | MPSB0069-SS-AH-AI-1 | MPSB0069-SS-AN-AO-0 | MPSB0070-SS-AA-AB-0 | MPSB0070-SS-AD-AE-0 | MPSB0070-SS-AJ-AK-0 | MPSB0071-SS-AA-AB-0 | MPSB0071-SS-AD-AE-0 | MPSB0071-SS-AH-AI-0 | MPSB0101-SS-AM-AO-0 | MPSB0102-SS-AI-AK-0 | MPSB0103-SS-AN-AP-0 | MPSB0103-SS-AN-AP-1 | MPSB0104-SS-AR-AT-0 | MPSB0117-SS-AA-AB-0 | MPSB0118-SS-AA-AB-0 |
| | | Sample Date | 2/1/2010 | 2/1/2010 | 2/1/2010 | 2/1/2010 | 2/1/2010 | 2/3/2010 | 2/3/2010 | 2/3/2010 | 2/3/2010 | 2/3/2010 | 2/3/2010 | 2/3/2010 | 2/3/2010 | 2/3/2010 | 2/3/2010 | 2/3/2010 | 7/9/2012 | 7/11/2012 | 7/12/2012 | 7/12/2012 | 7/17/2012 | 9/13/2012 | 9/13/2012 |
| | | Depth (ft) | 1.5-2 | 6.5-7 | 0-0.5 | 1.5-2 | 4.5-5 | 0-0.5 | 1.5-2 | 3.5-4 | 3.5-4 | 6.5-7 | 0-0.5 | 1.5-2 | 4.5-5 | 0-0.5 | 1.5-2 | 3.5-4 | 6-7 | 4-5 | 6.5-7.5 | 6.5-7.5 | 8.5-9.5 | 0-0.5 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | 0.2 U | 0.22 U | | 0.32 | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | | 0.2 U | 0.22 U | | 0.26 | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | 2,4-DINITROPHENOL | MG/KG | | 0.38 U | 0.43 U | | 0.36 U | 0.37 U | | 0.35 U | 0.35 UJ | 0.37 U | 0.35 U | | 0.35 UJ | 0.35 UJ | | 0.39 UJ | 0.44 U | 0.41 U | 0.41 U | 0.39 U | 0.41 U | | |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | 2-CHLOROPHENOL | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | 2-METHYLPHENOL | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | 2-NITROANILINE | MG/KG | | 0.38 U | 0.43 U | | 0.36 U | 0.37 U | | 0.35 U | 0.35 U | 0.37 U | 0.35 U | | 0.35 U | 0.35 U | | 0.39 U | 0.44 U | 0.41 U | 0.41 U | 0.39 U | 0.41 U | | |
| SVOC | 2-NITROPHENOL | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | 3-NITROANILINE | MG/KG | | 0.38 U | 0.43 U | | 0.36 U | 0.37 U | | 0.35 U | 0.35 U | 0.37 U | 0.35 U | | 0.35 U | 0.35 U | | 0.39 U | 0.44 U | 0.41 U | 0.41 U | 0.39 U | 0.41 U | | |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | | 0.38 U | 0.43 U | | 0.36 U | 0.37 U | | 0.35 U | 0.35 UJ | 0.37 U | 0.35 U | | 0.35 UJ | 0.35 UJ | | 0.39 UJ | 0.44 U | 0.41 U | 0.41 U | 0.39 U | 0.41 U | | |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | 4-CHLOROANILINE | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | 4-METHYLPHENOL | MG/KG | | 0.2 U | 0.22 U | | 0.5 J | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | 4-NITROANILINE | MG/KG | | 0.38 U | 0.43 U | | 0.36 U | 0.37 U | | 0.35 U | 0.35 U | 0.37 U | 0.35 U | | 0.35 U | 0.35 U | | 0.39 U | 0.44 U | 0.41 U | 0.41 U | 0.39 U | 0.41 U | | |
| SVOC | 4-NITROPHENOL | MG/KG | | 0.38 U | 0.43 U | | 0.36 U | 0.37 U | | 0.35 U | 0.35 U | 0.37 U | 0.35 U | | 0.35 U | 0.35 U | | 0.39 U | 0.44 U | 0.41 U | 0.41 U | 0.39 U | 0.41 U | | |
| SVOC | ACENAPHTHENE | MG/KG | | 0.089 J | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | ACENAPHTHYLENE | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | ACETOPHENONE | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.036 J | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | ANTHRACENE | MG/KG | | 0.1 J | 0.045 J | | 0.19 U | 0.028 J | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.012 J | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | ATRAZINE | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | BENZALDEHYDE | MG/KG | | 0.2 U | 0.22 U | | 0.059 J | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | | 0.22 J | 0.26 | | 0.034 J | 0.099 J | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.023 J | | 0.2 U | 0.04 J | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | BENZO(A)PYRENE | MG/KG | | 0.2 | 0.25 | | 0.039 J | 0.1 J | | 0.018 J | 0.023 J | 0.19 U | 0.018 J | | 0.18 U | 0.029 J | | 0.0075 U | 0.037 | 0.0052 | 0.0062 | 0.0052 | 0.0041 U | | |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | | 0.19 J | 0.25 | | 0.033 J | 0.095 J | | 0.019 J | 0.02 J | 0.19 U | 0.18 U | | 0.18 U | 0.022 J | | 0.2 U | 0.024 J | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | | 0.12 J | 0.097 J | | 0.19 U | 0.062 J | | 0.018 J | 0.03 J | 0.19 UJ | 0.18 UJ | | 0.18 U | 0.18 U | | 0.2 U | 0.024 J | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | | 0.18 J | 0.26 | | 0.03 J | 0.093 J | | 0.018 J | 0.02 J | 0.19 U | 0.18 U | | 0.18 U | 0.023 J | | 0.2 U | 0.033 J | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | | 0.2 U | 0.22 U | | 0.027 J | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | | 0.097 J | 0.1 J | | 0.28 | 0.027 J | | 0.02 J | 0.18 U | 0.021 J | 0.027 J | | 0.18 U | 0.024 J | | 0.027 J | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | CAPROLACTAM | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | CARBAZOLE | MG/KG | | 0.066 J | 0.024 J | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | CHRYSENE | MG/KG | | 0.24 J | 0.33 | | 0.04 J | 0.12 J | | 0.18 U | 0.019 J | 0.19 U | 0.18 U | | 0.18 U | 0.035 J | | 0.2 U | 0.048 J | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | | 0.041 J | 0.04 J | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.0039 U | 0.0092 | 0.00033 J | 0.00031 J | 0.0006 J | 0.0041 U | | |
| SVOC | DIBENZOFURAN | MG/KG | | 0.035 J | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | DIETHYLPHTHALATE | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | DIMETHYLPHTHALATE | MG/KG | | 0.1 J | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | | 0.025 J | 0.22 U | | 0.35 | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.015 J | | |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.0032 J | | |
| SVOC | FLUORANTHENE | MG/KG | | 0.47 J | 0.51 | | 0.066 J | 0.25 | | 0.18 U | 0.021 J | 0.19 U | 0.02 J | | 0.18 U | 0.079 J | | 0.2 U | 0.087 J | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | FLUORENE | MG/KG | | 0.057 J | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | HEXACHLOROBENZENE | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | | 0.2 UJ | 0.22 UJ | | 0.19 UJ | 0.19 U | | 0.18 U | 0.18 UJ | 0.19 U | 0.18 U | | 0.18 UJ | 0.18 UJ | | 0.2 UJ | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | HEXACHLOROETHANE | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | | 0.12 J | 0.11 J | | 0.19 U | 0.058 J | | 0.18 U | 0.025 J | 0.19 U | 0.18 U | | 0.18 U | 0.019 J | | 0.2 U | 0.017 J | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | ISOPHORONE | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | NAPHTHALENE | MG/KG | | 0.058 J | 0.22 U | | 0.19 U | 0.19 U | | 0.023 J | 0.022 J | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | NITROBENZENE | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | PENTACHLOROPHENOL | MG/KG | | 0.47 | 0.48 | | 23 | 0.37 U | | 0.35 U | 0.35 U | 0.37 U | 0.35 U | | 0.35 U | 0.35 U | | 0.39 U | 0.44 U | 0.41 U | 0.034 J | 0.39 U | 3.5 | 1.4 U | 4 |
| SVOC | PHENANTHRENE | MG/KG | | 0.4 | 0.26 | | 0.058 J | 0.12 J | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.041 J | | 0.2 U | 0.072 J | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | PHENOL | MG/KG | | 0.2 U | 0.22 U | | 0.19 U | 0.19 U | | 0.18 U | 0.18 U | 0.19 U | 0.18 U | | 0.18 U | 0.18 U | | 0.2 U | 0.23 U | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |
| SVOC | PYRENE | MG/KG | | 0.52 J | 0.5 | | 0.075 J | 0.13 J | | 0.18 U | 0.02 J | 0.19 U | 0.18 U | | 0.18 U | 0.043 J | | 0.2 U | 0.072 J | 0.21 U | 0.21 U | 0.2 U | 0.21 U | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0067 | MPSB0067 | MPSB0068 | MPSB0068 | MPSB0068 | MPSB0069 | MPSB0069 | MPSB0069 | MPSB0069 | MPSB0069 | MPSB0070 | MPSB0070 | MPSB0070 | MPSB0071 | MPSB0071 | MPSB0071 | MPSB0101 | MPSB0102 | MPSB0103 | MPSB0103 | MPSB0104 | MPSB0117 | MPSB0118 |
| | | Field Sample ID | MPSB0067-SS-AD-AE-0 | MPSB0067-SS-AN-AO-0 | MPSB0068-SS-AA-AB-0 | MPSB0068-SS-AD-AE-0 | MPSB0068-SS-AJ-AK-0 | MPSB0069-SS-AA-AB-0 | MPSB0069-SS-AD-AE-0 | MPSB0069-SS-AH-AI-0 | MPSB0069-SS-AH-AI-1 | MPSB0069-SS-AN-AO-0 | MPSB0070-SS-AA-AB-0 | MPSB0070-SS-AD-AE-0 | MPSB0070-SS-AJ-AK-0 | MPSB0071-SS-AA-AB-0 | MPSB0071-SS-AD-AE-0 | MPSB0071-SS-AH-AI-0 | MPSB0101-SS-AM-AO-0 | MPSB0102-SS-AI-AK-0 | MPSB0103-SS-AN-AP-0 | MPSB0103-SS-AN-AP-1 | MPSB0104-SS-AR-AT-0 | MPSB0117-SS-AA-AB-0 | MPSB0118-SS-AA-AB-0 |
| | | Sample Date | 2/1/2010 | 2/1/2010 | 2/1/2010 | 2/1/2010 | 2/1/2010 | 2/3/2010 | 2/3/2010 | 2/3/2010 | 2/3/2010 | 2/3/2010 | 2/3/2010 | 2/3/2010 | 2/3/2010 | 2/3/2010 | 2/3/2010 | 2/3/2010 | 7/9/2012 | 7/11/2012 | 7/12/2012 | 7/12/2012 | 7/17/2012 | 9/13/2012 | 9/13/2012 |
| | | Depth (ft) | 1.5-2 | 6.5-7 | 0-0.5 | 1.5-2 | 4.5-5 | 0-0.5 | 1.5-2 | 3.5-4 | 3.5-4 | 6.5-7 | 0-0.5 | 1.5-2 | 4.5-5 | 0-0.5 | 1.5-2 | 3.5-4 | 6-7 | 4-5 | 6.5-7.5 | 6.5-7.5 | 8.5-9.5 | 0-0.5 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | | | 0.0047 U | | 0.0052 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | | | 0.0047 U | | 0.0052 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | | | 0.0047 U | | 0.0052 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0093 J | | 0.0047 U | | 0.0052 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | | | 0.0047 U | | 0.0052 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | | | 0.0047 U | | 0.0052 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | 0.012 U | 0.01 U | | 0.0096 U | 0.01 U | | 0.0094 U | 0.0096 U | 0.0098 U | 0.011 U | | 0.0096 U | 0.0093 U | | 0.011 U | 0.011 U | 0.011 U | 0.013 U | 0.011 U | 0.012 U | 0.01 U | | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | 0.012 U | 0.01 U | | 0.0096 U | 0.01 U | | 0.0094 U | 0.0096 U | 0.0098 U | 0.011 U | | 0.0096 U | 0.0093 U | | 0.011 U | 0.011 U | 0.011 U | 0.013 U | 0.011 U | 0.012 U | 0.01 U | | |
| VOC | ACETONE | MG/KG | 0.014 | 0.036 | | 0.0073 J | 0.1 | | 0.0037 J | 0.0096 U | 0.0098 U | 0.04 | | 0.0096 U | 0.0093 U | | 0.0052 J | 0.011 U | 0.0059 J | 0.045 | 0.02 | 0.033 | 0.0063 J | | |
| VOC | BENZENE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | BROMOCHLOROMETHANE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | BROMOFORM | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | | | 0.0047 U | | 0.0052 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | BROMOMETHANE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | CARBON DISULFIDE | MG/KG | 0.006 U | 0.084 | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0072 | 0.0067 J | 0.018 | 0.039 | | |
| VOC | CARBON TETRACHLORIDE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | CHLOROBENZENE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | CHLOROETHANE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | CHLOROFORM | MG/KG | 0.013 | 0.0061 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | CHLOROMETHANE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.00051 J | 0.00014 J | 0.006 U | 0.0052 U | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | CYCLOHEXANE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | DICHLOROMETHANE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | ETHYLBENZENE | MG/KG | 0.006 U | 0.012 | | 0.0048 U | 0.0044 J | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | ISOPROPYLBENZENE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.00037 J | 0.0021 J | 0.0053 J | 0.0052 U | | |
| VOC | METHYL ACETATE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | METHYL ETHYL KETONE | MG/KG | 0.0061 J | 0.011 | | 0.0096 U | 0.042 | | 0.0094 U | 0.0096 U | 0.0098 U | 0.0098 J | | 0.0096 U | 0.0093 U | | 0.011 U | 0.011 U | 0.011 U | 0.015 | 0.0066 J | 0.01 J | 0.01 U | | |
| VOC | METHYLCYCLOHEXANE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.00025 J | 0.0064 U | 0.00014 J | 0.006 U | 0.0052 U | | |
| VOC | TETRACHLOROETHENE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.011 J | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.00013 J | 0.00018 J | 0.006 U | 0.0052 U | | |
| VOC | TOLUENE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | 0.006 U | 0.0051 U | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.006 U | 0.0052 U | | |
| VOC | XYLENE, O- | MG/KG | 0.006 U | 0.003 J | | 0.0048 U | 0.0051 U | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.0011 J | 0.0052 U | | |
| VOC | XYLENES (TOTAL) | MG/KG | 0.006 U | 0.0108 J | | 0.0048 U | 0.0037 J | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.0055 J | 0.0052 U | | |
| VOC | XYLENES, M & P | MG/KG | 0.006 U | 0.0078 | | 0.0048 U | 0.0037 J | | 0.0047 U | 0.0048 U | 0.0049 U | 0.0055 U | | 0.0048 U | 0.0046 U | | 0.0054 U | 0.0053 U | 0.0054 U | 0.0064 U | 0.0056 U | 0.0044 J | 0.0052 U | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0118 | MPSB0118 | MPSB0120 | MPSB0121 | MPSB0121 | MPSB0122 | MPSB0122 | MPSB0122 | MPSB0122 | MPSB0123 | MPSB0123 | MPSB0123 | MPSB0123 | MPSB0123 | MPSB0123 | MPSB0202 | MPSB0202 | MPSB0202 | MPSB0202 | MPSB0202 | MPSB0203 | MPSB0203 | MPSB0203 |
| | | Field Sample ID | MPSB0118-SS-AE-AF-0 | MPSB0118-SS-AL-AM-0 | MPSB0120-SS-AJ-AK-0 | MPSB0121-SS-AJ-AK-0 | MPSB0121-SS-AJ-AK-1 | MPSB0122-SS-AA-AB-0 | MPSB0122-SS-AE-AF-0 | MPSB0122-SS-AE-AF-1 | MPSB0122-SS-AL-AM-0 | MPSB0123-SS-AA-AB-0 | MPSB0123-SS-AA-AB-1 | MPSB0123-SS-AE-AF-0 | MPSB0123-SS-AL-AM-0 | MPSB0123-SS-AP-AQ-0 | MPSB0123-SS-AT-AU-0 | MPSB0202-SS-AA-AE-0 | MPSB0202-SS-AE-AI-0 | MPSB0202-SS-AI-AM-0 | MPSB0202-SS-AM-AQ-0 | MPSB0202-SS-AQ-AU-0 | MPSB0203-SS-AA-AF-0 | MPSB0203-SS-AF-AI-0 | MPSB0203-SS-AI-AM-0 |
| | | Sample Date | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/16/2015 | 9/16/2015 | 9/16/2015 | 9/16/2015 | 9/16/2015 | 9/14/2015 | 9/14/2015 | 9/14/2015 |
| | | Depth (ft) | 2-2.5 | 5.5-6 | 4.5-5 | 4.5-5 | 4.5-5 | 0-0.5 | 2-2.5 | 2-2.5 | 5.5-6 | 0-0.5 | 0-0.5 | 2-2.5 | 5.5-6 | 7.5-8 | 9.5-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2.5 | 2.5-4 | 4-6 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | 2.1 U | 2 U | 2 U | 2 U | 2.1 U | 12 | 26 | 2.4 U |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | 2.1 U | 2 U | 2 U | 2 U | 2.1 U | 4.5 | 150 | 2.4 U |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | 2.1 U | 2 U | 2 U | 2 U | 2.1 U | 7.1 | 31 | 2.4 U |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | 2.1 U | 2 U | 2 U | 2 U | 2.1 U | 6 | 140 | 2.4 U |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | 2.1 U | 2 U | 2 U | 2 U | 2.1 U | 10 | 120 | 2.4 U |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | 2.1 U | 2 U | 2 U | 2 U | 2.1 U | 10 | 63 | 2.4 U |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | 2.1 U | 2 U | 2 U | 2 U | 2.1 U | 32 | 79 | 2.4 U |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | 2.1 U | 2 U | 2 U | 2 U | 2.1 U | 12 J | 270 | 2.4 U |
| METALS | ALUMINUM | MG/KG | | | | | | | | | | | | | | | | 1350 | 846 | 919 | 745 | 1070 | 2050 | 8490 | 2150 |
| METALS | ANTIMONY | MG/KG | | | | | | | | | | | | | | | | 5.8 UJ | 5.9 UJ | 4.3 UJ | 5.6 UJ | 5.3 UJ | 0.21 J | 0.36 J | 0.41 J |
| METALS | ARSENIC | MG/KG | | | | | | | | | | | | | | | | 3.7 | 2.4 | 2.8 | 1.3 | 2 | 2.1 | 1.8 | 0.97 |
| METALS | BARIUM | MG/KG | | | | | | | | | | | | | | | | 4.7 J | 3.2 J | 3.2 J | 1.8 J | 3.5 J | 131 | 904 | 134 |
| METALS | BERYLLIUM | MG/KG | | | | | | | | | | | | | | | | 0.025 J | 0.014 J | 0.015 J | 0.016 J | 0.011 J | 0.073 J | 0.022 J | 0.43 U |
| METALS | CADMIUM | MG/KG | | | | | | | | | | | | | | | | 0.067 J | 0.04 J | 0.047 J | 0.039 J | 0.052 J | 0.21 J | 0.24 J | 0.73 |
| METALS | CALCIUM | MG/KG | | | | | | | | | | | | | | | | 182 J | 79.8 J | 98.3 J | 35.8 J | 86.2 J | 4650 J | 403 J | 1450 J |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | | | | | | | | | | | | | | | | 8.8 | 6.7 | 15.9 | 11.6 | 6.2 | 7.9 | 18.6 | 8.5 |
| METALS | COBALT | MG/KG | | | | | | | | | | | | | | | | 4.8 U | 4.9 U | 3.6 U | 4.6 U | 4.4 U | 0.94 J | 8.6 | 5.4 |
| METALS | COPPER | MG/KG | | | | | | | | | | | | | | | | 1.9 J | 1.3 J | 1.5 J | 0.77 J | 0.81 J | 8.2 | 124 | 21.2 |
| METALS | CYANIDE | MG/KG | | | | | | | | | | | | | | | | 0.52 U | 0.49 U | 0.49 U | 0.45 U | 0.52 U | 0.36 U | 0.55 U | 0.53 U |
| METALS | IRON | MG/KG | | | | | | | | | | | | | | | | 6960 | 3840 | 4150 | 4120 | 4720 | 4190 | 3230 | 1820 |
| METALS | LEAD | MG/KG | | | | | | | | | | | | | | | | 2.6 | 1.7 | 1.6 | 1.1 | 2.3 | 22.7 | 122 | 41.5 |
| METALS | MAGNESIUM | MG/KG | | | | | | | | | | | | | | | | 21.5 J | 11.1 J | 14.4 J | 6.2 J | 16.6 J | 1270 J | 93.5 J | 586 J |
| METALS | MANGANESE | MG/KG | | | | | | | | | | | | | | | | 7.2 J | 7.2 J | 6.3 J | 2.5 J | 5.4 J | 34.8 J | 6.7 J | 14.8 J |
| METALS | MERCURY | MG/KG | | | | | | | | | | | | | | | | 0.097 U | 0.091 U | 0.092 U | 0.09 U | 0.095 U | 0.15 | 0.11 U | 1.5 |
| METALS | NICKEL | MG/KG | | | | | | | | | | | | | | | | 0.32 J | 0.19 J | 0.78 J | 0.19 J | 0.23 J | 1.8 J | 15.4 | 5.9 |
| METALS | POTASSIUM | MG/KG | | | | | | | | | | | | | | | | 174 J | 103 J | 97.5 J | 68.9 J | 127 J | 191 J | 92.1 J | 84.9 J |
| METALS | SELENIUM | MG/KG | | | | | | | | | | | | | | | | 3.4 U | 3.4 U | 0.34 J | 3.3 U | 0.61 J | 3.3 U | 3.5 U | 3 U |
| METALS | SILVER | MG/KG | | | | | | | | | | | | | | | | 0.97 U | 0.98 U | 0.099 J | 0.09 J | 0.11 J | 0.95 U | 0.061 J | 0.85 U |
| METALS | SODIUM | MG/KG | | | | | | | | | | | | | | | | 483 U | 489 U | 357 U | 464 U | 440 U | 28.1 J | 7.1 J | 5.5 J |
| METALS | THALLIUM | MG/KG | | | | | | | | | | | | | | | | 2.4 U | 2.4 U | 1.8 U | 2.3 U | 2.2 U | 2.4 U | 2.5 U | 2.1 U |
| METALS | VANADIUM | MG/KG | | | | | | | | | | | | | | | | 12.5 | 6.9 | 6.2 | 4.4 J | 9.3 | 8.9 | 9.1 | 4 J |
| METALS | ZINC | MG/KG | | | | | | | | | | | | | | | | 1.8 J | 1.7 J | 1.6 J | 1.4 J | 2.5 J | 64.2 | 275 | 352 |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | | | | | | | | | | | | | | | | 0.035 U | 0.033 U | 0.034 U | 0.033 U | 0.34 U | 0.035 UJ | 0.12 U | 0.2 U |
| PEST/PCB | AROCLOR-1221 | MG/KG | | | | | | | | | | | | | | | | 0.035 U | 0.033 U | 0.034 U | 0.033 U | 0.34 U | 0.035 U | 0.12 U | 0.2 U |
| PEST/PCB | AROCLOR-1232 | MG/KG | | | | | | | | | | | | | | | | 0.035 U | 0.033 U | 0.034 U | 0.033 U | 0.34 U | 0.035 U | 0.12 U | 0.2 U |
| PEST/PCB | AROCLOR-1242 | MG/KG | | | | | | | | | | | | | | | | 0.035 U | 0.033 U | 0.034 U | 0.033 U | 0.34 U | 0.035 U | 0.12 U | 0.2 U |
| PEST/PCB | AROCLOR-1248 | MG/KG | | | | | | | | | | | | | | | | 0.035 U | 0.033 U | 0.034 U | 0.033 U | 0.34 U | 0.035 U | 0.12 U | 0.2 U |
| PEST/PCB | AROCLOR-1254 | MG/KG | | | | | | | | | | | | | | | | 0.035 U | 0.033 U | 0.034 U | 0.033 U | 0.34 U | 0.035 U | 0.12 U | 0.2 U |
| PEST/PCB | AROCLOR-1260 | MG/KG | | | | | | | | | | | | | | | | 0.035 U | 0.033 U | 0.034 U | 0.033 U | 0.34 U | 0.013 J | 0.12 U | 0.2 U |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | | | | | | | | | | | | | | 0.035 U | 0.033 U | 0.034 U | 0.033 U | 0.34 U | 0.035 U | 0.12 U | 0.2 U |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | | | | | | | | | | | | | | 0.035 U | 0.033 U | 0.034 U | 0.033 U | 0.34 U | 0.035 U | 0.12 U | 0.2 U |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0118 | MPSB0118 | MPSB0120 | MPSB0121 | MPSB0121 | MPSB0122 | MPSB0122 | MPSB0122 | MPSB0122 | MPSB0123 | MPSB0123 | MPSB0123 | MPSB0123 | MPSB0123 | MPSB0123 | MPSB0202 | MPSB0202 | MPSB0202 | MPSB0202 | MPSB0202 | MPSB0203 | MPSB0203 | MPSB0203 |
| | | Field Sample ID | MPSB0118-SS-AE-AF-0 | MPSB0118-SS-AL-AM-0 | MPSB0120-SS-AJ-AK-0 | MPSB0121-SS-AJ-AK-0 | MPSB0121-SS-AJ-AK-1 | MPSB0122-SS-AA-AB-0 | MPSB0122-SS-AE-AF-0 | MPSB0122-SS-AE-AF-1 | MPSB0122-SS-AL-AM-0 | MPSB0123-SS-AA-AB-0 | MPSB0123-SS-AA-AB-1 | MPSB0123-SS-AE-AF-0 | MPSB0123-SS-AL-AM-0 | MPSB0123-SS-AP-AQ-0 | MPSB0123-SS-AT-AU-0 | MPSB0202-SS-AA-AE-0 | MPSB0202-SS-AE-AI-0 | MPSB0202-SS-AI-AM-0 | MPSB0202-SS-AM-AQ-0 | MPSB0202-SS-AQ-AU-0 | MPSB0203-SS-AA-AF-0 | MPSB0203-SS-AF-AI-0 | MPSB0203-SS-AI-AM-0 |
| | | Sample Date | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/16/2015 | 9/16/2015 | 9/16/2015 | 9/16/2015 | 9/16/2015 | 9/14/2015 | 9/14/2015 | 9/14/2015 |
| | | Depth (ft) | 2-2.5 | 5.5-6 | 4.5-5 | 4.5-5 | 4.5-5 | 0-0.5 | 2-2.5 | 2-2.5 | 5.5-6 | 0-0.5 | 0-0.5 | 2-2.5 | 5.5-6 | 7.5-8 | 9.5-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2.5 | 2.5-4 | 4-6 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.27 | 0.067 J |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 17 J | 3.6 J |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 2.4 | 0.46 |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | | | | | | | | | | | | | | | | 0.34 U | 0.33 U | 0.34 U | 0.33 U | 0.35 U | 0.36 UJ | 0.37 UJ | 0.39 UJ |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.0091 J | 0.2 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.1 J | 0.033 J |
| SVOC | 2-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 2-NITROANILINE | MG/KG | | | | | | | | | | | | | | | | 0.34 U | 0.33 U | 0.34 U | 0.33 U | 0.35 U | 0.36 U | 0.37 U | 0.39 U |
| SVOC | 2-NITROPHENOL | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | | 0.2 U |
| SVOC | 3-NITROANILINE | MG/KG | | | | | | | | | | | | | | | | 0.34 U | 0.33 U | 0.34 U | 0.33 U | 0.35 U | 0.36 U | 0.37 U | 0.39 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | 0.34 U | 0.33 U | 0.34 U | 0.33 U | 0.35 U | 0.36 U | 0.37 U | 0.39 U |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 4-CHLOROANILINE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | 4-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.074 J | 0.023 J |
| SVOC | 4-NITROANILINE | MG/KG | | | | | | | | | | | | | | | | 0.34 U | 0.33 U | 0.34 U | 0.33 U | 0.35 U | 0.36 U | 0.37 U | 0.39 U |
| SVOC | 4-NITROPHENOL | MG/KG | | | | | | | | | | | | | | | | 0.34 U | 0.33 U | 0.34 U | 0.33 U | 0.35 U | 0.36 U | 0.37 U | 0.39 U |
| SVOC | ACENAPHTHENE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.099 J | 0.029 J |
| SVOC | ACENAPHTHYLENE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | ACETOPHENONE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.0085 J | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | ANTHRACENE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.008 J | 0.19 U | 0.2 U |
| SVOC | ATRAZINE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | BENZALDEHYDE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.009 J | 0.19 U | 0.2 U |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.052 J | 0.033 J | 0.011 J |
| SVOC | BENZO(A)PYRENE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.051 J | 0.032 J | 0.0062 J |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.063 J | 0.043 J | |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.049 J | | |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.042 J | 0.022 J | |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | | 0.2 U |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 2.8 J | 0.6 |
| SVOC | CAPROLACTAM | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | CARBAZOLE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.0042 J | 0.19 U | 0.2 U |
| SVOC | CHRYSENE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.065 J | 0.09 J | 0.023 J |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.0045 J | 0.0021 J |
| SVOC | DIBENZOFURAN | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | DIETHYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 21 J | 3 |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 UJ | | |
| SVOC | FLUORANTHENE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.098 J | 0.042 J | 0.028 J |
| SVOC | FLUORENE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.17 J | 0.057 J |
| SVOC | HEXACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | HEXACHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.03 J | | |
| SVOC | ISOPHORONE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | NITROBENZENE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.2 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | 0.018 J | 1.8 U | 5.2 | 1.4 U | 1.4 U | 1.3 J | 0.26 J | 0.36 J | 1.6 U | 1.1 J | 1.8 | 0.28 J | 1.7 U | 0.43 U | 0.4 U | 0.34 U | 0.33 U | 0.34 U | 0.33 U | 0.35 U | 0.23 J | 650 | 140 J |
| SVOC | PHENANTHRENE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.038 J | 0.19 J | 0.054 J |
| SVOC | PHENOL | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.18 U | 0.25 J | 0.12 J |
| SVOC | PYRENE | MG/KG | | | | | | | | | | | | | | | | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.14 J | 0.16 J | 0.029 J |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0118 | MPSB0118 | MPSB0120 | MPSB0121 | MPSB0121 | MPSB0122 | MPSB0122 | MPSB0122 | MPSB0122 | MPSB0123 | MPSB0123 | MPSB0123 | MPSB0123 | MPSB0123 | MPSB0123 | MPSB0202 | MPSB0202 | MPSB0202 | MPSB0202 | MPSB0202 | MPSB0203 | MPSB0203 | MPSB0203 |
| | | Field Sample ID | MPSB0118-SS-AE-AF-0 | MPSB0118-SS-AL-AM-0 | MPSB0120-SS-AJ-AK-0 | MPSB0121-SS-AJ-AK-0 | MPSB0121-SS-AJ-AK-1 | MPSB0122-SS-AA-AB-0 | MPSB0122-SS-AE-AF-0 | MPSB0122-SS-AE-AF-1 | MPSB0122-SS-AL-AM-0 | MPSB0123-SS-AA-AB-0 | MPSB0123-SS-AA-AB-1 | MPSB0123-SS-AE-AF-0 | MPSB0123-SS-AL-AM-0 | MPSB0123-SS-AP-AQ-0 | MPSB0123-SS-AT-AU-0 | MPSB0202-SS-AA-AE-0 | MPSB0202-SS-AE-AI-0 | MPSB0202-SS-AI-AM-0 | MPSB0202-SS-AM-AQ-0 | MPSB0202-SS-AQ-AU-0 | MPSB0203-SS-AA-AF-0 | MPSB0203-SS-AF-AI-0 | MPSB0203-SS-AI-AM-0 |
| | | Sample Date | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/13/2012 | 9/16/2015 | 9/16/2015 | 9/16/2015 | 9/16/2015 | 9/16/2015 | 9/14/2015 | 9/14/2015 | 9/14/2015 |
| | | Depth (ft) | 2-2.5 | 5.5-6 | 4.5-5 | 4.5-5 | 4.5-5 | 0-0.5 | 2-2.5 | 2-2.5 | 5.5-6 | 0-0.5 | 0-0.5 | 2-2.5 | 5.5-6 | 7.5-8 | 9.5-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-2.5 | 2.5-4 | 4-6 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.00039 J | 0.32 U | 0.35 U |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | | | | | | | | | | | | | | | 0.0093 U | 0.012 U | 0.011 U | 0.0096 U | 0.0099 U | 0.01 U | 0.64 U | 0.7 U |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | | | | | | | | | | | | | | | 0.0093 U | 0.012 U | 0.011 U | 0.0096 U | 0.0099 U | 0.01 U | 0.64 U | 0.7 U |
| VOC | ACETONE | MG/KG | | | | | | | | | | | | | | | | 0.0093 U | 0.012 U | 0.011 U | 0.0096 U | 0.0099 U | 0.012 U | 1.3 U | 1.7 U |
| VOC | BENZENE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | BROMODICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | BROMOFORM | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | BROMOMETHANE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | CARBON DISULFIDE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | CARBON TETRACHLORIDE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | CHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | CHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | CHLOROFORM | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | CHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | CYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | DICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | ETHYLBENZENE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.00026 J | 0.16 J | 0.18 J |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | METHYL ACETATE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.35 | 0.21 J |
| VOC | METHYL ETHYL KETONE | MG/KG | | | | | | | | | | | | | | | | 0.0093 U | 0.012 U | 0.011 U | 0.0096 U | 0.0099 U | 0.0018 J | 0.64 U | 0.7 U |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.068 J | 0.35 U |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | TETRACHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.0064 J | 0.0094 J |
| VOC | TOLUENE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.00034 J | 0.32 U | 0.35 U |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.011 J | 0.35 U |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.0051 U | 0.32 U | 0.35 U |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.00039 J | 0.32 U | 0.083 J |
| VOC | XYLENES (TOTAL) | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.00139 J | 0.17 J | 0.303 J |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | 0.0046 U | 0.0059 U | 0.0056 U | 0.0048 U | 0.005 U | 0.001 J | 0.17 J | 0.22 J |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0203 | MPSB0203 | MPSB0204 | MPSB0204 | MPSB0204 | MPSB0204 | MPSB0204 | MPSB0209 | MPSB0209 | MPSB0209 | MPSB0209 | MPSB0209 | MPSB0218 | MPSB0218 | MPSB0218 | MPSB0221 | MPSB0221 | MPSB0221 | MPSB0222 | MPSB0222 | MPSB0222 | MPSB0222 | MPSB0223 |
| | | Field Sample ID | MPSB0203-SS-AM-AQ-0 | MPSB0203-SS-AQ-AU-0 | MPSB0204-SS-AA-AE-0 | MPSB0204-SS-AE-AI-0 | MPSB0204-SS-AI-AO-0 | MPSB0204-SS-AO-AQ-0 | MPSB0204-SS-AQ-AU-0 | MPSB0209-SS-AA-AE-0 | MPSB0209-SS-AE-AI-0 | MPSB0209-SS-AI-AM-0 | MPSB0209-SS-AM-AQ-0 | MPSB0209-SS-AQ-AU-0 | MPSB0218-SS-AA-AB-0 | MPSB0218-SS-AD-AE-0 | MPSB0218-SS-AH-AI-0 | MPSB0221-SS-AA-AB-0 | MPSB0221-SS-AD-AE-0 | MPSB0221-SS-AL-AM-0 | MPSB0222-SS-AA-AB-0 | MPSB0222-SS-AD-AE-0 | MPSB0222-SS-AD-AE-1 | MPSB0222-SS-AL-AM-0 | MPSB0223-SS-AA-AB-0 |
| | | Sample Date | 9/14/2015 | 9/14/2015 | 9/17/2015 | 9/17/2015 | 9/17/2015 | 9/17/2015 | 9/17/2015 | 9/22/2015 | 9/22/2015 | 9/22/2015 | 9/22/2015 | 9/22/2015 | 12/3/2015 | 12/3/2015 | 12/3/2015 | 12/3/2015 | 12/3/2015 | 12/3/2015 | 12/4/2015 | 12/4/2015 | 12/4/2015 | 12/4/2015 | 12/7/2015 |
| | | Depth (ft) | 6-8 | 8-10 | 0-2 | 2-4 | 4-7 | 7-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 5.5-6 | 0-0.5 | 1.5-2 | 1.5-2 | 5.5-6 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | 2.4 U | 2.5 U | 2.1 U | 2.2 U | 2.2 U | 2.2 U | 2.3 U | 2.4 U | 2.4 U | 2.4 U | 2.5 U | 2.5 U | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | 2.4 U | 2.5 U | 2.1 U | 2.2 U | 2.2 U | 2.2 U | 2.3 U | 2.4 U | 2.4 U | 2.4 U | 2.5 U | 2.5 U | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | 2.4 U | 2.5 U | 2.1 U | 2.2 U | 2.2 U | 2.2 U | 2.3 U | 2.4 U | 2.4 U | 2.4 U | 2.5 U | 2.5 U | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | 2.4 U | 2.5 U | 2.1 U | 2.2 U | 2.2 U | 2.2 U | 2.3 U | 2.4 U | 2.4 U | 2.4 U | 2.5 U | 2.5 U | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | 2.4 U | 2.5 U | 2.1 U | 2.2 U | 2.2 U | 2.2 U | 2.3 U | 2.4 U | 2.4 U | 2.4 U | 2.5 U | 2.5 U | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | 2.4 U | 2.5 U | 2.1 U | 2.2 U | 2.2 U | 2.2 U | 2.3 U | 2.4 U | 2.4 U | 2.4 U | 2.5 U | 2.5 U | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | 2.4 U | 2.5 U | 2.1 U | 2.2 U | 2.2 U | 2.2 U | 2.3 U | 2.4 U | 2.4 U | 2.4 U | 2.5 U | 2.5 U | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | 2.4 U | 2.5 U | 2.1 U | 2.2 U | 2.2 U | 2.2 U | 2.3 U | 2.4 U | 2.4 U | 2.4 U | 2.5 U | 2.5 U | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | 1650 | 2590 | 2670 | 2070 | 2330 | 2480 | 3960 | 696 | 1100 | 414 | 2730 | 2030 | 2560 | 989 | 543 | 1630 | 1660 | 2150 | 2970 J | 1530 | 1050 | 1380 | 1430 |
| METALS | ANTIMONY | MG/KG | 6.4 UJ | 0.25 J | 5.7 UJ | 0.34 J | 5.3 UJ | 6.3 UJ | 5.9 UJ | 6.5 UJ | 6.9 UJ | 5.7 UJ | 6.9 UJ | 7 UJ | 0.69 J | 6.1 U | 6.4 U | 0.53 J | 0.91 J | 1.3 J | 20.3 J | 2 J | 1.7 J | 7.7 U | 0.27 J |
| METALS | ARSENIC | MG/KG | 1.3 | 2.9 | 1.8 J | 2 J | 2.8 J | 3.9 J | 2.8 J | 0.58 J | 0.54 J | 0.96 UJ | 1.2 J | 3.1 J | 25.3 | 2 | 0.63 J | 7.9 J | 14.2 J | 5.4 J | 97.1 J | 65.2 | 44.2 | 5.9 | 2.6 J |
| METALS | BARIUM | MG/KG | 28.1 | 8.5 J | 12.5 J | 99.4 | 41.6 | 9.4 J | 6.5 J | 9.2 J | 18.5 J | 5 J | 12.6 J | 7.7 J | 629 | 145 | 13.5 J | 256 J | 261 J | 124 J | 300 J | 623 | 372 | 43.3 | 78.5 J |
| METALS | BERYLLIUM | MG/KG | 0.54 U | 0.034 J | 0.025 J | 0.012 J | 0.018 J | 0.52 U | 0.49 U | 0.54 U | 0.57 U | 0.48 U | 0.58 U | 0.58 U | 0.075 J | 0.51 U | 0.53 U | 0.028 J | 0.044 J | 0.073 J | 1 UJ | 0.62 U | 0.53 U | 0.64 U | 0.46 U |
| METALS | CADMIUM | MG/KG | 0.12 J | 0.067 J | 0.066 J | 0.058 J | 0.083 J | 0.14 J | 0.17 J | 0.044 J | 0.097 J | 0.48 U | 0.044 J | 0.073 J | 0.6 | 0.2 J | 0.097 J | 0.2 J | 0.14 J | 1.8 | 1.1 J | 0.5 J | 0.38 J | 0.16 J | 0.33 J |
| METALS | CALCIUM | MG/KG | 197 J | 144 J | 473 U | 485 U | 445 U | 524 U | 491 U | 313 J | 114 J | 11.6 J | 576 U | 580 U | 1570 | 505 U | 531 U | 1750 | 852 | 3250 | 6550 J | 728 | 718 | 896 | 740 |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 7.8 | 8.8 | 5.5 | 7.7 | 13 | 11.9 | 11.1 | 3.4 | 5.2 | 2.5 | 10.1 | 12.5 | 50.8 | 10.7 | 3.4 | 14.3 | 33.8 | 17.2 | 44.2 J | 176 | 109 | 26.3 | 6.1 |
| METALS | COBALT | MG/KG | 4.1 J | 4.6 J | 0.49 J | 0.67 J | 0.71 J | 0.82 J | 14.6 | 5.4 U | 5.7 U | 4.8 U | 5.8 U | 5.8 U | 1.5 J | 0.25 J | 0.06 J | 1 J | 3.6 J | 2.5 J | 2.5 J | 1.1 J | 0.79 J | 0.4 J | 0.32 J |
| METALS | COPPER | MG/KG | 9.8 | 6.5 | 1.8 J | 6.4 | 3.4 | 3 | 2.1 J | 2.7 U | 2.9 U | 2.4 U | 2.9 U | 2.9 U | 31 | 10.6 | 2 J | 14.6 J | 44.8 J | 31.3 J | 44.4 J | 74.5 | 46.5 | 7.5 | 16.5 |
| METALS | CYANIDE | MG/KG | 0.59 U | 0.49 U | 0.49 U | 0.38 U | 0.47 U | 0.52 U | 0.38 U | 0.42 U | 0.4 U | 0.53 U | 0.57 U | 0.49 U | 3.2 | 0.84 | 0.85 | 2.2 | 2.2 | 0.74 | 16 J | 164 | 223 | 14.2 | 0.45 J |
| METALS | IRON | MG/KG | 2480 | 3890 | 3820 | 4220 | 6530 | 8360 | 5590 | 470 | 397 | 259 | 2590 | 7660 | 12300 | 1640 | 585 | 3610 | 3950 | 5470 | 20500 J | 4020 | 2470 | 1950 | 2190 |
| METALS | LEAD | MG/KG | 10.4 | 7.2 | 6.9 J | 12.3 J | 6.1 J | 3.5 J | 3.8 J | 8.2 | 2.9 | 1.5 | 3.6 | 2.7 | 626 | 284 | 3.4 J | 113 J | 322 J | 244 J | 297 J | 1700 | 1090 | 112 | 112 |
| METALS | MAGNESIUM | MG/KG | 85.4 J | 71.1 J | 148 J | 65.8 J | 58.6 J | 57.3 J | 47.7 J | 67.5 J | 66.9 J | 21.2 J | 120 J | 72.8 J | 473 J | 46.6 J | 531 U | 351 J | 317 J | 1070 | 1250 J | 153 J | 87.9 J | 96.8 J | 114 J |
| METALS | MANGANESE | MG/KG | 12.9 J | 9.8 J | 17 | 9.8 | 8.5 | 8.8 | 10.5 | 7.1 | 13.5 | 6.9 | 11.8 | 9.5 | 109 | 65.8 | 12.8 | 37.1 | 47.6 | 36 | 622 J | 14.5 J | 8.5 J | 13.1 | 42.8 |
| METALS | MERCURY | MG/KG | 0.35 | 0.12 U | 0.11 U | 0.14 | 0.041 J | 0.036 J | 0.032 J | 0.11 U | 0.11 U | 0.11 U | 0.055 J | 0.14 | 1.8 | 0.43 | 0.1 U | 1.1 | 0.43 | 0.79 | 0.93 J | 0.86 | 0.77 | 0.15 U | 0.13 |
| METALS | NICKEL | MG/KG | 4.1 J | 3.3 J | 0.97 J | 0.73 J | 0.59 J | 0.26 J | 4.5 | 0.4 J | 0.2 J | 0.21 J | 0.38 J | 4.6 U | 4.2 J | 0.57 J | 0.26 J | 2.4 J | 2.2 J | 5.1 | 7.2 J | 2.7 J | 1.6 J | 0.62 J | 1 J |
| METALS | POTASSIUM | MG/KG | 120 J | 246 J | 157 J | 133 J | 163 J | 202 J | 231 J | 49.9 J | 85.2 J | 37.4 J | 326 J | 206 J | 266 J | 110 J | 38.7 J | 315 J | 111 J | 144 J | 347 J | 91.9 J | 526 U | 644 U | 115 J |
| METALS | SELENIUM | MG/KG | 3.7 U | 4.2 U | 3.3 U | 0.49 J | 0.53 J | 0.59 J | 0.76 J | 3.8 UJ | 4 UJ | 0.42 J | 0.84 J | 4.1 UJ | 1.1 J | 3.5 U | 3.7 U | 0.73 J | 3.7 U | 1.1 J | 2.1 J | 4.3 U | 3.7 U | 4.5 U | 3.2 U |
| METALS | SILVER | MG/KG | 1.1 U | 0.17 J | 0.95 U | 0.97 U | 0.89 U | 1 U | 0.98 U | 1.1 U | 1.1 U | 0.96 U | 1.2 U | 1.2 U | 1.2 U | 1 U | 1.1 U | 1.3 U | 1.1 U | 1.1 U | 0.16 J | 0.17 J | 0.096 J | 1.3 U | 0.91 U |
| METALS | SODIUM | MG/KG | 7.3 J | 7.3 J | 2.7 J | 485 U | 3.1 J | 4.6 J | 4.4 J | 543 U | 573 U | 479 U | 576 U | 580 U | 585 U | 505 U | 531 U | 626 U | 532 U | 627 J | 711 J | 154 J | 213 J | 644 U | 455 U |
| METALS | THALLIUM | MG/KG | 2.7 U | 3 U | 2.4 U | 2.4 U | 2.2 U | 2.6 U | 2.5 U | 2.7 U | 2.9 U | 2.4 U | 2.9 U | 2.9 U | 2.9 U | 2.5 U | 2.7 U | 3.1 U | 2.7 U | 2.8 U | 5.2 UJ | 3.1 U | 2.6 U | 3.2 U | 2.3 U |
| METALS | VANADIUM | MG/KG | 4.5 J | 7.8 | 6.7 | 7 | 11.8 | 16 | 11.7 | 5.4 U | 5.7 U | 4.8 U | 9 | 10.4 | 11.7 | 3.2 J | 2.6 J | 7.9 | 8.5 | 22.2 | 18.4 J | 7.7 | 4.6 J | 5.6 J | 4.9 |
| METALS | ZINC | MG/KG | 114 | 29.5 | 5.7 U | 54.6 | 30.9 | 43 | 328 | 4.3 J | 1.8 J | 0.51 J | 1.9 J | 2.1 J | 129 | 36.7 | 24 | 121 J | 258 J | 1050 J | 320 J | 210 | 146 | 23.1 | 84.8 |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | 0.2 U | 0.04 U | 0.036 U | 0.036 U | 0.036 U | 0.037 U | 0.037 U | 0.038 U | 0.039 U | 0.036 U | 0.04 U | 0.041 U | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1221 | MG/KG | 0.2 U | 0.04 U | 0.036 U | 0.036 U | 0.036 U | 0.037 U | 0.037 U | 0.038 U | 0.039 U | 0.036 U | 0.04 U | 0.041 U | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1232 | MG/KG | 0.2 U | 0.04 U | 0.036 U | 0.036 U | 0.036 U | 0.037 U | 0.037 U | 0.038 U | 0.039 U | 0.036 U | 0.04 U | 0.041 U | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1242 | MG/KG | 0.2 U | 0.04 U | 0.036 U | 0.036 U | 0.036 U | 0.037 U | 0.037 U | 0.038 U | 0.039 U | 0.036 U | 0.04 U | 0.041 U | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1248 | MG/KG | 0.2 U | 0.04 U | 0.036 U | 0.036 U | 0.036 U | 0.037 U | 0.037 U | 0.038 U | 0.039 U | 0.036 U | 0.04 U | 0.041 U | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1254 | MG/KG | 0.2 U | 0.04 U | 0.036 U | 0.036 U | 0.036 U | 0.037 U | 0.037 U | 0.038 U | 0.039 U | 0.036 U | 0.04 U | 0.041 U | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1260 | MG/KG | 0.2 U | 0.04 U | 0.036 U | 0.036 U | 0.036 U | 0.037 U | 0.037 U | 0.038 U | 0.039 U | 0.036 U | 0.04 U | 0.041 U | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1262 | MG/KG | 0.2 U | 0.04 U | 0.036 U | 0.036 U | 0.036 U | 0.037 U | 0.037 U | 0.038 U | 0.039 U | 0.036 U | 0.04 U | 0.041 U | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | 0.2 U | 0.04 U | 0.036 U | 0.036 U | 0.036 U | 0.037 U | 0.037 U | 0.038 U | 0.039 U | 0.036 U | 0.04 U | 0.041 U | | | | | | | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0203 | MPSB0203 | MPSB0204 | MPSB0204 | MPSB0204 | MPSB0204 | MPSB0204 | MPSB0209 | MPSB0209 | MPSB0209 | MPSB0209 | MPSB0209 | MPSB0218 | MPSB0218 | MPSB0218 | MPSB0221 | MPSB0221 | MPSB0221 | MPSB0222 | MPSB0222 | MPSB0222 | MPSB0222 | MPSB0223 |
| | | Field Sample ID | MPSB0203-SS-AM-AQ-0 | MPSB0203-SS-AQ-AU-0 | MPSB0204-SS-AA-AE-0 | MPSB0204-SS-AE-AI-0 | MPSB0204-SS-AI-AO-0 | MPSB0204-SS-AO-AQ-0 | MPSB0204-SS-AQ-AU-0 | MPSB0209-SS-AA-AE-0 | MPSB0209-SS-AE-AI-0 | MPSB0209-SS-AI-AM-0 | MPSB0209-SS-AM-AQ-0 | MPSB0209-SS-AQ-AU-0 | MPSB0218-SS-AA-AB-0 | MPSB0218-SS-AD-AE-0 | MPSB0218-SS-AH-AI-0 | MPSB0221-SS-AA-AB-0 | MPSB0221-SS-AD-AE-0 | MPSB0221-SS-AL-AM-0 | MPSB0222-SS-AA-AB-0 | MPSB0222-SS-AD-AE-0 | MPSB0222-SS-AD-AE-1 | MPSB0222-SS-AL-AM-0 | MPSB0223-SS-AA-AB-0 |
| | | Sample Date | 9/14/2015 | 9/14/2015 | 9/17/2015 | 9/17/2015 | 9/17/2015 | 9/17/2015 | 9/17/2015 | 9/22/2015 | 9/22/2015 | 9/22/2015 | 9/22/2015 | 9/22/2015 | 12/3/2015 | 12/3/2015 | 12/3/2015 | 12/3/2015 | 12/3/2015 | 12/3/2015 | 12/4/2015 | 12/4/2015 | 12/4/2015 | 12/4/2015 | 12/7/2015 |
| | | Depth (ft) | 6-8 | 8-10 | 0-2 | 2-4 | 4-7 | 7-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 5.5-6 | 0-0.5 | 1.5-2 | 1.5-2 | 5.5-6 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 0.012 J | 0.0062 J | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.039 J | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | 0.32 | 0.27 | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.087 J | 0.029 J | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 0.023 J | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 0.41 UJ | 0.4 UJ | 0.37 U | 0.36 U | 0.37 U | 0.37 U | 0.37 U | 0.37 U | 0.4 U | 0.38 U | 0.42 U | 0.42 U | 1.6 U | 0.36 U | 0.36 U | 3 U | 0.93 U | 0.4 U | 16 U | 0.52 U | 1 U | 0.53 U | 0.38 U |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.0038 J | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.028 J | 0.18 U | 0.18 U | 0.028 J | 0.0089 J | 0.017 J | 8.2 U | 0.03 J | 0.039 J | 0.27 U | 0.19 U |
| SVOC | 2-METHYLPHENOL | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | 2-NITROANILINE | MG/KG | 0.41 U | 0.4 U | 0.37 U | 0.36 U | 0.37 U | 0.37 U | 0.37 U | 0.37 U | 0.4 U | 0.38 U | 0.42 U | 0.42 U | 1.6 U | 0.36 U | 0.36 U | 3 U | 0.93 U | 0.4 U | 16 U | 0.52 U | 1 U | 0.53 U | 0.38 U |
| SVOC | 2-NITROPHENOL | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | | 0.52 U | 0.27 U | 0.19 U |
| SVOC | 3-NITROANILINE | MG/KG | 0.41 U | 0.4 U | 0.37 U | 0.36 U | 0.37 U | 0.37 U | 0.37 U | 0.37 U | 0.4 U | 0.38 U | 0.42 U | 0.42 U | 1.6 U | 0.36 U | 0.36 U | 3 U | 0.93 U | 0.4 U | 16 U | 0.52 U | 1 U | 0.53 U | 0.38 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 0.41 U | 0.4 U | 0.37 U | 0.36 U | 0.37 U | 0.37 U | 0.37 U | 0.37 U | 0.4 U | 0.38 U | 0.42 U | 0.42 U | 1.6 U | 0.36 U | 0.36 U | 3 U | 0.93 U | 0.4 U | 16 U | 0.52 U | 1 U | 0.53 U | 0.38 U |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | 4-CHLOROANILINE | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | | 0.52 U | 0.27 U | 0.19 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | 4-METHYLPHENOL | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | 4-NITROANILINE | MG/KG | 0.41 U | 0.4 U | 0.37 U | 0.36 U | 0.37 U | 0.37 U | | 0.37 U | 0.4 U | 0.38 U | 0.42 U | 0.42 U | 1.6 U | 0.36 U | 0.36 U | 3 U | 0.93 U | 0.4 U | 16 U | 0.52 U | 1 U | 0.53 U | 0.38 U |
| SVOC | 4-NITROPHENOL | MG/KG | 0.41 U | 0.4 U | 0.37 U | 0.36 U | 0.37 U | 0.37 U | 0.37 U | 0.37 U | 0.4 U | 0.38 U | 0.42 U | 0.42 U | 1.6 U | 0.36 U | 0.36 U | 3 U | 0.93 U | 0.4 U | 16 U | 0.52 U | 1 U | 0.53 U | 0.38 U |
| SVOC | ACENAPHTHENE | MG/KG | 0.0031 J | 0.2 U | 0.19 U | 0.0038 J | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.043 J | 0.18 U | 0.18 U | 0.38 J | 0.011 J | 0.026 J | 0.73 J | 0.16 J | 0.19 J | 0.27 U | 0.0059 J |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.064 J | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.021 J | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | ACETOPHENONE | MG/KG | 0.027 J | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.047 J | 0.18 U | 0.18 U | 1.6 U | 0.019 J | 0.02 J | 8.2 U | 0.27 U | 0.033 J | 0.27 U | 0.19 U |
| SVOC | ANTHRACENE | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.0053 J | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.042 J | 0.0099 J | 0.18 U | 0.85 J | 0.014 J | 0.058 J | 1.4 J | 0.23 J | 0.2 J | 0.021 J | 0.0099 J |
| SVOC | ATRAZINE | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | BENZALDEHYDE | MG/KG | 0.011 J | 0.0071 J | 0.021 J | 0.19 U | 0.19 U | 0.0075 J | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.023 J | 0.0068 J | 0.19 U | 0.19 U | 0.0077 J | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.81 J | 0.062 J | 0.18 U | 5.3 | 0.094 J | 0.2 J | 29 | 1.1 J | 1.9 J | 0.13 J | 0.11 J |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.00022 J | 0.0079 U | 0.19 U | 0.025 J | 0.0054 J | 0.19 U | 0.19 U | 0.0094 J | 0.001 J | 0.0008 J | 0.0042 U | 0.0042 U | 0.11 J | 0.18 U | 0.18 U | 5.1 | 0.035 J | 0.19 J | 37 J | 1.1 | 1.1 J | 0.13 J | 0.1 J |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 0.21 U | 0.2 U | 0.0061 J | 0.029 J | 0.0059 J | 0.19 U | 0.19 U | 0.011 J | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 1.3 | 0.18 U | 0.18 U | 7.3 | 0.16 J | 0.34 | 76 J | 2 | 3.3 J | 0.22 J | 0.18 J |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.21 U | 0.2 U | 0.19 UJ | 0.19 UJ | 0.19 UJ | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.62 J | 0.022 J | 0.18 UJ | 2.5 | 0.068 J | 0.12 J | 21 J | 0.52 | | 0.27 U | 0.047 J |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.21 U | 0.2 U | 0.0043 J | 0.019 J | 0.0043 J | 0.19 U | 0.19 U | 0.0083 J | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 1.2 | 0.18 U | 0.18 U | 5.1 | 0.18 J | 0.26 | 37 J | 0.77 J | 1.6 J | 0.092 J | 0.085 J |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.022 J | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 11 | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | CAPROLACTAM | MG/KG | 0.21 U | 0.2 U | 0.029 J | 0.19 U | 0.017 J | 0.014 J | 0.015 J | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | CARBAZOLE | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.12 J | 0.0088 J | 0.18 U | 0.91 J | 0.012 J | 0.041 J | 3.2 J | 0.15 J | 0.17 J | 0.014 J | 0.19 U |
| SVOC | CHRYSENE | MG/KG | 0.21 U | 0.2 U | 0.0053 J | 0.025 J | 0.0059 J | 0.19 U | 0.19 U | 0.0098 J | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 1.4 | 0.069 J | 0.18 U | 7.3 | 0.16 J | 0.26 J | 45 | 1.2 | 2 | 0.14 J | 0.14 J |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.000094 J | 0.0079 U | 0.19 UJ | 0.19 UJ | 0.19 UJ | 0.19 UJ | 0.19 UJ | 0.19 U | 0.00015 J | 0.00013 J | 0.0042 U | 0.0042 U | 0.24 J | 0.014 J | 0.18 U | 1 J | 0.023 J | 0.045 J | 4.9 J | 0.21 J | 0.26 J | 0.027 | 0.19 U |
| SVOC | DIBENZOFURAN | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.027 J | 0.18 U | 0.18 U | 0.16 J | 0.48 U | 0.016 J | 8.2 U | 0.052 J | 0.081 J | 0.27 U | 0.19 U |
| SVOC | DIETHYLPHTHALATE | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 0.5 | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.24 J | 0.0062 J | 0.0062 J | 0.22 J | 0.18 J | 0.088 J | 8.2 U | 0.05 J | 0.038 J | 0.017 J | 0.011 J |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 0.21 UJ | 0.2 UJ | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 UJ | 0.21 UJ | | 0.27 U | | 0.27 U | 0.19 U |
| SVOC | FLUORANTHENE | MG/KG | 0.21 U | 0.2 U | 0.0095 J | 0.045 J | 0.012 J | 0.19 U | 0.19 U | 0.011 J | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 2.7 | 0.12 J | 0.18 U | 17 | 0.26 J | 0.69 | 87 | 2.4 | 3.7 | 0.25 J | 0.19 J |
| SVOC | FLUORENE | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.059 J | 0.18 U | 0.18 U | 0.38 J | 0.48 U | 0.025 J | 0.71 J | 0.11 J | 0.13 J | 0.27 U | 0.19 U |
| SVOC | HEXACHLOROBENZENE | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | | 0.52 U | 0.27 U | 0.19 U |
| SVOC | HEXACHLOROETHANE | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.64 J | 0.027 J | 0.18 U | 2.8 | 0.065 J | 0.1 J | 20 J | 0.53 | 0.7 J | 0.27 U | 0.048 J |
| SVOC | ISOPHORONE | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | NAPHTHALENE | MG/KG | 0.0089 J | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.024 J | 0.18 U | 0.18 U | 1.6 U | 0.017 J | 0.028 J | 8.2 U | 0.049 J | 0.52 U | 0.27 U | 0.19 U |
| SVOC | NITROBENZENE | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | 7.9 | 13 | 0.37 U | 0.11 J | 0.043 J | 0.37 U | 0.37 U | 0.37 U | 0.4 U | 0.38 U | 0.42 U | 0.42 U | 0.73 J | 0.36 U | 0.36 U | 0.39 J | 2.5 J | 0.21 J | 16 U | 0.52 U | 1 U | 0.53 U | 0.38 U |
| SVOC | PHENANTHRENE | MG/KG | 0.21 U | 0.2 U | 0.0038 J | 0.026 J | 0.0071 J | 0.19 U | 0.19 U | 0.0043 J | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 1.2 | 0.077 J | 0.18 U | 8.8 | 0.11 J | 0.3 | 25 | 1.4 | 1.7 | 0.13 J | 0.078 J |
| SVOC | PHENOL | MG/KG | 0.21 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 0.83 U | 0.18 U | 0.18 U | 1.6 U | 0.48 U | 0.21 U | 8.2 U | 0.27 U | 0.52 U | 0.27 U | 0.19 U |
| SVOC | PYRENE | MG/KG | 0.21 U | 0.2 U | 0.0084 J | 0.036 J | 0.01 J | 0.19 U | 0.19 U | 0.015 J | 0.21 U | 0.2 U | 0.22 U | 0.22 U | 1.7 | 0.18 U | 0.18 U | 9.2 | 0.14 J | 0.35 J | 88 | 2 J | 3.4 J | 0.24 J | 0.23 |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0203 | MPSB0203 | MPSB0204 | MPSB0204 | MPSB0204 | MPSB0204 | MPSB0204 | MPSB0209 | MPSB0209 | MPSB0209 | MPSB0209 | MPSB0209 | MPSB0218 | MPSB0218 | MPSB0218 | MPSB0221 | MPSB0221 | MPSB0221 | MPSB0222 | MPSB0222 | MPSB0222 | MPSB0222 | MPSB0223 |
| | | Field Sample ID | MPSB0203-SS-AM-AQ-0 | MPSB0203-SS-AQ-AU-0 | MPSB0204-SS-AA-AE-0 | MPSB0204-SS-AE-AI-0 | MPSB0204-SS-AI-AO-0 | MPSB0204-SS-AO-AQ-0 | MPSB0204-SS-AQ-AU-0 | MPSB0209-SS-AA-AE-0 | MPSB0209-SS-AE-AI-0 | MPSB0209-SS-AI-AM-0 | MPSB0209-SS-AM-AQ-0 | MPSB0209-SS-AQ-AU-0 | MPSB0218-SS-AA-AB-0 | MPSB0218-SS-AD-AE-0 | MPSB0218-SS-AH-AI-0 | MPSB0221-SS-AA-AB-0 | MPSB0221-SS-AD-AE-0 | MPSB0221-SS-AL-AM-0 | MPSB0222-SS-AA-AB-0 | MPSB0222-SS-AD-AE-0 | MPSB0222-SS-AD-AE-1 | MPSB0222-SS-AL-AM-0 | MPSB0223-SS-AA-AB-0 |
| | | Sample Date | 9/14/2015 | 9/14/2015 | 9/17/2015 | 9/17/2015 | 9/17/2015 | 9/17/2015 | 9/17/2015 | 9/22/2015 | 9/22/2015 | 9/22/2015 | 9/22/2015 | 9/22/2015 | 12/3/2015 | 12/3/2015 | 12/3/2015 | 12/3/2015 | 12/3/2015 | 12/3/2015 | 12/4/2015 | 12/4/2015 | 12/4/2015 | 12/4/2015 | 12/7/2015 |
| | | Depth (ft) | 6-8 | 8-10 | 0-2 | 2-4 | 4-7 | 7-8 | 8-10 | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 5.5-6 | 0-0.5 | 1.5-2 | 1.5-2 | 5.5-6 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | 0.37 U | 0.00029 J | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | 0.74 U | 0.011 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.0092 U | 0.011 U | 0.011 U | 0.012 U | 0.013 U | | | | | | | | | | | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | 0.74 U | 0.011 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.0092 U | 0.011 U | 0.011 U | 0.012 U | 0.013 U | | | | | | | | | | | |
| VOC | ACETONE | MG/KG | 2.9 U | 0.013 U | 0.012 J | 0.011 U | 0.01 U | 0.03 | 0.17 | 0.013 | 0.012 | 0.014 | 0.012 J | 0.012 J | | | | | | | | | | | |
| VOC | BENZENE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | BROMOCHLOROMETHANE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | BROMOFORM | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | BROMOMETHANE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | CARBON DISULFIDE | MG/KG | 0.37 U | 0.14 | 0.0053 U | 0.0055 U | 0.005 U | 0.013 | 0.087 | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | CARBON TETRACHLORIDE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | CHLOROBENZENE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | CHLOROETHANE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | CHLOROFORM | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | CHLOROMETHANE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | CYCLOHEXANE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | ETHYLBENZENE | MG/KG | 0.35 J | 0.0061 | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | ISOPROPYLBENZENE | MG/KG | 0.021 J | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | METHYL ACETATE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | 0.74 U | 0.0039 J | 0.011 U | 0.011 U | 0.01 U | 0.0055 J | 0.048 | 0.0092 U | 0.011 U | 0.011 U | 0.012 U | 0.013 U | | | | | | | | | | | |
| VOC | METHYLCYCLOHEXANE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | TETRACHLOROETHENE | MG/KG | 0.019 J | 0.0057 U | 0.0053 U | 0.000075 J | 0.00013 J | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | TOLUENE | MG/KG | 0.37 U | 0.00083 J | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.000086 J | 0.0054 U | 0.0061 U | 0.00012 J | | | | | | | | | | | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | 0.37 U | 0.0057 U | 0.0053 U | 0.0055 U | 0.005 U | 0.005 U | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | XYLENE, O- | MG/KG | 0.55 | 0.0081 | 0.0053 U | 0.0055 U | 0.005 U | 0.00019 J | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | 2.35 | 0.0191 | 0.0053 U | 0.0055 U | 0.005 U | 0.00048 J | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |
| VOC | XYLENES, M & P | MG/KG | 1.8 | 0.011 | 0.0053 U | 0.0055 U | 0.005 U | 0.00029 J | 0.005 U | 0.0046 U | 0.0056 U | 0.0054 U | 0.0061 U | 0.0064 U | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0223 | MPSB0223 | MPSB0224 | MPSB0224 | MPSB0224 | MPSB0225 | MPSB0225 | MPSB0225 | MPSB0226 | MPSB0226 | MPSB0226 | MPSB0227 | MPSB0227 | MPSB0227 | MPSB0228 | MPSB0228 | MPSB0228 | MPSB0229 | MPSB0229 | MPSB0229 | MPSB0230 | MPSB0230 | MPSB0230 |
| | | Field Sample ID | MPSB0223-SS-AD-AE-0 | MPSB0223-SS-AH-AI-0 | MPSB0224-SS-AA-AB-0 | MPSB0224-SS-AD-AE-0 | MPSB0224-SS-AH-AI-0 | MPSB0225-SS-AA-AB-0 | MPSB0225-SS-AD-AE-0 | MPSB0225-SS-AH-AI-0 | MPSB0226-SS-AA-AB-0 | MPSB0226-SS-AD-AE-0 | MPSB0226-SS-AH-AI-0 | MPSB0227-SS-AA-AB-0 | MPSB0227-SS-AD-AE-0 | MPSB0227-SS-AH-AI-0 | MPSB0228-SS-AA-AB-0 | MPSB0228-SS-AD-AE-0 | MPSB0228-SS-AH-AI-0 | MPSB0229-SS-AA-AB-0 | MPSB0229-SS-AD-AE-0 | MPSB0229-SS-AH-AI-0 | MPSB0230-SS-AA-AB-0 | MPSB0230-SS-AD-AE-0 | MPSB0230-SS-AH-AI-0 |
| | | Sample Date | 12/7/2015 | 12/7/2015 | 12/4/2015 | 12/4/2015 | 12/4/2015 | 12/4/2015 | 12/4/2015 | 12/4/2015 | 12/7/2015 | 12/7/2015 | 12/7/2015 | 12/7/2015 | 12/7/2015 | 12/7/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 |
| | | Depth (ft) | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | 1430 | 270 | 684 | 631 | 462 | 578 | 95 | 507 | 2230 J | 185 | 707 | 638 | 224 | 2350 | 647 | 1250 | 1910 | 749 | 2040 | 2000 | 3970 J | 1110 | 923 |
| METALS | ANTIMONY | MG/KG | 0.4 J | 5.6 U | 0.67 J | 7 U | 6 U | 1.2 J | 5 U | 5.2 U | 1.4 J | 5.3 U | 5.5 U | 1.2 J | 5.9 U | 6.2 U | 0.61 J | 5.8 U | 0.39 J | 2 J | 5 U | 5.7 U | 1.6 J | 6.1 U | 5.2 U |
| METALS | ARSENIC | MG/KG | 2.7 | 0.93 U | 1.4 J | 1.2 U | 1 U | 2.8 J | 0.84 U | 0.86 U | 5.2 J | 0.89 U | 0.4 J | 0.66 J | 0.98 U | 1 U | 0.99 J | 0.97 U | 1.1 U | 2.7 | 1.1 | 2.8 | 6 J | 1.4 | 1.7 |
| METALS | BARIUM | MG/KG | 85.3 J | 23.2 J | 51.5 | 2.9 J | 2.8 J | 81.3 | 3.4 J | 5.3 J | 133 J | 14.4 J | 9.2 J | 60.8 | 9.3 J | 6.2 J | 26.8 | 4.7 J | 3.6 J | 24.3 J | 3.5 J | 3.9 J | 84.5 J | 23.9 | 6.3 J |
| METALS | BERYLLIUM | MG/KG | 0.37 U | 0.47 U | 0.58 U | 0.59 U | 0.5 U | 0.71 U | 0.42 U | 0.43 U | 0.11 J | 0.44 U | 0.46 U | 0.062 J | 0.49 U | 0.52 U | 0.039 J | 0.48 U | 0.54 U | 0.035 J | 0.013 J | 0.022 J | 0.18 J | 0.021 J | 0.062 J |
| METALS | CADMIUM | MG/KG | 0.22 J | 0.25 J | 0.65 | 0.052 J | 0.064 J | 0.38 J | 0.039 J | 0.051 J | 1.5 J | 0.33 J | 0.17 J | 0.68 | 0.052 J | 0.08 J | 0.57 | 0.48 U | 0.54 U | 0.69 U | 0.42 U | 0.47 U | 0.98 UJ | 0.51 U | 0.44 U |
| METALS | CALCIUM | MG/KG | 524 | 231 J | 1370 | 586 U | 501 U | 4180 | 420 U | 432 U | 5860 J | 334 J | 134 J | 2320 | 200 J | 519 U | 1280 | 295 J | 148 J | 1690 | 151 J | 472 U | 4220 J | 251 J | 437 U |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 6.6 | 1.4 | 3.2 | 1.9 | 3.1 | 4.8 | 0.92 | 2.5 | 19.5 J | 1.5 | 3.3 | 4.2 | 1.4 | 4.8 | 3.2 | 3.7 | 5.2 | 4.8 | 5.6 | 8.2 | 18.1 J | 5.6 | 12.2 |
| METALS | COBALT | MG/KG | 0.26 J | 0.051 J | 0.56 J | 5.9 U | 5 U | 0.86 J | 4.2 U | 4.3 U | 5.5 J | 0.3 J | 0.14 J | 1.1 J | 0.11 J | 5.2 U | 0.38 J | 4.8 U | 5.4 U | 0.21 J | 4.2 U | 4.7 U | 1.5 J | 0.31 J | 0.089 J |
| METALS | COPPER | MG/KG | 6.8 | 1.6 J | 7.7 | 2.9 U | 2.5 U | 10.2 | 2.1 U | 2.2 U | 80.7 J | 5.9 | 1.9 J | 13.1 | 0.27 J | 0.9 J | 8.9 | 2.4 U | 2.7 U | 9.4 | 2.1 U | 2.4 U | 16.9 J | 2.5 U | 2.2 U |
| METALS | CYANIDE | MG/KG | 0.54 U | 0.5 U | 0.53 U | 0.47 U | 0.46 U | 0.63 U | 0.42 U | 0.46 U | 1.2 J | 0.43 U | 0.5 U | 0.72 U | 0.48 U | 0.53 U | 0.47 U | 0.42 U | 0.43 U | 0.8 U | 0.39 U | 0.56 U | 1.3 J | 0.54 U | 0.47 U |
| METALS | IRON | MG/KG | 2440 | 357 | 1270 | 121 | 251 | 2300 | 88.6 | 245 | 5230 J | 616 | 266 | 2340 | 276 | 173 J | 1470 | 169 | 183 | 1730 | 4270 | 3970 | 8580 J | 4790 | 6880 |
| METALS | LEAD | MG/KG | 128 | 3.6 | 45.7 | 2.9 | 3.5 | 90.2 | 1 | 2.5 | 264 J | 11.8 | 3.9 | 60.8 | 2 | 3 | 33.9 | 4.1 | 3.8 | 75.7 | 2.3 | 1.9 | 126 J | 7.5 | 2.2 |
| METALS | MAGNESIUM | MG/KG | 87.1 J | 22.2 J | 113 J | 586 U | 501 U | 387 J | 420 U | 432 U | 849 J | 444 U | 456 U | 245 J | 489 U | 44.2 J | 119 J | 29.2 J | 24.8 J | 284 J | 24.6 J | 14.4 J | 2330 J | 48.2 J | 11.4 J |
| METALS | MANGANESE | MG/KG | 21.5 | 25.3 | 6.7 | 4.2 | 9.6 | 41.5 | 4.4 | 13.9 | 220 J | 10.6 | 14.5 | 29.2 | 8.8 | 7.1 | 33.8 | 6.5 J | 8.4 J | 15.9 | 4.7 J | 3 J | 95.5 J | 7.1 J | 3.8 J |
| METALS | MERCURY | MG/KG | 0.27 | 0.11 U | 0.085 J | 0.12 U | 0.12 U | 0.13 J | 0.11 U | 0.11 U | 0.16 J | 0.12 U | 0.11 U | 0.071 J | 0.11 U | 0.13 U | 0.05 J | 0.11 U | 0.11 U | 0.14 J | 0.1 U | 0.12 U | 0.18 J | 0.12 U | 0.12 U |
| METALS | NICKEL | MG/KG | 0.91 J | 0.22 J | 1.6 J | 4.7 U | 4 U | 2.5 J | 3.4 U | 3.5 U | 5.1 J | 0.76 J | 3.6 U | 2.8 J | 3.9 U | 4.2 U | 2.1 J | 3.9 U | 4.3 U | 1.8 J | 0.42 J | 0.2 J | 4.4 J | 0.18 J | 3.5 U |
| METALS | POTASSIUM | MG/KG | 84.6 J | 466 U | 583 U | 586 U | 501 U | 159 J | 420 U | 432 U | 865 J | 444 U | 456 U | 129 J | 489 U | 151 J | 574 U | 484 U | 538 U | 300 J | 419 U | 472 U | 832 J | 508 U | 437 U |
| METALS | SELENIUM | MG/KG | 2.6 U | 3.3 U | 0.66 J | 4.1 U | 3.5 U | 0.86 J | 2.9 U | 3 U | 0.77 J | 3.1 U | 0.35 J | 0.48 J | 3.4 U | 3.6 U | 3.8 U | 3.4 U | 3.8 U | 4.8 U | 2.9 U | 3.3 U | 0.99 J | 3.6 U | 3.1 U |
| METALS | SILVER | MG/KG | 0.42 J | 0.93 U | 1.2 U | 1.2 U | 1 U | 1.4 U | 0.84 U | 0.86 U | 0.25 J | 0.89 U | 0.91 U | 1 U | 0.98 U | 1 U | 1.1 U | 0.97 U | 1.1 U | 0.099 J | 0.84 U | 0.94 U | 2 UJ | 1 U | 0.082 J |
| METALS | SODIUM | MG/KG | 374 U | 466 U | 583 U | 586 U | 501 U | 158 J | 420 U | 432 U | 843 UJ | 444 U | 456 U | 513 U | 489 U | 519 U | 574 U | 484 U | 538 U | 685 U | 419 U | 472 U | 1870 J | 508 U | 437 U |
| METALS | THALLIUM | MG/KG | 1.9 U | 2.3 U | 2.9 U | 2.9 U | 2.5 U | 3.6 U | 2.1 U | 2.2 U | 4.2 UJ | 2.2 U | 2.3 U | 2.6 U | 2.4 U | 2.6 U | 2.7 U | 2.4 U | 2.7 U | 3.4 U | 2.1 U | 2.4 U | 4.9 UJ | 2.5 U | 2.2 U |
| METALS | VANADIUM | MG/KG | 6.1 | 1.4 J | 4.6 J | 1.2 J | 3.1 J | 8.6 | 0.66 J | 2.1 J | 8.7 J | 0.85 J | 2.6 J | 6.6 | 0.89 J | 3.1 J | 3.4 J | 2.8 J | 4 J | 9.8 | 5.4 | 13.2 | 16.5 J | 4 J | 7.4 |
| METALS | ZINC | MG/KG | 71.3 | 47 | 143 | 7 U | 6 U | 160 | 5 U | 5.2 U | 341 J | 62.5 | 1.7 J | 429 | 17.4 | 1.2 J | 252 | 5.8 U | 6.5 U | 39.1 | 4.1 J | 5.7 U | 51.8 J | 6.1 U | 5.2 U |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1221 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1232 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1242 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1248 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1254 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1260 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0223 | MPSB0223 | MPSB0224 | MPSB0224 | MPSB0224 | MPSB0225 | MPSB0225 | MPSB0225 | MPSB0226 | MPSB0226 | MPSB0226 | MPSB0227 | MPSB0227 | MPSB0227 | MPSB0228 | MPSB0228 | MPSB0228 | MPSB0229 | MPSB0229 | MPSB0229 | MPSB0230 | MPSB0230 | MPSB0230 |
| | | Field Sample ID | MPSB0223-SS-AD-AE-0 | MPSB0223-SS-AH-AI-0 | MPSB0224-SS-AA-AB-0 | MPSB0224-SS-AD-AE-0 | MPSB0224-SS-AH-AI-0 | MPSB0225-SS-AA-AB-0 | MPSB0225-SS-AD-AE-0 | MPSB0225-SS-AH-AI-0 | MPSB0226-SS-AA-AB-0 | MPSB0226-SS-AD-AE-0 | MPSB0226-SS-AH-AI-0 | MPSB0227-SS-AA-AB-0 | MPSB0227-SS-AD-AE-0 | MPSB0227-SS-AH-AI-0 | MPSB0228-SS-AA-AB-0 | MPSB0228-SS-AD-AE-0 | MPSB0228-SS-AH-AI-0 | MPSB0229-SS-AA-AB-0 | MPSB0229-SS-AD-AE-0 | MPSB0229-SS-AH-AI-0 | MPSB0230-SS-AA-AB-0 | MPSB0230-SS-AD-AE-0 | MPSB0230-SS-AH-AI-0 |
| | | Sample Date | 12/7/2015 | 12/7/2015 | 12/4/2015 | 12/4/2015 | 12/4/2015 | 12/4/2015 | 12/4/2015 | 12/4/2015 | 12/7/2015 | 12/7/2015 | 12/7/2015 | 12/7/2015 | 12/7/2015 | 12/7/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 |
| | | Depth (ft) | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 UJ | 1.8 U | 0.21 U | 0.22 U |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 0.36 U | 0.37 U | 0.54 U | 0.4 U | 0.4 U | 0.6 U | 0.36 U | 0.38 U | 0.72 U | 0.41 U | 0.4 U | 0.51 U | 0.4 U | 0.43 U | 0.46 U | 0.41 U | 0.42 U | 0.58 U | 0.38 U | 0.42 U | 3.5 U | 0.41 U | 0.42 U |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.01 J | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | 2-METHYLPHENOL | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | 2-NITROANILINE | MG/KG | 0.36 U | 0.37 U | 0.54 U | 0.4 U | 0.4 U | 0.6 U | 0.36 U | 0.38 U | 0.72 U | 0.41 U | 0.4 U | 0.51 U | 0.4 U | 0.43 U | 0.46 U | 0.41 U | 0.42 U | 0.58 U | 0.38 U | 0.42 U | 3.5 U | 0.41 U | 0.42 U |
| SVOC | 2-NITROPHENOL | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | | 0.19 U | 0.28 U | 0.21 U | 0.21 U | | 0.19 U | 0.2 U | | 0.21 U | 0.21 U | | 0.21 U | 0.22 U | | 0.21 U | 0.22 U | | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | 3-NITROANILINE | MG/KG | 0.36 U | 0.37 U | 0.54 U | 0.4 U | 0.4 U | 0.6 U | 0.36 U | 0.38 U | 0.72 U | 0.41 U | 0.4 U | 0.51 U | 0.4 U | 0.43 U | 0.46 U | 0.41 U | 0.42 U | 0.58 U | 0.38 U | 0.42 U | 3.5 U | 0.41 U | 0.42 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 0.36 U | 0.37 U | 0.54 U | 0.4 U | 0.4 U | 0.6 U | 0.36 U | 0.38 U | 0.72 U | 0.41 U | 0.4 U | 0.51 U | 0.4 U | 0.43 U | 0.46 U | 0.41 U | 0.42 U | 0.58 U | 0.38 U | 0.42 U | 3.5 U | 0.41 U | 0.42 U |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 UJ | 1.8 U | 0.21 U | 0.22 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | 4-CHLOROANILINE | MG/KG | | 0.19 U | 0.28 U | 0.21 U | 0.21 U | | 0.19 U | 0.2 U | | 0.21 U | 0.21 U | | 0.21 U | 0.22 U | | 0.21 U | 0.22 U | | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 UJ | 1.8 U | 0.21 U | 0.22 U |
| SVOC | 4-METHYLPHENOL | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | 4-NITROANILINE | MG/KG | 0.36 U | 0.37 U | 0.54 U | 0.4 U | 0.4 U | 0.6 U | 0.36 U | 0.38 U | 0.72 U | 0.41 U | 0.4 U | 0.51 U | 0.4 U | 0.43 U | 0.46 U | 0.41 U | 0.42 U | 0.58 U | 0.38 U | 0.42 U | 3.5 U | 0.41 U | 0.42 U |
| SVOC | 4-NITROPHENOL | MG/KG | 0.36 U | 0.37 U | 0.54 U | 0.4 U | 0.4 U | 0.6 U | 0.36 U | 0.38 U | 0.72 UJ | 0.41 U | 0.4 U | 0.51 U | 0.4 U | 0.43 U | 0.46 U | 0.41 U | 0.42 U | 0.58 U | 0.38 U | 0.42 U | 3.5 U | 0.41 U | 0.42 U |
| SVOC | ACENAPHTHENE | MG/KG | 0.14 J | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | ACETOPHENONE | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.0091 J | 0.21 U | 0.26 U | 0.015 J | 0.037 J | 0.24 U | 0.21 U | 0.22 U | 0.014 J | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | ANTHRACENE | MG/KG | 0.12 J | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.016 J | 0.19 U | 0.2 U | 0.047 J | 0.21 U | 0.21 U | 0.0049 J | 0.21 U | 0.22 U | 0.015 J | 0.21 U | 0.22 U | 0.019 J | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | ATRAZINE | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | BENZALDEHYDE | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.047 J | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 0.3 J | 0.21 U | 0.22 U |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.88 | 0.19 U | 0.14 J | 0.21 U | 0.21 U | 0.17 J | 0.19 U | 0.2 U | 0.34 J | 0.21 U | 0.21 U | 0.059 J | 0.21 U | 0.22 U | 0.12 J | 0.21 U | 0.22 U | 0.14 J | 0.2 U | 0.21 UJ | 0.16 J | 0.21 U | 0.22 U |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.87 | | 0.21 J | 0.004 U | 0.004 U | 0.17 J | 0.19 U | 0.2 U | 0.4 | 0.019 | 0.004 U | 0.086 J | 0.004 U | 0.0043 U | 0.14 J | 0.0041 U | 0.0042 U | 0.18 J | 0.2 U | 0.0042 U | 0.27 | 0.0041 U | 0.0042 U |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 1.5 | | 0.27 J | 0.21 U | | 0.32 | 0.19 U | 0.2 U | 0.79 | 0.21 U | 0.21 U | 0.12 J | 0.21 U | 0.22 U | 0.23 J | 0.21 U | 0.22 U | 0.34 | 0.2 U | 0.21 UJ | 1.8 U | 0.21 U | 0.22 U |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.38 | | 0.1 J | 0.21 U | | 0.31 U | 0.19 U | 0.2 U | 0.17 J | 0.21 U | 0.21 U | | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.081 J | 0.2 U | 0.21 UJ | 1.8 U | 0.21 U | 0.22 U |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.68 | | 0.14 J | 0.21 U | | 0.12 J | 0.19 U | 0.2 U | 0.46 | 0.21 U | 0.21 U | 0.065 J | 0.21 U | 0.22 U | 0.12 J | 0.21 U | 0.22 U | 0.18 J | 0.2 U | 0.21 UJ | 1.8 U | 0.21 U | 0.22 U |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.51 | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.027 J | 0.013 J | 0.21 U | 1.8 U | 0.21 U | 0.013 J |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.087 J | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 UJ | 1.8 U | 0.21 U | 0.22 U |
| SVOC | CAPROLACTAM | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 UJ | 1.8 U | 0.21 U | 0.22 U |
| SVOC | CARBAZOLE | MG/KG | 0.077 J | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.02 J | 0.19 U | 0.2 U | 0.042 J | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.02 J | 0.21 U | 0.22 U | 0.026 J | 0.2 U | 0.21 UJ | 1.8 U | 0.21 U | 0.22 U |
| SVOC | CHRYSENE | MG/KG | 0.92 | 0.19 U | 0.17 J | 0.21 U | 0.21 U | 0.21 J | 0.19 U | 0.2 U | 0.38 | 0.21 U | 0.21 U | 0.086 J | 0.21 U | 0.22 U | 0.17 J | 0.21 U | 0.22 U | 0.18 J | 0.2 U | 0.21 UJ | 0.26 J | 0.21 U | 0.22 U |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.12 J | | 0.048 | 0.004 U | 0.004 U | 0.043 J | 0.19 U | 0.2 U | 0.063 | 0.0049 | 0.004 U | 0.02 | 0.004 U | 0.0043 U | 0.043 | 0.0041 U | 0.0042 U | 0.039 | 0.2 U | 0.0042 U | 0.067 J | 0.0041 U | 0.0042 U |
| SVOC | DIBENZOFURAN | MG/KG | 0.04 J | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 UJ | 1.8 U | 0.21 U | 0.22 U |
| SVOC | DIETHYLPHTHALATE | MG/KG | 0.19 U | 0.19 U | 0.023 J | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.021 J | 0.37 U | 0.021 J | 0.21 U | 0.26 U | 0.21 U | 0.012 J | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 UJ | 1.8 U | 0.21 U | 0.22 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 UJ | 1.8 U | 0.21 U | 0.22 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 0.012 J | 0.19 U | 0.019 J | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.008 J | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 UJ | 1.8 U | 0.21 U | 0.0085 J |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 0.19 U | | 0.28 U | 0.21 U | 0.0056 J | 0.31 U | 0.19 U | 0.2 U | 0.37 UJ | 0.21 UJ | 0.21 UJ | | 0.21 UJ | 0.22 UJ | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 UJ | 1.8 U | 0.21 U | 0.013 J |
| SVOC | FLUORANTHENE | MG/KG | 1.4 | 0.19 U | 0.15 J | 0.21 U | 0.21 U | 0.41 J | 0.19 U | 0.2 U | 0.77 | 0.21 U | 0.21 U | 0.14 J | 0.21 U | 0.22 U | 0.27 | 0.21 U | 0.22 U | 0.36 | 0.2 U | 0.21 UJ | 0.39 J | 0.21 U | 0.22 U |
| SVOC | FLUORENE | MG/KG | 0.072 J | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 UJ | 1.8 U | 0.21 U | 0.22 U |
| SVOC | HEXACHLOROBENZENE | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | | 0.19 U | 0.28 U | 0.21 U | 0.21 U | | 0.19 U | 0.2 U | | 0.21 U | 0.21 U | | 0.21 U | 0.22 U | | 0.21 U | 0.22 U | | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | HEXACHLOROETHANE | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.38 | | 0.099 J | 0.21 U | | 0.086 J | 0.19 U | 0.2 U | 0.18 J | 0.21 U | 0.21 U | | 0.21 U | 0.22 U | 0.071 J | 0.21 U | 0.22 U | 0.086 J | 0.2 U | 0.21 UJ | 1.8 U | 0.21 U | 0.22 U |
| SVOC | ISOPHORONE | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | NAPHTHALENE | MG/KG | 0.024 J | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.016 J | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | NITROBENZENE | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | 0.36 U | 0.37 U | 0.54 U | 0.4 U | 0.4 U | 0.6 U | 0.36 U | 0.38 U | 0.72 U | 0.41 U | 0.4 U | 0.51 U | 0.4 U | 0.43 U | 0.46 U | 0.41 U | 0.42 U | 0.58 U | 0.38 U | 0.42 U | 3.5 U | 0.41 U | 0.42 U |
| SVOC | PHENANTHRENE | MG/KG | 0.75 | 0.19 U | 0.056 J | 0.21 U | 0.21 U | 0.21 J | 0.19 U | 0.2 U | 0.33 J | 0.21 U | 0.21 U | 0.082 J | 0.21 U | 0.22 U | 0.19 J | 0.21 U | 0.22 U | 0.21 J | 0.2 U | 0.21 U | 0.15 J | 0.21 U | 0.22 U |
| SVOC | PHENOL | MG/KG | 0.19 U | 0.19 U | 0.28 U | 0.21 U | 0.21 U | 0.31 U | 0.19 U | 0.2 U | 0.37 U | 0.21 U | 0.21 U | 0.26 U | 0.21 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.3 U | 0.2 U | 0.21 U | 1.8 U | 0.21 U | 0.22 U |
| SVOC | PYRENE | MG/KG | 1.4 | 0.01 J | 0.19 J | 0.21 U | 0.21 U | 0.37 J | 0.19 U | 0.2 U | 0.61 | 0.02 J | 0.21 U | 0.14 J | 0.21 U | 0.22 U | 0.23 J | 0.21 U | 0.22 U | 0.25 J | 0.2 U | 0.21 U | 0.36 J | 0.21 U | 0.22 U |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0223 | MPSB0223 | MPSB0224 | MPSB0224 | MPSB0224 | MPSB0225 | MPSB0225 | MPSB0225 | MPSB0226 | MPSB0226 | MPSB0226 | MPSB0227 | MPSB0227 | MPSB0227 | MPSB0228 | MPSB0228 | MPSB0228 | MPSB0229 | MPSB0229 | MPSB0229 | MPSB0230 | MPSB0230 | MPSB0230 |
| | | Field Sample ID | MPSB0223-SS-AD-AE-0 | MPSB0223-SS-AH-AI-0 | MPSB0224-SS-AA-AB-0 | MPSB0224-SS-AD-AE-0 | MPSB0224-SS-AH-AI-0 | MPSB0225-SS-AA-AB-0 | MPSB0225-SS-AD-AE-0 | MPSB0225-SS-AH-AI-0 | MPSB0226-SS-AA-AB-0 | MPSB0226-SS-AD-AE-0 | MPSB0226-SS-AH-AI-0 | MPSB0227-SS-AA-AB-0 | MPSB0227-SS-AD-AE-0 | MPSB0227-SS-AH-AI-0 | MPSB0228-SS-AA-AB-0 | MPSB0228-SS-AD-AE-0 | MPSB0228-SS-AH-AI-0 | MPSB0229-SS-AA-AB-0 | MPSB0229-SS-AD-AE-0 | MPSB0229-SS-AH-AI-0 | MPSB0230-SS-AA-AB-0 | MPSB0230-SS-AD-AE-0 | MPSB0230-SS-AH-AI-0 |
| | | Sample Date | 12/7/2015 | 12/7/2015 | 12/4/2015 | 12/4/2015 | 12/4/2015 | 12/4/2015 | 12/4/2015 | 12/4/2015 | 12/7/2015 | 12/7/2015 | 12/7/2015 | 12/7/2015 | 12/7/2015 | 12/7/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 |
| | | Depth (ft) | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 3.5-4 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ACETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOFORM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CARBON DISULFIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CARBON TETRACHLORIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROFORM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ETHYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TETRACHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TOLUENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0231 | MPSB0231 | MPSB0231 | MPSB0231 | MPSB0232 | MPSB0232 | MPSB0232 | MPSB0317 | MPSB0317 | MPSB0317 | MPSB0318 | MPSB0318 | MPSB0319 | MPSB0319 | MPSB0319 | MPSB0319 | MPSB0320 | MPSB0320 | MPSB0320 | MPSB0321 | MPSB0321 | MPSB0321 | MPSB0322 |
| | | Field Sample ID | MPSB0231-SS-AA-AB-0 | MPSB0231-SS-AD-AE-0 | MPSB0231-SS-AD-AE-1 | MPSB0231-SS-AH-AI-0 | MPSB0232-SS-AA-AB-0 | MPSB0232-SS-AD-AE-0 | MPSB0232-SS-AL-AM-0 | MPSB0317-SS-AA-AB-0 | MPSB0317-SS-AD-AE-0 | MPSB0317-SS-AG-AH-0 | MPSB0318-SS-AD-AE-0 | MPSB0318-SS-AL-AM-0 | MPSB0319-SS-AA-AB-0 | MPSB0319-SS-AA-AB-0 | MPSB0319-SS-AD-AE-0 | MPSB0319-SS-AE-AF-0 | MPSB0320-SS-AA-AB-0 | MPSB0320-SS-AD-AE-0 | MPSB0320-SS-AE-AF-0 | MPSB0321-SS-AA-AB-0 | MPSB0321-SS-AD-AE-0 | MPSB0321-SS-AI-AJ-0 | MPSB0322-SS-AA-AB-0 |
| | | Sample Date | 12/8/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/7/2016 | 10/7/2016 | 10/7/2016 | 10/7/2016 |
| | | Depth (ft) | 0-0.5 | 1.5-2 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 5.5-6 | 0-0.5 | 1.5-2 | 3-3.5 | 1.5-2 | 5.5-6 | 0-0.5 | 0-0.5 | 1.5-2 | 2-2.5 | 0-0.5 | 1.5-2 | 2-2.5 | 0-0.5 | 1.5-2 | 4-4.5 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | 180 | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | 26 | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | 79 | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | 95 | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | 110 | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | 420 | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | 710 | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | | 130 | | |
| METALS | ALUMINUM | MG/KG | 1840 | 1630 | 1680 | 988 | 6140 J | 455 | 1270 | | | | | | | | | | | | | | | | |
| METALS | ANTIMONY | MG/KG | 1.8 J | 7.1 U | 6.9 U | 5.2 U | 1.5 J | 5.6 U | 6.1 U | | | | | | | | | | | | | | | | |
| METALS | ARSENIC | MG/KG | 6.9 J | 2.5 J | 3 J | 0.87 U | 18.9 J | 1.7 | 1.9 | | | | | | | | | | | | | | | | |
| METALS | BARIUM | MG/KG | 102 | 7.9 J | 5.9 J | 3.8 J | 279 J | 12.8 J | 11 J | | | | | | | | | | | | | | | | |
| METALS | BERYLLIUM | MG/KG | 0.12 J | 0.047 J | 0.58 U | 0.44 U | 0.53 J | 0.47 U | 0.51 U | | | | | | | | | | | | | | | | |
| METALS | CADMIUM | MG/KG | 0.78 U | 0.59 U | 0.58 U | 0.44 U | 1.4 J | 0.47 U | 0.51 U | | | | | | | | | | | | | | | | |
| METALS | CALCIUM | MG/KG | 1750 | 593 U | 579 U | 435 U | 10300 J | 398 J | 506 U | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | 0.46 U | 0.63 | 0.45 U | 1.3 | 0.56 U | 1 | 0.46 U | 0.45 U | 0.46 U | 0.62 U | 0.73 | 0.55 | 0.82 UJ | 1 UJ | 1.5 | 0.65 U |
| METALS | CHROMIUM | MG/KG | 6.4 | 3.9 | 4.3 | 5.2 | 44.7 J | 1.9 | 8.8 | 13.8 | 4.7 | 4 | 30 | 8 | 26.9 | 16.7 | 5.4 | 4.1 | 4.7 | 6.3 | 7.2 | 48.2 J | 316 J | 26.1 | 31 |
| METALS | COBALT | MG/KG | 0.89 J | 0.12 J | 5.8 U | 0.074 J | 2.8 J | 4.7 U | 0.06 J | | | | | | | | | | | | | | | | |
| METALS | COPPER | MG/KG | 14.2 | 3 U | 0.6 J | 2.2 U | 51 J | 2.4 U | 1.8 J | | | | | | | | | | | | | | | | |
| METALS | CYANIDE | MG/KG | 0.69 | 0.49 U | 0.49 U | 0.57 U | 5.5 J | 0.82 | 0.45 U | | | | | | | | | | | | | | | | |
| METALS | IRON | MG/KG | 8770 J | 1330 J | 1230 J | 249 J | 10900 J | 4460 | 3550 | | | | | | | | | | | | | | | | |
| METALS | LEAD | MG/KG | 203 | 6.7 | 4.9 | 2.6 | 445 J | 2.6 | 6.3 | | | | | | | | | | | | | | | | |
| METALS | MAGNESIUM | MG/KG | 223 J | 18 J | 579 U | 435 U | 736 J | 470 U | 506 U | | | | | | | | | | | | | | | | |
| METALS | MANGANESE | MG/KG | 59.4 | 3.4 J | 4.3 | 8.4 | 136 J | 4.8 | 5.6 | | | | | | | | | | | | | | | | |
| METALS | MERCURY | MG/KG | 0.22 | 0.12 U | 0.13 U | 0.079 J | 0.63 J | 0.11 U | 0.13 U | | | | | | | | | | | | | | | | |
| METALS | NICKEL | MG/KG | 1.5 J | 4.7 U | 0.25 J | 0.19 J | 10.3 J | 3.8 U | 0.31 J | | | | | | | | | | | | | | | | |
| METALS | POTASSIUM | MG/KG | 777 U | 593 U | 579 U | 435 U | 451 J | 470 U | 506 U | | | | | | | | | | | | | | | | |
| METALS | SELENIUM | MG/KG | 0.69 J | 0.79 J | 0.91 J | 3 U | 4.7 J | 3.3 U | 0.58 J | | | | | | | | | | | | | | | | |
| METALS | SILVER | MG/KG | 1.6 U | 1.2 U | 1.2 U | 0.87 U | 0.084 J | 0.94 U | 0.13 J | | | | | | | | | | | | | | | | |
| METALS | SODIUM | MG/KG | 329 J | 593 U | 579 U | 435 U | 1010 J | 470 U | 506 U | | | | | | | | | | | | | | | | |
| METALS | THALLIUM | MG/KG | 3.9 U | 3 U | 2.9 U | 2.2 U | 2.3 UJ | 2.4 U | 2.5 U | | | | | | | | | | | | | | | | |
| METALS | VANADIUM | MG/KG | 13.4 | 7.3 | 8.2 | 4.2 J | 34.8 J | 3.2 J | 7.7 | | | | | | | | | | | | | | | | |
| METALS | ZINC | MG/KG | 50.3 J | 7.1 U | 6.9 U | 5.2 U | 251 J | 5.6 U | 6.1 U | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1221 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1232 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1242 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1248 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1254 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1260 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0231 | MPSB0231 | MPSB0231 | MPSB0231 | MPSB0232 | MPSB0232 | MPSB0232 | MPSB0317 | MPSB0317 | MPSB0317 | MPSB0318 | MPSB0318 | MPSB0319 | MPSB0319 | MPSB0319 | MPSB0319 | MPSB0320 | MPSB0320 | MPSB0320 | MPSB0321 | MPSB0321 | MPSB0321 | MPSB0322 |
| | | Field Sample ID | MPSB0231-SS-AA-AB-0 | MPSB0231-SS-AD-AE-0 | MPSB0231-SS-AD-AE-1 | MPSB0231-SS-AH-AI-0 | MPSB0232-SS-AA-AB-0 | MPSB0232-SS-AD-AE-0 | MPSB0232-SS-AL-AM-0 | MPSB0317-SS-AA-AB-0 | MPSB0317-SS-AD-AE-0 | MPSB0317-SS-AG-AH-0 | MPSB0318-SS-AD-AE-0 | MPSB0318-SS-AL-AM-0 | MPSB0319-SS-AA-AB-0 | MPSB0319-SS-AA-AB-0 | MPSB0319-SS-AD-AE-0 | MPSB0319-SS-AE-AF-0 | MPSB0320-SS-AA-AB-0 | MPSB0320-SS-AD-AE-0 | MPSB0320-SS-AE-AF-0 | MPSB0321-SS-AA-AB-0 | MPSB0321-SS-AD-AE-0 | MPSB0321-SS-AI-AJ-0 | MPSB0322-SS-AA-AB-0 |
| | | Sample Date | 12/8/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/7/2016 | 10/7/2016 | 10/7/2016 | 10/7/2016 |
| | | Depth (ft) | 0-0.5 | 1.5-2 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 5.5-6 | 0-0.5 | 1.5-2 | 3-3.5 | 1.5-2 | 5.5-6 | 0-0.5 | 0-0.5 | 1.5-2 | 2-2.5 | 0-0.5 | 1.5-2 | 2-2.5 | 0-0.5 | 1.5-2 | 4-4.5 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 0.65 U | 0.46 U | 0.45 U | 0.41 U | 1.1 UJ | 0.43 U | 0.43 U | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | 2-CHLOROPHENOL | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.025 J | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | 2-METHYLPHENOL | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | 2-NITROANILINE | MG/KG | 0.65 U | 0.46 U | 0.45 U | 0.41 U | 1.1 UJ | 0.43 U | 0.43 U | | | | | | | | | | | | | | | | |
| SVOC | 2-NITROPHENOL | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | | | 0.23 U | 0.21 U | | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | 3-NITROANILINE | MG/KG | 0.65 U | 0.46 U | 0.45 U | 0.41 U | 1.1 UJ | 0.43 U | 0.43 U | | | | | | | | | | | | | | | | |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 0.65 U | 0.46 U | 0.45 U | 0.41 U | 1.1 UJ | 0.43 U | 0.43 U | | | | | | | | | | | | | | | | |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLOROANILINE | MG/KG | | | 0.23 U | 0.21 U | | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | 4-METHYLPHENOL | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | 4-NITROANILINE | MG/KG | 0.65 U | 0.46 U | 0.45 U | 0.41 U | 1.1 UJ | 0.43 U | 0.43 U | | | | | | | | | | | | | | | | |
| SVOC | 4-NITROPHENOL | MG/KG | 0.65 U | 0.46 U | 0.45 U | 0.41 U | 1.1 UJ | 0.43 U | 0.43 U | | | | | | | | | | | | | | | | |
| SVOC | ACENAPHTHENE | MG/KG | 0.02 J | 0.24 U | 0.23 U | 0.21 U | 0.06 J | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.039 J | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | ACETOPHENONE | MG/KG | 0.014 J | 0.24 U | 0.01 J | 0.21 U | 0.027 J | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | ANTHRACENE | MG/KG | 0.049 J | 0.24 U | 0.23 U | 0.21 U | 0.082 J | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | ATRAZINE | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | BENZALDEHYDE | MG/KG | 0.048 J | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.27 J | 0.24 U | 0.0061 J | 0.21 U | 0.71 J | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.26 J | 0.0063 | 0.0051 J | 0.0015 J | 0.81 J | 0.0019 J | 0.0055 J | | | | | | | | | | | | | | | | |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 0.39 | 0.24 U | 0.0078 J | 0.21 U | 0.91 J | 0.0057 J | 0.0049 J | | | | | | | | | | | | | | | | |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.11 J | 0.24 U | 0.23 U | 0.21 U | 0.48 J | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.26 J | 0.24 U | 0.0075 J | 0.21 U | 1 J | 0.0065 J | 0.0074 J | | | | | | | | | | | | | | | | |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 0.03 J | 0.24 U | 0.013 J | 0.21 U | 0.058 J | 0.011 J | 0.017 J | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | CAPROLACTAM | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | CARBAZOLE | MG/KG | 0.047 J | 0.24 U | 0.23 U | 0.21 U | 0.1 J | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | CHRYSENE | MG/KG | 0.29 J | 0.24 U | 0.0068 J | 0.21 U | 0.92 J | 0.22 UJ | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.066 | 0.0012 J | 0.0012 J | 0.00033 J | 0.15 J | 0.00024 J | 0.0012 J | | | | | | | | | | | | | | | | |
| SVOC | DIBENZOFURAN | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.028 J | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | DIETHYLPHTHALATE | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 0.02 J | 0.24 U | 0.23 U | 0.21 U | 0.05 J | 0.0068 J | 0.0094 J | | | | | | | | | | | | | | | | |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | FLUORANTHENE | MG/KG | 0.57 | 0.24 U | 0.012 J | 0.21 U | 2 J | 0.22 UJ | 0.0074 J | | | | | | | | | | | | | | | | |
| SVOC | FLUORENE | MG/KG | 0.024 J | 0.24 U | 0.23 U | 0.21 U | 0.08 J | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROBENZENE | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | | | 0.23 U | 0.21 U | | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROETHANE | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.1 J | 0.24 U | 0.23 U | 0.21 U | 0.48 J | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | ISOPHORONE | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | NAPHTHALENE | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | NITROBENZENE | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | PENTACHLOROPHENOL | MG/KG | 0.65 U | 0.46 U | 0.45 U | 0.41 U | 1.1 UJ | 0.43 U | 0.43 U | | | | | | | | | | | | | | | | |
| SVOC | PHENANTHRENE | MG/KG | 0.35 | 0.24 U | 0.0067 J | 0.21 U | 0.89 J | 0.22 U | 0.0036 J | | | | | | | | | | | | | | | | |
| SVOC | PHENOL | MG/KG | 0.34 U | 0.24 U | 0.23 U | 0.21 U | 0.58 UJ | 0.22 U | 0.22 U | | | | | | | | | | | | | | | | |
| SVOC | PYRENE | MG/KG | 0.41 | 0.24 U | 0.23 U | 0.21 U | 1.1 J | 0.22 UJ | 0.012 J | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0231 | MPSB0231 | MPSB0231 | MPSB0231 | MPSB0232 | MPSB0232 | MPSB0232 | MPSB0317 | MPSB0317 | MPSB0317 | MPSB0318 | MPSB0318 | MPSB0319 | MPSB0319 | MPSB0319 | MPSB0319 | MPSB0320 | MPSB0320 | MPSB0320 | MPSB0321 | MPSB0321 | MPSB0321 | MPSB0322 |
| | | Field Sample ID | MPSB0231-SS-AA-AB-0 | MPSB0231-SS-AD-AE-0 | MPSB0231-SS-AD-AE-1 | MPSB0231-SS-AH-AI-0 | MPSB0232-SS-AA-AB-0 | MPSB0232-SS-AD-AE-0 | MPSB0232-SS-AL-AM-0 | MPSB0317-SS-AA-AB-0 | MPSB0317-SS-AD-AE-0 | MPSB0317-SS-AG-AH-0 | MPSB0318-SS-AD-AE-0 | MPSB0318-SS-AL-AM-0 | MPSB0319-SS-AA-AB-0 | MPSB0319-SS-AA-AB-0 | MPSB0319-SS-AD-AE-0 | MPSB0319-SS-AE-AF-0 | MPSB0320-SS-AA-AB-0 | MPSB0320-SS-AD-AE-0 | MPSB0320-SS-AE-AF-0 | MPSB0321-SS-AA-AB-0 | MPSB0321-SS-AD-AE-0 | MPSB0321-SS-AI-AJ-0 | MPSB0322-SS-AA-AB-0 |
| | | Sample Date | 12/8/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 | 12/8/2015 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/6/2016 | 10/6/2016 | 10/6/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/7/2016 | 10/7/2016 | 10/7/2016 | 10/7/2016 |
| | | Depth (ft) | 0-0.5 | 1.5-2 | 1.5-2 | 3.5-4 | 0-0.5 | 1.5-2 | 5.5-6 | 0-0.5 | 1.5-2 | 3-3.5 | 1.5-2 | 5.5-6 | 0-0.5 | 0-0.5 | 1.5-2 | 2-2.5 | 0-0.5 | 1.5-2 | 2-2.5 | 0-0.5 | 1.5-2 | 4-4.5 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ACETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOFORM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CARBON DISULFIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CARBON TETRACHLORIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROFORM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ETHYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TETRACHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TOLUENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0322 | MPSB0322 | MPSB0322 | MPSB0324 | MPSB0324 | MPSB0324 | MPSB0324 | MPSB0324 | MPSB0325 | MPSB0325 | MPSB0325 | MPSB0325 | MPSB0326 | MPSB0326 | MPSB0326 | MPSB0327 | MPSB0327 | MPSB0327 | MPSB0327 | MPSB0327 | MPSB0327 | MPSB0327 | MPSB0328 | MPSB0328 |
| | | Field Sample ID | MPSB0322-SS-AD-AE-0 | MPSB0322-SS-AD-AE-1 | MPSB0322-SS-AI-AJ-0 | MPSB0324-SS-AA-AB-0 | MPSB0324-SS-AD-AE-0 | MPSB0324-SS-AE-AF-0 | MPSB0324-SS-AJ-AK-0 | MPSB0324-SS-AJ-AK-1 | MPSB0325-SS-AA-AB-0 | MPSB0325-SS-AB-AC-0 | MPSB0325-SS-AD-AE-0 | MPSB0325-SS-AE-AF-0 | MPSB0326-SS-AA-AB-0 | MPSB0326-SS-AD-AE-0 | MPSB0326-SS-AE-AF-0 | MPSB0327-SS-AA-AB-0 | MPSB0327-SS-AB-AC-0 | MPSB0327-SS-AB-AC-1 | MPSB0327-SS-AD-AE-0 | MPSB0327-SS-AD-AE-1 | MPSB0327-SS-AI-AJ-0 | MPSB0328-SS-AA-AB-0 | MPSB0328-SS-AD-AE-0 |
| | | Sample Date | 10/7/2016 | 10/7/2016 | 10/7/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/7/2016 | 10/7/2016 | 10/7/2016 | 10/7/2016 | 10/11/2016 | 10/11/2016 | 10/11/2016 | 10/11/2016 | 10/11/2016 | 10/11/2016 | 10/11/2016 | 10/11/2016 | 10/11/2016 | 10/7/2016 | 10/7/2016 |
| | | Depth (ft) | 1.5-2 | 1.5-2 | 4-4.5 | 0-0.5 | 1.5-2 | 2-2.5 | 4.5-5 | 4.5-5 | 0-0.5 | 0.5-1 | 1.5-2 | 2-2.5 | 0-0.5 | 1.5-2 | 2-2.5 | 0-0.5 | 0.5-1 | 0.5-1 | 1.5-2 | 1.5-2 | 4-4.5 | 0-0.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | 25 | 40 | | 86 J | | | | 37 | | | 34 | 23 | | | | 54 | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | 30 | 23 | | 52 J | | | | 34 J | | | 8.2 | 5.3 | | | | 73 | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | 10 J | 17 J | | 41 J | | | | 18 | | | 15 | 11 | | | | 27 | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | 92 | 64 | | 100 J | | | | 110 J | | | 21 | 14 | | | | 85 | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | 83 | 80 | | 64 J | | | | 57 | | | 30 | 18 | | | | 65 | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | 380 | 360 | | 300 J | | | | 280 J | | | 130 J | 75 J | | | | 190 | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | 710 | 510 | | 720 J | | | | 730 J | | | 160 | 120 | | | | 400 | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | 160 | 120 | | 160 J | | | | 150 J | | | 10 | 6.5 | | | | 350 | |
| METALS | ALUMINUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ANTIMONY | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ARSENIC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | BARIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | BERYLLIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CADMIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CALCIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | 1.6 J | 0.7 U | 1.5 J | 0.56 U | 0.47 | 0.53 | | | 2.8 J | | 0.53 U | 1.8 | | 2.9 U | 1 U | 1.4 U | | | 0.49 U | 0.5 U | 0.52 U | 0.66 U | 0.52 U |
| METALS | CHROMIUM | MG/KG | 52.1 J | 38.3 | 680 | 8.5 | 3.6 | 5.7 | | | 47.7 J | | 240 | 16 | 144 J | 1230 J | 4040 | 438 J | | | 7.2 J | 5.4 J | 31.6 | 66.9 | 5 |
| METALS | COBALT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | COPPER | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | CYANIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | IRON | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | LEAD | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | MAGNESIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | MANGANESE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | MERCURY | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | NICKEL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | POTASSIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | SELENIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | SILVER | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | SODIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | THALLIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | VANADIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ZINC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1221 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1232 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1242 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1248 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1254 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1260 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0322 | MPSB0322 | MPSB0322 | MPSB0324 | MPSB0324 | MPSB0324 | MPSB0324 | MPSB0324 | MPSB0325 | MPSB0325 | MPSB0325 | MPSB0325 | MPSB0326 | MPSB0326 | MPSB0326 | MPSB0327 | MPSB0327 | MPSB0327 | MPSB0327 | MPSB0327 | MPSB0327 | MPSB0328 | MPSB0328 |
| | | Field Sample ID | MPSB0322-SS-AD-AE-0 | MPSB0322-SS-AD-AE-1 | MPSB0322-SS-AI-AJ-0 | MPSB0324-SS-AA-AB-0 | MPSB0324-SS-AD-AE-0 | MPSB0324-SS-AE-AF-0 | MPSB0324-SS-AJ-AK-0 | MPSB0324-SS-AJ-AK-1 | MPSB0325-SS-AA-AB-0 | MPSB0325-SS-AB-AC-0 | MPSB0325-SS-AD-AE-0 | MPSB0325-SS-AE-AF-0 | MPSB0326-SS-AA-AB-0 | MPSB0326-SS-AD-AE-0 | MPSB0326-SS-AE-AF-0 | MPSB0327-SS-AA-AB-0 | MPSB0327-SS-AB-AC-0 | MPSB0327-SS-AB-AC-1 | MPSB0327-SS-AD-AE-0 | MPSB0327-SS-AD-AE-1 | MPSB0327-SS-AI-AJ-0 | MPSB0328-SS-AA-AB-0 | MPSB0328-SS-AD-AE-0 |
| | | Sample Date | 10/7/2016 | 10/7/2016 | 10/7/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/7/2016 | 10/7/2016 | 10/7/2016 | 10/7/2016 | 10/11/2016 | 10/11/2016 | 10/11/2016 | 10/11/2016 | 10/11/2016 | 10/11/2016 | 10/11/2016 | 10/11/2016 | 10/11/2016 | 10/7/2016 | 10/7/2016 |
| | | Depth (ft) | 1.5-2 | 1.5-2 | 4-4.5 | 0-0.5 | 1.5-2 | 2-2.5 | 4.5-5 | 4.5-5 | 0-0.5 | 0.5-1 | 1.5-2 | 2-2.5 | 0-0.5 | 1.5-2 | 2-2.5 | 0-0.5 | 0.5-1 | 0.5-1 | 1.5-2 | 1.5-2 | 4-4.5 | 0-0.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DINITROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-CHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-NITROANILINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-NITROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 3-NITROANILINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLOROANILINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-NITROANILINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-NITROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ACENAPHTHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ACENAPHTHYLENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ACETOPHENONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ANTHRACENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ATRAZINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(A)PYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | CAPROLACTAM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | CARBAZOLE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | CHRYSENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DIBENZOFURAN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DIETHYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DIMETHYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | FLUORANTHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | FLUORENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ISOPHORONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | NITROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | PENTACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | PHENANTHRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | PHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | PYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0322 | MPSB0322 | MPSB0322 | MPSB0324 | MPSB0324 | MPSB0324 | MPSB0324 | MPSB0324 | MPSB0325 | MPSB0325 | MPSB0325 | MPSB0325 | MPSB0326 | MPSB0326 | MPSB0326 | MPSB0327 | MPSB0327 | MPSB0327 | MPSB0327 | MPSB0327 | MPSB0327 | MPSB0328 | MPSB0328 |
| | | Field Sample ID | MPSB0322-SS-AD-AE-0 | MPSB0322-SS-AD-AE-1 | MPSB0322-SS-AI-AJ-0 | MPSB0324-SS-AA-AB-0 | MPSB0324-SS-AD-AE-0 | MPSB0324-SS-AE-AF-0 | MPSB0324-SS-AJ-AK-0 | MPSB0324-SS-AJ-AK-1 | MPSB0325-SS-AA-AB-0 | MPSB0325-SS-AB-AC-0 | MPSB0325-SS-AD-AE-0 | MPSB0325-SS-AE-AF-0 | MPSB0326-SS-AA-AB-0 | MPSB0326-SS-AD-AE-0 | MPSB0326-SS-AE-AF-0 | MPSB0327-SS-AA-AB-0 | MPSB0327-SS-AB-AC-0 | MPSB0327-SS-AB-AC-1 | MPSB0327-SS-AD-AE-0 | MPSB0327-SS-AD-AE-1 | MPSB0327-SS-AI-AJ-0 | MPSB0328-SS-AA-AB-0 | MPSB0328-SS-AD-AE-0 |
| | | Sample Date | 10/7/2016 | 10/7/2016 | 10/7/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/7/2016 | 10/7/2016 | 10/7/2016 | 10/7/2016 | 10/11/2016 | 10/11/2016 | 10/11/2016 | 10/11/2016 | 10/11/2016 | 10/11/2016 | 10/11/2016 | 10/11/2016 | 10/11/2016 | 10/7/2016 | 10/7/2016 |
| | | Depth (ft) | 1.5-2 | 1.5-2 | 4-4.5 | 0-0.5 | 1.5-2 | 2-2.5 | 4.5-5 | 4.5-5 | 0-0.5 | 0.5-1 | 1.5-2 | 2-2.5 | 0-0.5 | 1.5-2 | 2-2.5 | 0-0.5 | 0.5-1 | 0.5-1 | 1.5-2 | 1.5-2 | 4-4.5 | 0-0.5 | 1.5-2 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ACETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOFORM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CARBON DISULFIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CARBON TETRACHLORIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROFORM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ETHYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TETRACHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TOLUENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0328 | MPSB0329 | MPSB0329 | MPSB0329 | MPSB0329 | MPSB0330 | MPSB0330 | MPSB0330 | MPSB0331 | MPSB0331 | MPSB0331 | MPSB0332 | MPSB0332 | MPSB0332 | MPSB0333 | MPSB0334 | MPSB0335 | MPSB0336 | MPSB0337 | MPSB0338 | RSSB0165 | RSSB0165 | RSSB0166 |
| | | Field Sample ID | MPSB0328-SS-AI-AJ-0 | MPSB0329-SS-AA-AB-0 | MPSB0329-SS-AD-AE-0 | MPSB0329-SS-AD-AE-1 | MPSB0329-SS-AT-AU-0 | MPSB0330-SS-AA-AB-0 | MPSB0330-SS-AD-AE-0 | MPSB0330-SS-AF-AG-0 | MPSB0331-SS-AA-AB-0 | MPSB0331-SS-AD-AE-0 | MPSB0331-SS-AP-AQ-0 | MPSB0332-SS-AA-AB-0 | MPSB0332-SS-AD-AE-0 | MPSB0332-SS-AR-AS-0 | MPSB0333-SS-AC-AD-0 | MPSB0334-SS-AB-AC-0 | MPSB0335-SS-AD-AE-0 | MPSB0336-SS-AA-AB-0 | MPSB0337-SS-AC-AD-0 | MPSB0338-SS-AB-AC-0 | RSSB0165-SS-AA-AB-0 | RSSB0165-SS-AD-AE-0 | RSSB0166-SS-AA-AB-0 |
| | | Sample Date | 10/7/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/7/2016 | 10/5/2016 | 10/5/2016 | 10/7/2016 | 10/7/2016 | 10/7/2016 | 11/17/2010 | 11/17/2010 | 11/17/2010 |
| | | Depth (ft) | 4-4.5 | 0-0.5 | 1.5-2 | 1.5-2 | 9.5-10 | 0-0.5 | 1.5-2 | 2.5-3 | 0-0.5 | 1.5-2 | 7.5-8 | 0-0.5 | 1.5-2 | 8.5-9 | 1-1.5 | 0.5-1 | 1.5-2 | 0-0.5 | 1-1.5 | 0.5-1 | 0-0.5 | 1.5-2 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | 39 | 21 | 17 | 19 | 25 | 30 | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | 45 | 15 | 9 | 13 | 15 | 6.2 | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | 31 | 12 | 9.7 | 9.8 | 9.9 | 13 | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | 61 | 17 | 25 | 15 | 63 | 30 | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | 240 | 160 | 65 | 66 | 99 | 77 | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | 460 | 460 | 210 | 190 | 430 | 310 | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | 230 | 150 | 190 | 150 | 560 | 370 | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | 150 | 51 | 9.6 | 43 | 120 | 9.3 | | | |
| METALS | ALUMINUM | MG/KG | | | | | | | | | | | | | | | | | | | | | 3010 J | 111 | 1920 |
| METALS | ANTIMONY | MG/KG | | | | | | | | | | | | | | | | | | | | | 12.1 UJ | 5.9 UJ | 7.5 UJ |
| METALS | ARSENIC | MG/KG | | | | | | | | | | | | | | | | | | | | | 16.2 J | 0.4 J | 6.5 |
| METALS | BARIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | 706 J | 4.4 J | 415 |
| METALS | BERYLLIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | 1 UJ | 0.49 U | 0.1 J |
| METALS | CADMIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | 36.6 JD | 0.044 J | 1.9 |
| METALS | CALCIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | 18400 J | 17.5 J | 4040 |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | 0.51 U | 0.46 UJ | 0.43 U | 0.51 | 0.53 U | 0.49 U | 0.58 | 0.47 | 0.5 U | 0.92 | 0.78 | 0.79 | 0.66 | 1.7 | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 5.6 | 9 | 7.4 | 7.9 | 9.3 | 7.3 | 13.8 | 15.9 | 11.3 | 10.7 | 14.1 | 5.2 | 6.5 | 17.7 | | | | | | | | | |
| METALS | COBALT | MG/KG | | | | | | | | | | | | | | | | | | | | | 5 J | 0.42 J | 4.4 J |
| METALS | COPPER | MG/KG | | | | | | | | | | | | | | | | | | | | | 242 JD | 0.1 J | 97.6 D |
| METALS | CYANIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | 3.4 J | 0.55 U | 3.5 |
| METALS | IRON | MG/KG | | | | | | | | | | | | | | | | | | | | | 14400 J | 251 J | 11700 J |
| METALS | LEAD | MG/KG | | | | | | | | | | | | | | | | | | | | | 445 JD | 1.4 | 278 D |
| METALS | MAGNESIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | 1940 J | 493 U | 328 J |
| METALS | MANGANESE | MG/KG | | | | | | | | | | | | | | | | | | | | | 337 JD | 6.1 | 153 D |
| METALS | MERCURY | MG/KG | | | | | | | | | | | | | | | | | | | | | 0.38 J | 0.11 U | 0.23 |
| METALS | NICKEL | MG/KG | | | | | | | | | | | | | | | | | | | | | 14.8 J | 3.9 U | 14.3 |
| METALS | POTASSIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | 572 J | 19.6 J | 191 J |
| METALS | SELENIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | 0.74 J | 3.5 U | 0.62 J |
| METALS | SILVER | MG/KG | | | | | | | | | | | | | | | | | | | | | 0.33 J | 0.99 UJ | 0.24 J |
| METALS | SODIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | 276 J | 20.1 J | 63.4 J |
| METALS | THALLIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | 5.1 UJ | 2.5 U | 3.1 U |
| METALS | VANADIUM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| METALS | ZINC | MG/KG | | | | | | | | | | | | | | | | | | | | | 1110 JD | 5.9 U | 567 D |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1221 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1232 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1242 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1248 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1254 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1260 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0328 | MPSB0329 | MPSB0329 | MPSB0329 | MPSB0329 | MPSB0330 | MPSB0330 | MPSB0330 | MPSB0331 | MPSB0331 | MPSB0331 | MPSB0332 | MPSB0332 | MPSB0332 | MPSB0333 | MPSB0334 | MPSB0335 | MPSB0336 | MPSB0337 | MPSB0338 | RSSB0165 | RSSB0165 | RSSB0166 |
| | | Field Sample ID | MPSB0328-SS-AI-AJ-0 | MPSB0329-SS-AA-AB-0 | MPSB0329-SS-AD-AE-0 | MPSB0329-SS-AD-AE-1 | MPSB0329-SS-AT-AU-0 | MPSB0330-SS-AA-AB-0 | MPSB0330-SS-AD-AE-0 | MPSB0330-SS-AF-AG-0 | MPSB0331-SS-AA-AB-0 | MPSB0331-SS-AD-AE-0 | MPSB0331-SS-AP-AQ-0 | MPSB0332-SS-AA-AB-0 | MPSB0332-SS-AD-AE-0 | MPSB0332-SS-AR-AS-0 | MPSB0333-SS-AC-AD-0 | MPSB0334-SS-AB-AC-0 | MPSB0335-SS-AD-AE-0 | MPSB0336-SS-AA-AB-0 | MPSB0337-SS-AC-AD-0 | MPSB0338-SS-AB-AC-0 | RSSB0165-SS-AA-AB-0 | RSSB0165-SS-AD-AE-0 | RSSB0166-SS-AA-AB-0 |
| | | Sample Date | 10/7/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/7/2016 | 10/5/2016 | 10/5/2016 | 10/7/2016 | 10/7/2016 | 10/7/2016 | 11/17/2010 | 11/17/2010 | 11/17/2010 |
| | | Depth (ft) | 4-4.5 | 0-0.5 | 1.5-2 | 1.5-2 | 9.5-10 | 0-0.5 | 1.5-2 | 2.5-3 | 0-0.5 | 1.5-2 | 7.5-8 | 0-0.5 | 1.5-2 | 8.5-9 | 1-1.5 | 0.5-1 | 1.5-2 | 0-0.5 | 1-1.5 | 0.5-1 | 0-0.5 | 1.5-2 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DINITROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-CHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | 0.19 U | |
| SVOC | 2-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-NITROANILINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-NITROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 3-NITROANILINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLOROANILINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-NITROANILINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-NITROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ACENAPHTHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | 0.19 U | |
| SVOC | ACENAPHTHYLENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | 0.19 U | |
| SVOC | ACETOPHENONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | ANTHRACENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | 0.19 U | |
| SVOC | ATRAZINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | 0.19 U | |
| SVOC | BENZO(A)PYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | 0.19 U | |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | 0.19 U | |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | 0.19 U | |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | 0.19 U | |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | CAPROLACTAM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | CARBAZOLE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | CHRYSENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | 0.19 U | |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | 0.19 U | |
| SVOC | DIBENZOFURAN | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DIETHYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DIMETHYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | FLUORANTHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | 0.19 U | |
| SVOC | FLUORENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | 0.19 U | |
| SVOC | HEXACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | 0.19 U | |
| SVOC | ISOPHORONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | 0.19 U | |
| SVOC | NITROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | PENTACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | PHENANTHRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | 0.19 U | |
| SVOC | PHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC | PYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | 0.19 U | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | MPSB0328 | MPSB0329 | MPSB0329 | MPSB0329 | MPSB0329 | MPSB0330 | MPSB0330 | MPSB0330 | MPSB0331 | MPSB0331 | MPSB0331 | MPSB0332 | MPSB0332 | MPSB0332 | MPSB0333 | MPSB0334 | MPSB0335 | MPSB0336 | MPSB0337 | MPSB0338 | RSSB0165 | RSSB0165 | RSSB0166 |
| | | Field Sample ID | MPSB0328-SS-AI-AJ-0 | MPSB0329-SS-AA-AB-0 | MPSB0329-SS-AD-AE-0 | MPSB0329-SS-AD-AE-1 | MPSB0329-SS-AT-AU-0 | MPSB0330-SS-AA-AB-0 | MPSB0330-SS-AD-AE-0 | MPSB0330-SS-AF-AG-0 | MPSB0331-SS-AA-AB-0 | MPSB0331-SS-AD-AE-0 | MPSB0331-SS-AP-AQ-0 | MPSB0332-SS-AA-AB-0 | MPSB0332-SS-AD-AE-0 | MPSB0332-SS-AR-AS-0 | MPSB0333-SS-AC-AD-0 | MPSB0334-SS-AB-AC-0 | MPSB0335-SS-AD-AE-0 | MPSB0336-SS-AA-AB-0 | MPSB0337-SS-AC-AD-0 | MPSB0338-SS-AB-AC-0 | RSSB0165-SS-AA-AB-0 | RSSB0165-SS-AD-AE-0 | RSSB0166-SS-AA-AB-0 |
| | | Sample Date | 10/7/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/10/2016 | 10/7/2016 | 10/5/2016 | 10/5/2016 | 10/7/2016 | 10/7/2016 | 10/7/2016 | 11/17/2010 | 11/17/2010 | 11/17/2010 |
| | | Depth (ft) | 4-4.5 | 0-0.5 | 1.5-2 | 1.5-2 | 9.5-10 | 0-0.5 | 1.5-2 | 2.5-3 | 0-0.5 | 1.5-2 | 7.5-8 | 0-0.5 | 1.5-2 | 8.5-9 | 1-1.5 | 0.5-1 | 1.5-2 | 0-0.5 | 1-1.5 | 0.5-1 | 0-0.5 | 1.5-2 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ACETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOFORM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CARBON DISULFIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CARBON TETRACHLORIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROFORM | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | CYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ETHYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TETRACHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TOLUENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | RSSB0166 | RSSB0169 | RSSB0169 | RSSB0169 | RSSB0210 | RSSB0210 | RSSB0210 | RSSB0211 | RSSB0211 | RSSB0212 | RSSB0212 | RSSB0237 | RSSB0237 | RSSB0248 | RSSB0248 | RSSB0259 |
| | | Field Sample ID | RSSB0166-SS-AD-AE-0 | RSSB0169-SS-AA-AB-0 | RSSB0169-SS-AD-AE-0 | RSSB0169-SS-AF-AG-0 | RSSB0210-SS-AA-AB-0 | RSSB0210-SS-AD-AE-0 | RSSB0210-SS-AF-AG-0 | RSSB0211-SS-AA-AB-0 | RSSB0211-SS-AD-AE-0 | RSSB0212-SS-AA-AB-0 | RSSB0212-SS-AD-AE-0 | RSSB0237-SS-AA-AB-0 | RSSB0237-SS-AD-AE-0 | RSSB0248-SS-AA-AB-0 | RSSB0248-SS-AD-AE-0 | RSSB0259-SS-AA-AB-0 |
| | | Sample Date | 11/17/2010 | 11/17/2010 | 11/17/2010 | 11/17/2010 | 11/22/2010 | 11/22/2010 | 11/22/2010 | 11/22/2010 | 11/22/2010 | 11/22/2010 | 11/22/2010 | 11/29/2010 | 11/29/2010 | 11/30/2010 | 11/30/2010 | 11/30/2010 |
| | | Depth (ft) | 1.5-2 | 0-0.5 | 1.5-2 | 2.5-3 | 0-0.5 | 1.5-2 | 2.5-3 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | 156 | 1330 | 1240 | 158 | 3240 | 1360 | 563 | 2470 | 1640 | 1640 | 2600 | 672 | 2280 | 2750 | 642 | 4150 |
| METALS | ANTIMONY | MG/KG | 5.6 UJ | 6.9 UJ | 6.8 UJ | 5.6 UJ | 7.4 U | 6.3 U | 5.5 U | 6.7 U | 6.4 U | 6.2 U | 6.2 U | 6.4 U | 5.9 U | 5.4 U | 4.9 U | 5.7 J |
| METALS | ARSENIC | MG/KG | 0.5 J | 2.5 | 13.9 | 0.4 J | 4.1 | 5.3 | 1.1 | 6.1 | 3.1 | 5.5 | 6 | 1.8 | 0.89 J | 2.8 J | 0.37 J | 9.9 |
| METALS | BARIUM | MG/KG | 6.9 J | 85.7 | 217 | 1.9 J | 195 | 233 | 25.2 | 201 | 112 | 99.2 | 253 | 8.5 J | 5 J | 17.9 U | 16.4 U | 303 |
| METALS | BERYLLIUM | MG/KG | 0.47 U | 0.058 J | 0.1 J | 0.47 U | 0.087 J | 0.034 J | 0.46 U | 0.043 J | 0.54 U | 0.52 U | 0.033 J | 0.53 U | 0.49 U | 0.45 U | 0.41 U | 0.13 J |
| METALS | CADMIUM | MG/KG | 0.062 J | 0.54 J | 2.4 | 0.47 U | 0.28 J | 0.3 J | 0.042 J | 0.34 J | 0.19 J | 0.3 J | 0.49 J | 0.53 U | 0.49 U | 0.45 U | 0.41 U | 2.2 |
| METALS | CALCIUM | MG/KG | 95.8 J | 8480 | 1730 | 9.6 J | 3320 | 971 | 204 J | 2720 | 524 J | 3510 | 1270 | 1170 | 148 J | 1350 | 249 J | 2010 |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | | | | | 9.5 | 13.2 | 3.5 | 14.2 | 10.1 | 11.7 | 49.2 D | 3.7 | 6.6 | 7.8 | 2 | 26.3 |
| METALS | COBALT | MG/KG | 0.45 J | 0.95 J | 3.6 J | 0.3 J | 0.83 J | 0.75 J | 0.57 J | 0.95 J | 0.53 J | 0.66 J | 1 J | 0.47 J | 0.22 J | 0.58 J | 0.42 J | 4.4 J |
| METALS | COPPER | MG/KG | 0.38 J | 27.6 | 253 D | 0.27 J | 17.8 | 13.7 | 3.8 | 19.1 | 10.6 | 16.7 | 17.8 | 4 | 0.45 J | 5.1 J | 2 U | 121 D |
| METALS | CYANIDE | MG/KG | 0.61 U | 0.86 | 1.6 | 0.54 U | 0.63 U | 0.61 | 0.52 U | 0.94 | 0.58 U | 0.61 U | 0.67 | 0.59 U | 0.63 U | 0.58 U | 0.58 U | 2.3 |
| METALS | IRON | MG/KG | 526 J | 3320 J | 30000 JD | 182 J | 3120 JD | 5670 JD | 1070 JD | 4890 JD | 3770 JD | 3350 JD | 5170 JD | 1610 | 5110 | 4490 J | 877 J | 35700 D |
| METALS | LEAD | MG/KG | 2 | 117 D | 2940 D | 1.4 | 107 D | 328 D | 66.9 D | 248 D | 144 D | 113 D | 463 D | 42.8 D | 2.1 | 81.2 D | 3.4 | 743 D |
| METALS | MAGNESIUM | MG/KG | 11.1 J | 608 | 198 J | 471 U | 580 J | 96.5 J | 51.2 J | 305 J | 98.5 J | 309 J | 233 J | 210 J | 37.1 J | 143 J | 25.7 J | 294 J |
| METALS | MANGANESE | MG/KG | 7.1 | 106 D | 58.6 D | 3.8 | 92.6 D | 56.3 D | 67.7 D | 76.2 D | 23.5 | 68.1 D | 57.6 D | 7.3 | 6.6 | 23.1 | 16.3 | 301 D |
| METALS | MERCURY | MG/KG | 0.11 U | 0.15 U | 0.51 | 0.096 U | 0.12 J | 0.69 | 0.094 U | 0.5 | 0.29 | 0.27 | 0.41 | 0.22 | 0.13 U | 0.059 J | 0.1 U | 22.4 D |
| METALS | NICKEL | MG/KG | 3.7 U | 3.1 J | 6.9 | 3.8 U | 1.8 J | 1.6 J | 3.7 U | 3 J | 1.1 J | 1.5 J | 2.7 J | 0.86 J | 0.23 J | 1.5 J | 0.26 J | 14.4 |
| METALS | POTASSIUM | MG/KG | 42.3 J | 227 J | 61.4 J | 471 U | 266 J | 136 J | 103 J | 239 J | 129 J | 201 J | 210 J | 170 J | 77.4 J | 143 J | 19.6 J | 208 J |
| METALS | SELENIUM | MG/KG | 3.3 U | 4.1 U | 4 U | 3.3 U | 4.3 U | 3.7 U | 3.2 U | 3.9 U | 3.8 U | 3.6 U | 3.6 U | 3.7 U | 3.5 U | 3.1 UJ | 2.9 UJ | 0.47 J |
| METALS | SILVER | MG/KG | 0.93 UJ | 1.2 UJ | 1.1 UJ | 0.94 UJ | 1.2 UJ | 1 UJ | 0.92 UJ | 1.1 UJ | 1.1 UJ | 1 UJ | 1 UJ | 1.1 U | 0.99 U | 0.9 U | 0.82 U | 0.31 J |
| METALS | SODIUM | MG/KG | 14.3 J | 62.1 J | 66.4 J | 16.1 J | 95.8 J | 7.3 J | 461 U | 16.9 J | 537 U | 13.3 J | 14 J | 534 U | 494 U | 24 J | 25.1 J | 191 J |
| METALS | THALLIUM | MG/KG | 2.3 U | 2.9 U | 2.8 U | 2.4 U | 3.1 U | 2.6 U | 2.3 U | 2.8 U | 2.7 U | 2.6 U | 2.6 U | 2.7 U | 2.5 U | 2.2 U | 2 U | 2.5 U |
| METALS | VANADIUM | MG/KG | | | | | 6.6 | 8.4 | 2.4 J | 9 | 5.4 | 4.9 J | 10.8 | 6.7 | 4.4 J | 9.6 | 2.6 J | 16.4 |
| METALS | ZINC | MG/KG | 7.1 | 200 | 463 D | 5.6 U | 102 | 81.9 | 6.9 | 95.3 | 64.4 | 127 | 265 D | 11.2 | 1.4 J | 27.8 | 9.8 | 551 D |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1221 | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1232 | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1242 | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1248 | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1254 | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1260 | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | RSSB0166 | RSSB0169 | RSSB0169 | RSSB0169 | RSSB0210 | RSSB0210 | RSSB0210 | RSSB0211 | RSSB0211 | RSSB0212 | RSSB0212 | RSSB0237 | RSSB0237 | RSSB0248 | RSSB0248 | RSSB0259 |
| | | Field Sample ID | RSSB0166-SS-AD-AE-0 | RSSB0169-SS-AA-AB-0 | RSSB0169-SS-AD-AE-0 | RSSB0169-SS-AF-AG-0 | RSSB0210-SS-AA-AB-0 | RSSB0210-SS-AD-AE-0 | RSSB0210-SS-AF-AG-0 | RSSB0211-SS-AA-AB-0 | RSSB0211-SS-AD-AE-0 | RSSB0212-SS-AA-AB-0 | RSSB0212-SS-AD-AE-0 | RSSB0237-SS-AA-AB-0 | RSSB0237-SS-AD-AE-0 | RSSB0248-SS-AA-AB-0 | RSSB0248-SS-AD-AE-0 | RSSB0259-SS-AA-AB-0 |
| | | Sample Date | 11/17/2010 | 11/17/2010 | 11/17/2010 | 11/17/2010 | 11/22/2010 | 11/22/2010 | 11/22/2010 | 11/22/2010 | 11/22/2010 | 11/22/2010 | 11/22/2010 | 11/29/2010 | 11/29/2010 | 11/30/2010 | 11/30/2010 | 11/30/2010 |
| | | Depth (ft) | 1.5-2 | 0-0.5 | 1.5-2 | 2.5-3 | 0-0.5 | 1.5-2 | 2.5-3 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DINITROPHENOL | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | 2-CHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.21 U | | 0.0061 J | | | 0.0045 J | | | 0.2 U | | 0.19 U | | 0.22 U | | 0.2 U | |
| SVOC | 2-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | 2-NITROANILINE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | 2-NITROPHENOL | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | 3-NITROANILINE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLOROANILINE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | 4-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | 4-NITROANILINE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | 4-NITROPHENOL | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | ACENAPHTHENE | MG/KG | 0.21 U | | 0.26 U | | | 0.0081 J | | | 0.011 J | | 0.19 U | | 0.22 U | | 0.2 U | |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.21 U | | 0.003 J | | | 0.017 J | | | 0.0099 J | | 0.19 U | | 0.22 U | | 0.2 U | |
| SVOC | ACETOPHENONE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | ANTHRACENE | MG/KG | 0.21 U | | 0.016 J | | | 0.045 J | | | 0.043 J | | 0.0092 J | | 0.22 U | | 0.2 U | |
| SVOC | ATRAZINE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | BENZALDEHYDE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.21 U | | 0.078 J | | | 0.59 | | | 0.32 | | 0.079 J | | 0.22 U | | 0.2 U | |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.004 U | | 0.091 J | | | 0.48 | | | 0.29 | | 0.078 J | | 0.0043 UJ | | 0.0046 | |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 0.21 U | | 0.11 J | | | 0.68 | | | 0.37 | | 0.099 J | | 0.22 U | | 0.2 U | |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.21 U | | 0.084 J | | | 0.27 | | | 0.17 J | | 0.051 J | | 0.22 U | | 0.2 U | |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.21 U | | 0.074 J | | | 0.49 | | | 0.36 | | 0.093 J | | 0.22 U | | 0.2 U | |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | CAPROLACTAM | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | CARBAZOLE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | CHRYSENE | MG/KG | 0.21 U | | 0.11 J | | | 0.66 | | | 0.43 | | 0.11 J | | 0.22 U | | 0.2 U | |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.004 U | | 0.02 J | | | 0.15 J | | | 0.086 J | | 0.018 J | | 0.0043 UJ | | 0.0039 U | |
| SVOC | DIBENZOFURAN | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | DIETHYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | DIMETHYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | FLUORANTHENE | MG/KG | 0.21 U | | 0.11 J | | | 1 | | | 0.66 | | 0.17 J | | 0.22 U | | 0.2 U | |
| SVOC | FLUORENE | MG/KG | 0.21 U | | 0.26 U | | | 0.015 J | | | 0.012 J | | 0.19 U | | 0.22 U | | 0.2 U | |
| SVOC | HEXACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.21 U | | 0.063 J | | | 0.31 | | | 0.18 J | | 0.048 J | | 0.22 U | | 0.2 U | |
| SVOC | ISOPHORONE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | NAPHTHALENE | MG/KG | 0.21 U | | 0.005 J | | | 0.008 J | | | 0.0064 J | | 0.19 U | | 0.22 U | | 0.2 U | |
| SVOC | NITROBENZENE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | PENTACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | PHENANTHRENE | MG/KG | 0.21 U | | 0.078 J | | | 0.27 | | | 0.23 | | 0.06 J | | 0.22 U | | 0.2 U | |
| SVOC | PHENOL | MG/KG | | | | | | | | | | | | | | | | |
| SVOC | PYRENE | MG/KG | 0.21 U | | 0.18 J | | | 0.82 | | | 0.55 | | 0.15 J | | 0.22 U | | 0.2 U | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | RSSB0166 | RSSB0169 | RSSB0169 | RSSB0169 | RSSB0210 | RSSB0210 | RSSB0210 | RSSB0211 | RSSB0211 | RSSB0212 | RSSB0212 | RSSB0237 | RSSB0237 | RSSB0248 | RSSB0248 | RSSB0259 |
| | | Field Sample ID | RSSB0166-SS-AD-AE-0 | RSSB0169-SS-AA-AB-0 | RSSB0169-SS-AD-AE-0 | RSSB0169-SS-AF-AG-0 | RSSB0210-SS-AA-AB-0 | RSSB0210-SS-AD-AE-0 | RSSB0210-SS-AF-AG-0 | RSSB0211-SS-AA-AB-0 | RSSB0211-SS-AD-AE-0 | RSSB0212-SS-AA-AB-0 | RSSB0212-SS-AD-AE-0 | RSSB0237-SS-AA-AB-0 | RSSB0237-SS-AD-AE-0 | RSSB0248-SS-AA-AB-0 | RSSB0248-SS-AD-AE-0 | RSSB0259-SS-AA-AB-0 |
| | | Sample Date | 11/17/2010 | 11/17/2010 | 11/17/2010 | 11/17/2010 | 11/22/2010 | 11/22/2010 | 11/22/2010 | 11/22/2010 | 11/22/2010 | 11/22/2010 | 11/22/2010 | 11/29/2010 | 11/29/2010 | 11/30/2010 | 11/30/2010 | 11/30/2010 |
| | | Depth (ft) | 1.5-2 | 0-0.5 | 1.5-2 | 2.5-3 | 0-0.5 | 1.5-2 | 2.5-3 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 | 1.5-2 | 0-0.5 |
| | | Units | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | ACETONE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | BENZENE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | BROMOFORM | MG/KG | | | | | | | | | | | | | | | | |
| VOC | BROMOMETHANE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | CARBON DISULFIDE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | CARBON TETRACHLORIDE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | CHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | CHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | CHLOROFORM | MG/KG | | | | | | | | | | | | | | | | |
| VOC | CHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | CYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | ETHYLBENZENE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | METHYL ACETATE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | | | | | | | | | | | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | TETRACHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | TOLUENE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | | | | | | | | | | | | | | | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | | | | | | | | | | | | | | | |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | | | | | | | | | | | | | | | | |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | RSSB0259 | SS21 | SS21 | SS22 | SS22 | SS23 | SS23 | SS-PH04 | SS-PH05 | SS-PH06 | SS-PH07 | TB-73 | TB-95 | TB-95 | TB-96 | TB-97 | WPH1 | WPH1 | WPH2 | WPH2 |
| | | Field Sample ID | RSSB0259-SS-AD-AE-0 | SS21 0-2 | SS21 1-1.5 | SS22 0-2 | SS22 1-1.5 | SS23 0-2 | SS23 1-1.5 | SS-PH04-2.5 | SS-PH05-4.0 | SS-PH06-4.5 | SS-PH07-4-4.5 | TB-73 | TB-95 | TB-95D | TB-96 | TB-97 | WPH1 0-2 | WPH1 1-1.5 | WPH2 0-2 | WPH2 1-1.5 |
| | | Sample Date | 11/30/2010 | 11/20/1998 | 11/20/1998 | 11/20/1998 | 11/20/1998 | 11/20/1998 | 11/20/1998 | 7/9/2003 | 7/9/2003 | 7/9/2003 | 7/9/2003 | 1/15/1999 | 1/15/1999 | 1/15/1999 | 1/15/1999 | 1/15/1999 | 11/20/1998 | 11/19/1998 | 11/20/1998 | 11/19/1998 |
| | | Depth (ft) | 1.5-2 | 0-2 | 1-1.5 | 0-2 | 1-1.5 | 0-2 | 1-1.5 | 2-3 | 3.5-4.5 | 4-5 | 4-5 | 0.5-1.5 | 0.75-1.25 | 0.75-1.25 | 0.75-1.25 | 1.25-1.5 | 0-2 | 1-1.5 | 0-2 | 1-1.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | |
| EPH | C10-C12 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | |
| EPH | C12-C16 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | |
| EPH | C16-C21 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C36 AROMATICS | MG/KG | | | | | | | | | | | | | | | | | | | | |
| EPH | C21-C40 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | |
| EPH | C9-C12 ALIPHATICS | MG/KG | | | | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | 1520 | | | | | | | 2790 J | 1470 | 1190 | 1020 | 3150 | 1590 | 1800 | 1690 | 2980 | 2760 | | 3100 | |
| METALS | ANTIMONY | MG/KG | 5.4 U | | | | | | | 2.8 J | 0.99 UJ | 1.1 UJ | 1.1 UJ | 5.4 | 1.6 | 1.1 | 2.1 | 0.64 | 4.62 | | 4.37 | |
| METALS | ARSENIC | MG/KG | 0.89 U | | | | | | | 136 J | 1.5 B | 4.7 | 1.1 B | 6.1 | 13.1 | 11.1 | 30.1 | 3.2 | 8.09 | | 9.17 | |
| METALS | BARIUM | MG/KG | 8.8 J | | | | | | | 3220 J | 55.9 J | 163 J | 7.9 J | 14500 | 841 | 771 | 702 | 2770 | 14400 | | 13100 | |
| METALS | BERYLLIUM | MG/KG | 0.45 U | | | | | | | 0.11 J | 0.04 B | 0.04 B | 0.02 U | 0.03 U | 0.1 | 0.06 | 0.04 | 0.07 | 0.166 J | | 0.161 J | |
| METALS | CADMIUM | MG/KG | 0.052 J | | | | | | | 1.4 J | 0.11 U | 0.52 B | 0.11 U | 1.7 | 0.91 | 0.85 | 0.36 | 0.78 | 1.39 | | 1.32 | |
| METALS | CALCIUM | MG/KG | 138 J | | | | | | | 7240 J | 164 B | 500 | 172 B | 50300 | 3180 | 2850 | 3010 | 3600 | 53400 | | 51200 | |
| METALS | CHROMIUM, HEXAVALENT | MG/KG | | | | | | | | | | | | | | | | | | | | |
| METALS | CHROMIUM | MG/KG | 3.4 | | | | | | | 31.5 J | 11.8 | 8.2 | 5.8 | 55.7 | 15.5 | 13 | 29 | 19.7 | 39.7 | | 40.9 | |
| METALS | COBALT | MG/KG | 0.3 J | | | | | | | 17.8 J | 2.5 B | 0.82 B | 0.34 B | 78.5 | 7.2 | 5.8 | 7.3 | 9.6 | 82.4 | | 81.4 | |
| METALS | COPPER | MG/KG | 2.1 J | | | | | | | 286 J | 8.5 | 95.6 | 1.3 B | 1080 | 73 | 65.6 | 89.8 | 225 | 1360 | | 855 | |
| METALS | CYANIDE | MG/KG | 0.57 U | | | | | | | | | | | | | | | | | | | |
| METALS | IRON | MG/KG | 1910 | | | | | | | 13700 J | 12300 | 4180 | 2980 | 14500 | 5830 | 5130 | 21400 | 7480 | 12000 | | 11400 | |
| METALS | LEAD | MG/KG | 9.4 | 937 | 524 | 66.7 | 136 | 40.5 | 187 | 727 J | 3.8 J | 472 J | 5.5 J | 1040 | 231 | 179 | 465 | 362 | 998 | 241 | 1090 | 225 |
| METALS | MAGNESIUM | MG/KG | 50.2 J | | | | | | | 977 J | 32.4 U | 62.4 B | 34.5 U | 2900 | 257 | 246 | 411 | 453 | 3190 | | 7340 | |
| METALS | MANGANESE | MG/KG | 9.1 | | | | | | | 54.7 J | 6.9 | 57.3 | 2.6 B | 80.7 | 151 | 136 | 259 | 47 | 118 | | 168 | |
| METALS | MERCURY | MG/KG | 0.15 | | | | | | | 4.3 J | 0.05 U | 0.3 | 0.06 U | 25.2 | 1.8 | 1.3 | 1.7 | 1.9 | 13.2 | | 17.8 | |
| METALS | NICKEL | MG/KG | 0.68 J | | | | | | | 37.5 J | 0.41 B | 1.5 B | 0.42 B | 46.2 | 5.8 | 3.7 | 6.8 | 13.8 | 54.2 | | 67.1 | |
| METALS | POTASSIUM | MG/KG | 48 J | | | | | | | 151 J | 43.8 B | 85.1 B | 66 B | 377 | 193 | 238 | 160 | 334 | | | 180 J | |
| METALS | SELENIUM | MG/KG | 3.1 U | | | | | | | 1.8 UJ | 0.97 U | 1 U | 1 U | 0.62 | 0.89 | 0.79 | 0.93 | 0.71 | | | | |
| METALS | SILVER | MG/KG | 0.89 U | | | | | | | 0.37 UJ | 0.19 U | 0.21 U | 0.21 U | 0.31 | 0.06 U | 0.06 U | 0.06 U | 0.06 U | 1.35 | | 1.17 | |
| METALS | SODIUM | MG/KG | 204 J | | | | | | | 156 UJ | 82.5 U | 89.4 U | 87.8 U | 352 | 38.2 | 133 | 171 | 156 | 100 | | 95 | |
| METALS | THALLIUM | MG/KG | 2.2 U | | | | | | | 2 UJ | 1.1 U | 1.1 U | 1.1 U | 0.43 U | 0.37 U | 0.37 U | 0.33 U | 0.33 U | 2.56 | | 2.12 | |
| METALS | VANADIUM | MG/KG | 3.5 J | | | | | | | 20 J | 4.3 B | 6.3 B | 3.3 B | 15.6 | 10.2 | 9.6 | 9.4 | 11.1 | 13.6 | | 19.3 | |
| METALS | ZINC | MG/KG | 25.7 | | | | | | | 2500 J | 355 | 171 | 18.4 | 3240 | 564 | 503 | 443 | 579 | 4840 | | 5270 | |
| PEST/PCB | 4,4'-DDD | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1221 | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1232 | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1242 | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1248 | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1254 | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1260 | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | BETA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | DIELDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | ENDRIN | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | HEXACHLOROPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | | | | | | | | | | | | | | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | RSSB0259 | SS21 | SS21 | SS22 | SS22 | SS23 | SS23 | SS-PH04 | SS-PH05 | SS-PH06 | SS-PH07 | TB-73 | TB-95 | TB-95 | TB-96 | TB-97 | WPH1 | WPH1 | WPH2 | WPH2 |
| | | Field Sample ID | RSSB0259-SS-AD-AE-0 | SS21 0-2 | SS21 1-1.5 | SS22 0-2 | SS22 1-1.5 | SS23 0-2 | SS23 1-1.5 | SS-PH04-2.5 | SS-PH05-4.0 | SS-PH06-4.5 | SS-PH07-4-4.5 | TB-73 | TB-95 | TB-95D | TB-96 | TB-97 | WPH1 0-2 | WPH1 1-1.5 | WPH2 0-2 | WPH2 1-1.5 |
| | | Sample Date | 11/30/2010 | 11/20/1998 | 11/20/1998 | 11/20/1998 | 11/20/1998 | 11/20/1998 | 11/20/1998 | 7/9/2003 | 7/9/2003 | 7/9/2003 | 7/9/2003 | 1/15/1999 | 1/15/1999 | 1/15/1999 | 1/15/1999 | 1/15/1999 | 11/20/1998 | 11/19/1998 | 11/20/1998 | 11/19/1998 |
| | | Depth (ft) | 1.5-2 | 0-2 | 1-1.5 | 0-2 | 1-1.5 | 0-2 | 1-1.5 | 2-3 | 3.5-4.5 | 4-5 | 4-5 | 0.5-1.5 | 0.75-1.25 | 0.75-1.25 | 0.75-1.25 | 1.25-1.5 | 0-2 | 1-1.5 | 0-2 | 1-1.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DINITROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-CHLOROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.2 U | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-NITROANILINE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | 2-NITROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | 3-NITROANILINE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLOROANILINE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-METHYLPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-NITROANILINE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | 4-NITROPHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | ACENAPHTHENE | MG/KG | 0.2 U | | | | | | | | | | | | | | | | | | | |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.2 U | | | | | | | | | | | | | | | | | | | |
| SVOC | ACETOPHENONE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | ANTHRACENE | MG/KG | 0.2 U | | | | | | | | | | | | | | | | | | | |
| SVOC | ATRAZINE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZALDEHYDE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.0099 J | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(A)PYRENE | MG/KG | 0.013 | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 0.2 U | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.2 U | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 0.2 U | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | CAPROLACTAM | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | CARBAZOLE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | CHRYSENE | MG/KG | 0.011 J | | | | | | | | | | | | | | | | | | | |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.0014 J | | | | | | | | | | | | | | | | | | | |
| SVOC | DIBENZOFURAN | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | DIETHYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | DIMETHYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | FLUORANTHENE | MG/KG | 0.01 J | | | | | | | | | | | | | | | | | | | |
| SVOC | FLUORENE | MG/KG | 0.2 U | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | HEXACHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.2 U | | | | | | | | | | | | | | | | | | | |
| SVOC | ISOPHORONE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | NAPHTHALENE | MG/KG | 0.2 U | | | | | | | | | | | | | | | | | | | |
| SVOC | NITROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | PENTACHLOROPHENOL | MG/KG | | | | | | | | | | | | 2.4 J | 0.29 J | 2.6 U | 2.3 U | 0.74 J | | | | |
| SVOC | PHENANTHRENE | MG/KG | 0.0048 J | | | | | | | | | | | | | | | | | | | |
| SVOC | PHENOL | MG/KG | | | | | | | | | | | | | | | | | | | | |
| SVOC | PYRENE | MG/KG | 0.023 J | | | | | | | | | | | | | | | | | | | |

**Table 1 Soil Data (including field duplicates)**

| Group | Analyte | Exposure Area | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV | UNDV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | RSSB0259 | SS21 | SS21 | SS22 | SS22 | SS23 | SS23 | SS-PH04 | SS-PH05 | SS-PH06 | SS-PH07 | TB-73 | TB-95 | TB-95 | TB-96 | TB-97 | WPH1 | WPH1 | WPH2 | WPH2 |
| | | Field Sample ID | RSSB0259-SS-AD-AE-0 | SS21 0-2 | SS21 1-1.5 | SS22 0-2 | SS22 1-1.5 | SS23 0-2 | SS23 1-1.5 | SS-PH04-2.5 | SS-PH05-4.0 | SS-PH06-4.5 | SS-PH07-4-4.5 | TB-73 | TB-95 | TB-95D | TB-96 | TB-97 | WPH1 0-2 | WPH1 1-1.5 | WPH2 0-2 | WPH2 1-1.5 |
| | | Sample Date | 11/30/2010 | 11/20/1998 | 11/20/1998 | 11/20/1998 | 11/20/1998 | 11/20/1998 | 11/20/1998 | 7/9/2003 | 7/9/2003 | 7/9/2003 | 7/9/2003 | 1/15/1999 | 1/15/1999 | 1/15/1999 | 1/15/1999 | 1/15/1999 | 11/20/1998 | 11/19/1998 | 11/20/1998 | 11/19/1998 |
| | | Depth (ft) | 1.5-2 | 0-2 | 1-1.5 | 0-2 | 1-1.5 | 0-2 | 1-1.5 | 2-3 | 3.5-4.5 | 4-5 | 4-5 | 0.5-1.5 | 0.75-1.25 | 0.75-1.25 | 0.75-1.25 | 1.25-1.5 | 0-2 | 1-1.5 | 0-2 | 1-1.5 |
| | | Units | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,1-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | 1,4-DIOXANE (P-DIOXANE) | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | 2-HEXANONE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | ACETONE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | BENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOFORM | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | BROMOMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | CARBON DISULFIDE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | CARBON TETRACHLORIDE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROFORM | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | CHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | CYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | DICHLOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | ETHYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | ISOPROPYLBENZENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYLCYCLOHEXANE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | NAPHTHALENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | STYRENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | TETRACHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | TOLUENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | VINYL CHLORIDE | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | | | | | | | | | | | | | | | | | | | | |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | | | | | | | | |

**Table 2 Sediment Data (including field duplicates)**

| Group | Analyte | Exposure Area | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | HCDD0035 | HCDD0036 | HCDD0037 | HCDD0038 | HCDD0039 | HCDD0044 | HCDD0045 | HCDD0073 | HCDD0099 | HCDD0099 | HCDD0100 | HCDD0111 | MPDD0001 | SED-09 | SSW-1 | SSW-1 | SSW-2 |
| | | Field Sample ID | HCDD0035-SD-AA-AB-0 | HCDD0036-SD-AA-AB-0 | HCDD0037-SD-AA-AB-0 | HCDD0038-SD-AA-AB-0 | HCDD0039-SD-AA-AB-0 | HCDD0044-SD-AA-AB-0 | HCDD0045-SD-AA-AB-0 | HCDD0073-SD-AA-AB-0 | HCDD0099-SD-AA-AB-0 | HCDD0099-SD-AA-AB-1 | HCDD0100-SD-AA-AB-0 | HCDD0111-SD-AA-AB-0 | MPDD0001-SD-AA-AB-0 | SED-09 | 001-SD01 | 001-SD11 | 002-SD01 |
| | | Sample Date | 6/20/2005 | 6/20/2005 | 6/20/2005 | 6/20/2005 | 7/25/2005 | 7/25/2005 | 7/25/2005 | 9/21/2005 | 8/10/2006 | 8/10/2006 | 8/15/2006 | 8/17/2006 | 2/4/2010 | 10/11/1996 | 12/4/1991 | 12/4/1991 | 12/4/1991 |
| | | Depth (ft) | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0 | 0-0.3 | 0-0.3 | 0-0.3 |
| | | Units | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/KG | 8210 J | 2550 | 2400 | 1450 | 1460 | 523 | 1460 | 3230 | 1890 | 2070 | 1250 | 1070 | 1650 J | 1060 | | | |
| METALS | ANTIMONY | MG/KG | 41.9 J | 2.1 U | 1.8 U | 1.6 U | 7.4 J | 1.8 U | 4 J | 17 | 4.7 J | 5.2 J | 13.5 J | 1.5 U | 5.7 U | 32.7 | | | |
| METALS | ARSENIC | MG/KG | 1720 J | 726 J | 138 J | 1.3 J | 18.1 | 3.4 | 8.5 | 20.7 J | | | 35.2 | 7.6 | 4.7 | 18.3 | | | |
| METALS | BARIUM | MG/KG | 2150 J | 1260 | 4030 | 25.1 J | 190 | 22.2 J | 75.7 | 35.9 J | 74.3 | 71.5 | 62.2 | 20.5 J | 19 U | 57.7 | 103 | 46.9 | 97.7 |
| METALS | BERYLLIUM | MG/KG | 0.36 J | 0.09 U | 0.07 U | 0.07 U | 0.1 J | 0.05 U | 0.04 J | 0.21 J | 0.13 J | 0.15 J | 0.12 J | 0.1 J | 0.48 U | 0.04 | | | |
| METALS | CADMIUM | MG/KG | 3.9 J | 4.2 | 0.59 J | 0.09 U | 0.9 J | 0.14 J | 0.18 J | 0.14 U | 0.9 | 0.77 J | 0.24 J | 0.25 J | 0.47 U | 0.33 | | | |
| METALS | CALCIUM | MG/KG | 3300 J | 874 J | 913 J | 161 J | 1150 | 422 J | 1540 | 2550 J | 3020 J | 5940 J | 2170 | 504 J | 4720 | 2020 | | | |
| METALS | CHROMIUM | MG/KG | 2070 J | 953 | 458 | 6.1 | 16.5 | 4.2 | 10.3 | 17.3 J | 19.6 J | 19.2 J | 290 | 5.8 J | | 12.8 | 10.4 | 11.2 | 13.4 |
| METALS | COBALT | MG/KG | 11.8 J | 1.6 J | 1.4 J | 0.74 U | 2.3 J | 0.52 J | 2.6 J | 3.9 J | 2 J | 2.2 J | 1.6 J | 0.99 J | 1.4 J | 1.4 | | | |
| METALS | COPPER | MG/KG | 330 J | 271 | 39.4 | 0.85 J | 31.7 | 2.3 J | 32.5 | 10.6 J | 58.4 J | 59.1 J | 18.4 J | 8.4 | 23.1 | 9.3 | | | |
| METALS | CYANIDE | MG/KG | 651 J | 294 J | 25.8 J | 0.56 UJ | | | | 6.6 J | 9.5 | 7.7 | | 13.6 | 0.17 J | | | | |
| METALS | IRON | MG/KG | 13500 J | 5370 | 6010 | 2300 | 5520 | 2390 | 7910 | 9940 | 5370 | 5710 | 3760 | 3250 | 4900 J | 4760 | | | |
| METALS | LEAD | MG/KG | 10900 J | 7350 | 3020 | 15.7 | 250 | 15.5 | 80.3 | 81.4 | 399 | 327 | 4280 | 38.9 | 16.2 | 153 | 145 | 128 | 118 |
| METALS | MAGNESIUM | MG/KG | 607 J | 157 J | 183 J | 41.3 U | 654 J | 159 J | 839 J | 2190 J | 1460 | 3210 J | 1270 | 248 J | 2630 | 1370 | | | |
| METALS | MANGANESE | MG/KG | 96.3 J | 17.2 | 23.5 | 8.1 | 14 J | 6.7 J | 30.1 J | 58.2 J | 39.1 J | 36.4 J | 19.3 | 22.2 | 50.3 J | 41 | | | |
| METALS | MERCURY | MG/KG | 1.3 J | 0.37 | 0.93 | 0.057 U | 0.35 J | 0.052 UJ | 1.6 J | 0.059 J | 0.62 J | 0.42 J | 0.087 | 0.31 | 0.09 U | 0.12 | | | |
| METALS | NICKEL | MG/KG | 8.6 J | 4.6 J | 1.2 J | 0.48 U | 3.2 J | 0.91 J | 2.6 J | 6.2 J | 4.6 J | 4.5 J | 2.8 J | 3 J | 3 J | 2.9 | | | |
| METALS | POTASSIUM | MG/KG | 456 UJ | 270 U | 232 U | 206 U | 210 U | 225 U | 200 J | 679 J | 250 J | 251 J | 252 J | 140 J | 388 J | 160 | | | |
| METALS | SELENIUM | MG/KG | 2.3 UJ | 1.3 U | 1.2 UJ | 1 UJ | 1 U | 1.1 U | 0.89 U | 0.91 U | 0.7 U | 0.74 U | 0.7 U | 0.9 U | 3.3 U | 0.49 | | | |
| METALS | SILVER | MG/KG | 1.3 J | 0.6 U | 0.52 U | 0.46 U | 0.38 U | 0.41 U | 0.32 U | 0.43 U | 0.22 U | 0.23 U | 0.22 U | 0.37 U | 0.95 U | 0.16 U | | | |
| METALS | SODIUM | MG/KG | 310 UJ | 183 U | 157 U | 140 U | 150 U | 160 U | 127 U | 392 J | 86.1 J | 62.8 J | 57 U | 173 J | 475 U | 71 | | | |
| METALS | THALLIUM | MG/KG | 5.5 J | 4.5 | 2.1 U | 1.9 U | 1.3 U | 1.4 U | 1.1 U | 1.7 U | 1.4 U | 1.5 U | 1.4 U | 0.99 U | 2.4 U | 0.88 | | | |
| METALS | VANADIUM | MG/KG | 26.7 J | 7.4 J | 7.9 J | 4.4 J | 13.7 J | 2.3 J | 14.3 | 15.4 | 17.4 | 18.1 | 6.7 J | 10.4 J | 6.7 | 7.7 | | | |
| METALS | ZINC | MG/KG | 1230 J | 316 | 134 | 6.6 | 207 | 15.4 | 113 J | 254 J | 216 J | 225 J | 124 J | 133 | 36.2 | 121 | | | |
| PEST/PCB | 4,4'-DDD | MG/KG | 0.087 J | 0.0052 U | 0.0025 J | 0.0039 U | 0.016 J | 0.013 | 0.0037 U | 0.0064 J | | | | | 0.0038 U | | | | |
| PEST/PCB | 4,4'-DDE | MG/KG | 0.02 J | 0.0052 U | 0.0049 U | 0.0039 U | 0.0078 J | 0.0044 J | 0.0037 U | 0.0038 UJ | | | | | 0.0038 U | | | | |
| PEST/PCB | 4,4'-DDT | MG/KG | 0.0097 UJ | 0.0052 U | 0.0049 U | 0.0039 U | 0.0074 J | 0.0091 J | 0.0037 U | 0.0038 UJ | | | | | 0.0038 U | | | | |
| PEST/PCB | ALDRIN | MG/KG | 0.005 UJ | 0.0027 U | 0.0025 U | 0.002 U | 0.0021 U | 0.002 U | 0.0019 U | 0.002 UJ | | | | | 0.002 U | | | | |
| PEST/PCB | ALPHA-BHC | MG/KG | 0.005 UJ | 0.0027 U | 0.0025 U | 0.002 U | 0.0021 U | 0.002 U | 0.0019 U | 0.002 UJ | | | | | 0.002 U | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/KG | 0.005 UJ | 0.0027 U | 0.0025 U | 0.002 U | | 0.0016 J | 0.0038 J | 0.002 UJ | | | | | 0.002 U | | | | |
| PEST/PCB | AROCLOR-1016 | MG/KG | 0.097 UJ | 0.052 U | 0.049 U | 0.039 U | 0.042 U | 0.04 U | 0.037 U | 0.038 UJ | 0.079 U | 0.11 U | 0.02 U | 0.021 U | 0.038 U | | | | |
| PEST/PCB | AROCLOR-1221 | MG/KG | 0.2 UJ | 0.11 U | 0.098 U | 0.08 U | 0.085 U | 0.081 U | 0.075 U | 0.078 UJ | 0.079 U | 0.11 U | 0.02 U | 0.021 U | 0.038 U | | | | |
| PEST/PCB | AROCLOR-1232 | MG/KG | 0.097 UJ | 0.052 U | 0.049 U | 0.039 U | 0.042 U | 0.04 U | 0.037 U | 0.038 UJ | 0.079 U | 0.11 U | 0.02 U | 0.021 U | 0.038 U | | | | |
| PEST/PCB | AROCLOR-1242 | MG/KG | 0.097 UJ | 0.052 U | 0.049 U | 0.039 U | 0.042 U | 0.04 U | 0.037 U | 0.038 UJ | 0.079 U | 0.11 U | 0.02 U | 0.021 U | 0.038 U | | | | |
| PEST/PCB | AROCLOR-1248 | MG/KG | 0.097 UJ | 0.052 U | 0.049 U | 0.039 U | 0.042 U | 0.04 U | 0.037 U | 0.038 UJ | 0.079 U | 0.11 U | 0.02 U | 0.021 U | 0.038 U | | | | |
| PEST/PCB | AROCLOR-1254 | MG/KG | 0.17 J | 0.052 U | 0.049 U | 0.039 U | 0.19 | 0.1 | 0.037 U | 0.038 UJ | 0.47 | 0.49 | 0.15 J | 0.18 | 0.038 U | | | | |
| PEST/PCB | AROCLOR-1260 | MG/KG | 0.11 J | 0.052 U | 0.049 U | 0.039 U | 0.1 | 0.074 | 0.035 J | 0.038 UJ | 0.34 | 0.34 J | 0.26 | 0.11 | 0.021 J | | | | |
| PEST/PCB | AROCLOR-1262 | MG/KG | | | | | | | | | | | | | 0.038 U | | | | |
| PEST/PCB | AROCLOR-1268 | MG/KG | | | | | | | | | | | | | 0.038 U | | | | |
| PEST/PCB | BETA-BHC | MG/KG | 0.005 UJ | 0.0027 U | 0.0025 U | 0.002 U | | | 0.0019 U | 0.002 UJ | | | | | 0.002 U | | | | |
| PEST/PCB | DELTA-BHC | MG/KG | 0.005 UJ | 0.0027 U | 0.0025 U | 0.002 U | 0.0021 U | 0.002 U | 0.0019 U | 0.002 UJ | | | | | 0.002 U | | | | |
| PEST/PCB | DIELDRIN | MG/KG | 0.0097 UJ | 0.0052 U | 0.0049 U | 0.0039 U | 0.007 J | 0.004 U | 0.0037 U | 0.0038 UJ | | | | | 0.0038 U | | | | |
| PEST/PCB | ENDOSULFAN I | MG/KG | 0.005 UJ | 0.0027 U | 0.0025 U | 0.002 U | 0.0011 U | 0.002 U | 0.0019 U | 0.002 UJ | | | | | 0.002 U | | | | |
| PEST/PCB | ENDOSULFAN II | MG/KG | 0.0097 UJ | 0.0052 U | 0.0049 U | 0.0039 U | 0.0042 U | 0.004 U | 0.0037 U | 0.0038 UJ | | | | | 0.0038 U | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/KG | 0.0097 UJ | 0.0052 U | 0.0049 U | 0.0039 U | 0.0042 U | 0.004 U | 0.0037 U | 0.0038 UJ | | | | | 0.0038 U | | | | |
| PEST/PCB | ENDRIN | MG/KG | 0.0097 UJ | 0.0052 U | 0.0049 U | 0.0039 U | 0.0057 J | 0.004 U | 0.0037 U | 0.0033 J | | | | | 0.0038 U | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/KG | 0.0051 J | 0.0052 U | 0.0049 U | 0.0039 U | 0.004 J | 0.0031 J | 0.0037 U | 0.0042 J | | | | | 0.0038 U | | | | |
| PEST/PCB | ENDRIN KETONE | MG/KG | 0.0097 UJ | 0.0052 U | 0.0049 U | 0.0039 U | 0.0058 | 0.004 U | 0.0021 J | 0.0038 UJ | | | | | 0.0029 J | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/KG | 0.005 UJ | 0.0027 U | 0.0025 U | 0.002 U | 0.0021 U | 0.002 U | 0.0019 U | 0.002 UJ | | | | | 0.002 U | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/KG | 0.005 UJ | 0.0027 U | 0.0012 J | 0.002 U | 0.0056 J | 0.002 U | 0.0071 | | | | | | 0.0017 J | | | | |
| PEST/PCB | HEPTACHLOR | MG/KG | 0.005 UJ | 0.0027 U | 0.0025 U | 0.002 U | 0.0021 U | 0.002 U | 0.0019 U | 0.002 UJ | | | | | 0.002 U | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/KG | 0.0046 J | 0.0027 U | 0.0025 U | 0.002 U | 0.0027 J | 0.0017 J | 0.0019 U | 0.0013 J | | | | | 0.002 U | | | | |
| PEST/PCB | METHOXYCHLOR | MG/KG | 0.05 UJ | 0.027 U | 0.025 U | 0.02 U | 0.021 U | 0.02 U | 0.019 U | 0.02 J | | | | | 0.02 U | | | | |
| PEST/PCB | TOXAPHENE | MG/KG | 0.5 UJ | 0.27 U | 0.25 U | 0.2 U | 0.21 U | 0.2 U | 0.19 U | 0.2 UJ | | | | | 0.2 U | | | | |
| SVOC | 1,1'-BIPHENYL | MG/KG | 0.067 J | 0.024 J | 0.48 UJ | 0.39 UJ | 0.083 J | 0.032 J | 0.37 U | 3.8 UJ | | | | | 0.2 U | | | | |
| SVOC | 1,2,4,5-TETRACHLOROBENZENE | MG/KG | | | | | | | | | | | | | 0.2 U | | | | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | 1,2-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | 1,3-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | 1,4-DICHLOROBENZENE | MG/KG | | | | | | | | | | | | | | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | 0.42 U | 0.4 U | 0.37 U | 3.8 UJ | | | | | 0.2 U | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | 2,3,4,6-TETRACHLOROPHENOL | MG/KG | | | | | | | | | | | | | 0.2 U | | | | |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/KG | 2.4 UJ | 1.3 UJ | 1.2 UJ | 0.99 UJ | 1 UJ | 1 UJ | 0.93 UJ | 9.6 UJ | | | | | 0.2 U | 4.3 U | 4.8 U | 7 U | 2.4 U |

**Table 2 Sediment Data (including field duplicates)**

| Group | Analyte | Exposure Area | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | HCDD0035 | HCDD0036 | HCDD0037 | HCDD0038 | HCDD0039 | HCDD0044 | HCDD0045 | HCDD0073 | HCDD0099 | HCDD0099 | HCDD0100 | HCDD0111 | MPDD0001 | SED-09 | SSW-1 | SSW-1 | SSW-2 |
| | | Field Sample ID | HCDD0035-SD-AA-AB-0 | HCDD0036-SD-AA-AB-0 | HCDD0037-SD-AA-AB-0 | HCDD0038-SD-AA-AB-0 | HCDD0039-SD-AA-AB-0 | HCDD0044-SD-AA-AB-0 | HCDD0045-SD-AA-AB-0 | HCDD0073-SD-AA-AB-0 | HCDD0099-SD-AA-AB-0 | HCDD0099-SD-AA-AB-1 | HCDD0100-SD-AA-AB-0 | HCDD0111-SD-AA-AB-0 | MPDD0001-SD-AA-AB-0 | SED-09 | 001-SD01 | 001-SD11 | 002-SD01 |
| | | Sample Date | 6/20/2005 | 6/20/2005 | 6/20/2005 | 6/20/2005 | 7/25/2005 | 7/25/2005 | 7/25/2005 | 9/21/2005 | 8/10/2006 | 8/10/2006 | 8/15/2006 | 8/17/2006 | 2/4/2010 | 10/11/1996 | 12/4/1991 | 12/4/1991 | 12/4/1991 |
| | | Depth (ft) | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0 | 0-0.3 | 0-0.3 | 0-0.3 |
| | | Units | | | | | | | | | | | | | | | | | |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | 0.42 UJ | 0.4 UJ | 0.37 UJ | 3.8 UJ | | | | | 0.2 U | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | 2,4-DICHLOROPHENOL | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | 0.42 U | 0.4 U | 0.37 U | 3.8 UJ | | | | | 0.2 U | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | 0.42 U | 0.4 U | 0.37 U | 3.8 UJ | | | | | 0.2 U | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | 2,4-DINITROPHENOL | MG/KG | 2.4 UJ | 1.3 UJ | 1.2 UJ | 0.99 UJ | 1 UJ | 1 U | 0.93 U | 9.6 UJ | | | | | 0.39 UJ | 4.3 U | 4.8 U | 7 U | 2.4 U |
| SVOC | 2,4-DINITROTOLUENE | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | 0.42 UJ | 0.4 U | 0.37 U | 3.8 UJ | | | | | 0.2 U | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | 2,6-DINITROTOLUENE | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | 0.42 UJ | 0.4 U | 0.37 U | 3.8 UJ | | | | | 0.2 U | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | 0.42 UJ | 0.4 U | 0.37 U | 3.8 UJ | | | | | 0.2 U | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | 2-CHLOROPHENOL | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | 0.42 UJ | 0.4 U | 0.37 U | 3.8 UJ | | | | | 0.2 U | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/KG | 0.15 J | 0.051 J | 0.48 UJ | 0.39 UJ | 0.03 J | 0.028 J | 0.37 UJ | 3.8 UJ | | | | | 0.026 J | 0.49 J | 0.31 J | 1.4 U | 0.49 U |
| SVOC | 2-METHYLPHENOL | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | 0.42 U | 0.4 U | 0.37 U | 3.8 UJ | | | | | 0.2 U | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | 2-NITROANILINE | MG/KG | 2.4 UJ | 1.3 UJ | 1.2 UJ | 0.99 UJ | 1 UJ | 1 U | 0.93 U | 9.6 UJ | | | | | 0.39 U | 4.3 U | 4.8 U | 7 U | 2.4 U |
| SVOC | 2-NITROPHENOL | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | 0.42 U | 0.4 U | 0.37 U | 3.8 UJ | | | | | 0.2 U | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | | 0.4 UJ | | 3.8 UJ | | | | | 0.2 U | 1.7 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | 3-NITROANILINE | MG/KG | 2.4 UJ | 1.3 UJ | 1.2 UJ | 0.99 UJ | | 1 U | 0.93 U | 9.6 UJ | | | | | 0.39 U | 4.3 U | 4.8 U | 7 U | 2.4 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/KG | 2.4 UJ | 1.3 UJ | 1.2 UJ | 0.99 UJ | | 1 U | 0.93 UJ | 9.6 UJ | | | | | 0.39 UJ | 4.3 U | 4.8 U | 7 U | 2.4 U |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | | 0.4 U | 0.37 UJ | 3.8 UJ | | | | | 0.2 U | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | 0.42 UJ | 0.4 U | 0.37 U | 3.8 UJ | | | | | 0.2 U | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | 4-CHLOROANILINE | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | 0.42 U | 0.4 U | 0.37 U | 3.8 UJ | | | | | 0.2 U | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | 0.42 UJ | 0.4 U | 0.37 U | 3.8 UJ | | | | | 0.2 U | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | 4-METHYLPHENOL | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | 0.42 U | 0.4 U | 0.37 U | 3.8 UJ | | | | | 0.2 U | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | 4-NITROANILINE | MG/KG | 2.4 UJ | 1.3 UJ | 1.2 UJ | 0.99 UJ | 1 UJ | 1 U | 0.93 U | 9.6 UJ | | | | | 0.39 U | 4.3 U | 4.8 U | 7 U | 2.4 U |
| SVOC | 4-NITROPHENOL | MG/KG | 2.4 UJ | 1.3 UJ | 1.2 UJ | 0.99 UJ | 1 UJ | 1 U | 0.93 U | 9.6 UJ | | | | | 0.39 U | 4.3 U | 4.8 U | 7 U | 2.4 U |
| SVOC | ACENAPHTHENE | MG/KG | 0.1 J | 0.074 J | 0.054 J | 0.39 UJ | 0.54 J | 0.47 | 0.12 J | 0.66 J | 1.9 J | 2.4 J | 0.58 J | 0.093 J | 0.3 | 4.5 | 1.5 | 0.22 J | 0.2 J |
| SVOC | ACENAPHTHYLENE | MG/KG | 0.054 J | 0.52 UJ | 0.48 UJ | 0.39 UJ | 0.42 UJ | 0.4 U | 0.37 U | 3.8 UJ | 7.8 UJ | 6.1 UJ | 3.9 U | 0.6 U | 0.022 J | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | ACETOPHENONE | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | 0.42 U | 0.4 U | 0.37 U | 3.8 UJ | | | | | 0.2 U | | | | |
| SVOC | ANTHRACENE | MG/KG | 0.18 J | 0.13 J | 0.13 J | 0.39 UJ | 1.2 J | 0.98 | 0.22 J | 1.3 J | 5.1 J | 5.1 J | 1.4 J | 0.29 J | 0.61 | 6.1 | 2.6 | 0.33 J | 0.28 J |
| SVOC | ATRAZINE | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | | | | 3.8 UJ | | | | | 0.2 U | | | | |
| SVOC | BENZALDEHYDE | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | 0.42 U | 0.4 U | 0.37 U | 3.8 UJ | | | | | 0.2 U | | | | |
| SVOC | BENZO(A)ANTHRACENE | MG/KG | 0.99 J | 0.58 J | 0.83 J | 0.028 J | 4.7 J | 2.7 J | 1.2 J | 6.8 J | 14 J | 16 J | 7 | 1.4 | 3.8 | 12 | 6.2 | 1.1 J | 0.92 |
| SVOC | BENZO(A)PYRENE | MG/KG | 1.2 J | 0.62 J | 0.95 J | 0.39 UJ | 4.6 J | 2.4 J | 1.5 J | 6.4 J | 14 J | 15 J | 8.6 | 1.7 | 4.1 | 12 | 4.3 | 1.1 J | 0.81 |
| SVOC | BENZO(B)FLUORANTHENE | MG/KG | 1.5 J | 0.69 J | 1.4 J | 0.024 J | 4.4 J | 3.2 J | 1.8 J | 6.1 J | 15 J | 14 J | 8.7 | 1.7 | 3.9 | 10 | 4.4 | 1.5 | 1.1 |
| SVOC | BENZO(G,H,I)PERYLENE | MG/KG | 0.61 J | 0.28 J | 0.47 J | 0.39 UJ | 1.8 J | 1.2 J | 0.69 J | 2.8 J | 10 J | 5.8 J | 5.6 | 0.78 | 1 | 7.1 | 1.8 | 0.49 J | 0.47 J |
| SVOC | BENZO(K)FLUORANTHENE | MG/KG | 1.5 J | 0.78 J | 0.95 J | 0.025 J | 3.3 J | 1.5 J | 1.1 J | 7.4 J | 16 J | 22 J | 7.9 | 1.8 | 4.7 | 9.6 | 4.3 | 1.2 J | 0.92 |
| SVOC | BENZOIC ACID | MG/KG | | | | | | | | | | | | | | 4.3 U | 4.8 U | 7 U | 0.49 U |
| SVOC | BENZYL ALCOHOL | MG/KG | | | | | | | | | | | | | | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | BENZYL BUTYL PHTHALATE | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | | 0.4 UJ | | 3.8 UJ | | | | | 0.2 U | 0.87 U | 0.17 J | 1.4 U | 0.49 U |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | 0.42 U | 0.4 U | 0.37 U | 3.8 UJ | | | | | 0.2 U | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | 0.42 U | 0.4 U | 0.37 U | 3.8 U | | | | | 0.2 U | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | 1.1 J | 0.4 UJ | 0.28 J | 0.24 J | | | | | 0.15 J | 0.3 J | 26 | 0.8 J | 1.3 |
| SVOC | CAPROLACTAM | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | 0.42 U | 0.4 U | 0.37 U | 3.8 UJ | | | | | 0.2 U | | | | |
| SVOC | CARBAZOLE | MG/KG | 0.091 J | 0.066 J | 0.13 J | 0.39 UJ | 0.57 J | 0.3 J | 0.2 J | 1.2 J | | | | | 0.72 | 2.4 | 0.97 U | 1.4 U | 0.49 U |
| SVOC | CHRYSENE | MG/KG | 1.6 J | 0.82 J | 1.2 J | 0.03 J | 5.9 J | 3.4 J | 2 J | 8.7 J | 18 J | 19 J | 9.8 | 1.8 | 5.8 | 13 | 4.6 | 1 J | 0.86 |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/KG | 0.25 J | 0.11 J | 0.18 J | 0.39 UJ | 1.1 J | 0.46 J | 0.32 J | 0.91 J | 7.8 UJ | 2 J | 1.7 J | 0.19 J | 0.33 | 2.5 | 0.67 J | 1.4 U | 0.49 U |
| SVOC | DIBENZOFURAN | MG/KG | 0.082 J | 0.04 J | 0.027 J | 0.39 UJ | 0.17 J | 0.16 J | 0.049 J | 0.29 J | | | | | 0.14 J | 1.5 | 0.97 U | 1.4 U | 0.078 J |
| SVOC | DIETHYLPHTHALATE | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | 0.42 UJ | 0.4 U | 0.37 U | 3.8 UJ | | | | | 0.2 U | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | DIMETHYLPHTHALATE | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | 0.42 UJ | 0.4 U | 0.37 U | 3.8 UJ | | | | | 0.2 U | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/KG | 0.1 J | 0.033 J | 0.03 J | 0.39 UJ | 0.063 J | 0.023 J | 0.37 UJ | 3.8 UJ | | | | | 0.2 U | 0.87 U | 0.14 J | 1.4 U | 0.057 J |
| SVOC | DI-N-OCTYLPHTHALATE | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | | 0.4 UJ | | 3.8 UJ | | | | | 0.2 U | 0.87 U | 0.97 U | 1.4 U | 0.6 |
| SVOC | FLUORANTHENE | MG/KG | 2.1 J | 1.2 J | 2.4 J | 0.047 J | 10 | 6.2 | 3.1 | 20 J | 41 J | 37 J | 24 | 3.7 | 16 | 31 | 11 | 1.9 | 1.4 |
| SVOC | FLUORENE | MG/KG | 0.97 UJ | 0.52 UJ | 0.055 J | 0.39 UJ | 0.51 J | 0.37 J | 0.12 J | 0.7 J | 2.3 J | 2.5 J | 0.62 J | 0.088 J | 0.32 | 2.8 | 1.2 | 0.15 J | 0.15 J |
| SVOC | HEXACHLOROBENZENE | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | | 0.4 U | 0.37 UJ | 3.8 UJ | | | | | 0.2 U | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | HEXACHLOROBUTADIENE | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | 0.42 U | 0.4 U | 0.37 U | 3.8 UJ | | | | | 0.2 U | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | 0.42 UJ | 0.4 U | 0.37 U | 3.8 UJ | | | | | 0.2 UJ | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | HEXACHLOROETHANE | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | 0.42 U | 0.4 U | 0.37 U | 3.8 UJ | | | | | 0.2 U | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/KG | 0.6 J | 0.28 J | 0.49 J | 0.39 UJ | 1.8 J | 1.2 J | 0.74 J | 3 J | 9.9 J | 6.2 J | 5.5 | 0.81 | 1.2 | 6.3 | 2 | 0.42 J | 0.42 J |
| SVOC | ISOPHORONE | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | 0.42 U | 0.4 U | 0.37 U | 3.8 UJ | | | | | 0.2 U | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | NAPHTHALENE | MG/KG | 0.34 J | 0.16 J | 0.022 J | 0.39 UJ | 0.055 J | 0.023 J | 0.37 U | 3.8 UJ | 1.3 J | 6.1 UJ | 3.9 U | 0.6 U | 0.2 U | 1.7 | 0.97 U | 1.4 U | 0.069 J |
| SVOC | NITROBENZENE | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | 0.42 U | 0.4 U | 0.37 U | 3.8 UJ | | | | | 0.2 U | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | 0.42 UJ | 0.4 U | 0.37 UJ | 3.8 UJ | | | | | 0.2 U | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | | 0.4 U | 0.37 U | 3.8 UJ | | | | | 0.2 U | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | PENTACHLOROPHENOL | MG/KG | 2.4 UJ | 1.3 UJ | 1.2 UJ | 0.99 UJ | | 1 U | 0.93 UJ | 9.6 UJ | | | | | 0.39 U | 4.3 U | 4.8 U | 7 U | 2.4 U |
| SVOC | PHENANTHRENE | MG/KG | 0.78 J | 0.53 J | 0.93 J | 0.39 UJ | 6.2 | 4.2 | 1.7 J | 11 J | 24 J | 23 J | 11 | 1.5 | 6.3 | 23 | 10 | 1.3 J | 1.2 |
| SVOC | PHENOL | MG/KG | 0.97 UJ | 0.52 UJ | 0.48 UJ | 0.39 UJ | 0.42 UJ | 0.4 U | 0.37 U | 3.8 UJ | | | | | 0.2 U | 0.87 U | 0.97 U | 1.4 U | 0.49 U |
| SVOC | PYRENE | MG/KG | 2.3 J | 1.2 J | 1.9 J | 0.049 J | 17 J | 8.7 J | 4.9 J | 14 J | 38 J | 46 J | 17 | 2.7 | 7.5 | 22 | 11 | 2.4 | 2.1 |
| VOC | 1,1,1-TRICHLOROETHANE | MG/KG | 0.029 UJ | 0.014 U | 0.013 U | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 U | | | | | 0.0063 U | 0.006 U | 0.007 U | 0.007 U | 0.007 U |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/KG | 0.029 UJ | 0.014 UJ | 0.013 UJ | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 UJ | | | | | 0.0063 U | 0.006 U | 0.007 U | 0.007 U | 0.007 U |
| VOC | 1,1,2-TRICHLOROETHANE | MG/KG | 0.029 UJ | 0.014 U | 0.013 U | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 U | | | | | 0.0063 U | 0.006 U | 0.007 U | 0.007 U | 0.007 U |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/KG | 0.029 UJ | 0.014 U | 0.013 U | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 U | | | | | 0.0063 U | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/KG | 0.029 UJ | 0.014 U | 0.013 U | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 U | | | | | 0.0063 U | 0.006 U | 0.007 U | 0.007 U | 0.007 U |
| VOC | 1,1-DICHLOROETHENE | MG/KG | 0.029 UJ | 0.014 U | 0.013 U | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 U | | | | | 0.0063 U | 0.006 U | 0.007 U | 0.007 U | 0.007 U |

**Table 2 Sediment Data (including field duplicates)**

| Group | Analyte | Exposure Area | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | HCDD0035 | HCDD0036 | HCDD0037 | HCDD0038 | HCDD0039 | HCDD0044 | HCDD0045 | HCDD0073 | HCDD0099 | HCDD0099 | HCDD0100 | HCDD0111 | MPDD0001 | SED-09 | SSW-1 | SSW-1 | SSW-2 |
| | | Field Sample ID | HCDD0035-SD-AA-AB-0 | HCDD0036-SD-AA-AB-0 | HCDD0037-SD-AA-AB-0 | HCDD0038-SD-AA-AB-0 | HCDD0039-SD-AA-AB-0 | HCDD0044-SD-AA-AB-0 | HCDD0045-SD-AA-AB-0 | HCDD0073-SD-AA-AB-0 | HCDD0099-SD-AA-AB-0 | HCDD0099-SD-AA-AB-1 | HCDD0100-SD-AA-AB-0 | HCDD0111-SD-AA-AB-0 | MPDD0001-SD-AA-AB-0 | SED-09 | 001-SD01 | 001-SD11 | 002-SD01 |
| | | Sample Date | 6/20/2005 | 6/20/2005 | 6/20/2005 | 6/20/2005 | 7/25/2005 | 7/25/2005 | 7/25/2005 | 9/21/2005 | 8/10/2006 | 8/10/2006 | 8/15/2006 | 8/17/2006 | 2/4/2010 | 10/11/1996 | 12/4/1991 | 12/4/1991 | 12/4/1991 |
| | | Depth (ft) | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0 | 0-0.3 | 0-0.3 | 0-0.3 |
| | | Units | | | | | | | | | | | | | | | | | |
| VOC | 1,2,3-TRICHLOROBENZENE | MG/KG | | | | | | | | | | | | | 0.0063 U | | | | |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/KG | 0.029 UJ | 0.014 UJ | 0.013 UJ | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 UJ | | | | | 0.0063 U | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/KG | 0.029 UJ | 0.014 UJ | 0.013 UJ | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 UJ | | | | | 0.0063 U | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/KG | 0.029 UJ | 0.014 UJ | 0.013 UJ | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 UJ | | | | | 0.0063 U | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/KG | 0.029 UJ | 0.014 UJ | 0.013 UJ | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 UJ | | | | | 0.0063 U | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/KG | 0.029 UJ | 0.014 U | 0.013 U | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 U | | | | | 0.0063 U | 0.006 U | 0.007 U | 0.007 U | 0.007 U |
| VOC | 1,2-DICHLOROPROPANE | MG/KG | 0.029 UJ | 0.014 U | 0.013 U | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 U | | | | | 0.0063 U | 0.006 U | 0.007 U | 0.007 U | 0.007 U |
| VOC | 1,3-DICHLOROBENZENE | MG/KG | 0.029 UJ | 0.014 UJ | 0.013 UJ | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 UJ | | | | | 0.0063 U | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/KG | 0.029 UJ | 0.014 UJ | 0.013 UJ | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 UJ | | | | | 0.0063 U | | | | |
| VOC | 2-HEXANONE | MG/KG | 0.029 UJ | 0.014 UJ | 0.013 UJ | 0.01 U | 0.011 U | 0.011 U | 0.9 UJ | 0.01 UJ | | | | | 0.013 U | 0.013 U | 0.014 U | 0.014 U | 0.015 U |
| VOC | 4-METHYL-2-PENTANONE | MG/KG | 0.029 UJ | 0.014 U | 0.013 U | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 UJ | | | | | 0.013 U | 0.013 U | 0.014 U | 0.014 U | 0.015 U |
| VOC | ACETONE | MG/KG | 0.046 UJ | 0.066 J | 0.073 | 0.01 U | 0.022 U | 0.01 U | 0.9 UJ | 0.062 | | | | | 0.0053 J | 0.013 U | 0.28 B | 0.13 B | 0.22 B |
| VOC | BENZENE | MG/KG | 0.029 UJ | 0.014 U | 0.013 U | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 U | | | | | 0.0063 U | 0.006 U | 0.007 U | 0.007 U | 0.007 U |
| VOC | BROMOCHLOROMETHANE | MG/KG | | | | | | | | | | | | | 0.0063 U | | | | |
| VOC | BROMODICHLOROMETHANE | MG/KG | 0.029 UJ | 0.014 U | 0.013 U | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 U | | | | | 0.0063 U | 0.006 U | 0.007 U | 0.007 U | 0.007 U |
| VOC | BROMOFORM | MG/KG | 0.029 UJ | 0.014 UJ | 0.013 UJ | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 UJ | | | | | 0.0063 U | 0.006 U | 0.007 U | 0.007 U | 0.007 U |
| VOC | BROMOMETHANE | MG/KG | 0.029 UJ | 0.014 U | 0.013 U | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 U | | | | | 0.0063 U | 0.013 U | 0.014 U | 0.014 U | 0.015 U |
| VOC | CARBON DISULFIDE | MG/KG | 0.029 UJ | 0.014 U | 0.013 U | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 U | | | | | 0.0063 U | 0.006 U | 0.007 U | 0.007 U | 0.007 U |
| VOC | CARBON TETRACHLORIDE | MG/KG | 0.029 UJ | 0.014 U | 0.013 U | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 U | | | | | 0.0063 U | 0.006 U | 0.007 U | 0.007 U | 0.007 U |
| VOC | CHLOROBENZENE | MG/KG | 0.029 UJ | 0.014 UJ | 0.013 UJ | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 UJ | | | | | 0.0063 U | 0.006 U | 0.007 U | 0.007 U | 0.007 U |
| VOC | CHLOROETHANE | MG/KG | 0.029 UJ | 0.014 U | 0.013 U | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 U | | | | | 0.0063 U | 0.013 U | 0.014 U | 0.014 U | 0.015 U |
| VOC | CHLOROFORM | MG/KG | 0.029 UJ | 0.014 U | 0.013 U | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 U | | | | | 0.0063 U | 0.006 U | 0.007 U | 0.007 U | 0.007 U |
| VOC | CHLOROMETHANE | MG/KG | 0.029 UJ | 0.014 U | 0.013 U | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 U | | | | | 0.0063 U | 0.013 U | 0.014 U | 0.014 U | 0.015 U |
| VOC | CIS-1,2-DICHLOROETHENE | MG/KG | 0.029 UJ | 0.014 U | 0.013 U | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 U | | | | | 0.0063 U | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/KG | 0.029 UJ | 0.014 U | 0.013 U | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 U | | | | | 0.0063 U | 0.006 U | 0.007 U | 0.007 U | 0.007 U |
| VOC | CYCLOHEXANE | MG/KG | 0.029 UJ | 0.014 U | 0.013 U | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 U | | | | | 0.0063 U | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/KG | 0.029 UJ | 0.014 U | 0.013 U | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 U | | | | | 0.0063 U | 0.006 U | 0.007 U | 0.007 U | 0.007 U |
| VOC | DICHLORODIFLUOROMETHANE | MG/KG | 0.029 UJ | 0.014 U | 0.013 U | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 U | | | | | 0.0063 U | | | | |
| VOC | DICHLOROMETHANE | MG/KG | 0.029 UJ | 0.014 U | 0.013 U | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 U | | | | | 0.0063 U | 0.004 JB | 0.046 B | 0.032 B | 0.037 B |
| VOC | ETHYLBENZENE | MG/KG | 0.029 UJ | 0.014 UJ | 0.013 UJ | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 UJ | | | | | 0.0063 U | 0.006 U | 0.007 U | 0.007 U | 0.007 U |
| VOC | ISOPROPYLBENZENE | MG/KG | 0.029 UJ | 0.014 UJ | 0.013 UJ | 0.01 U | 0.011 U | 0.011 U | 0.11 J | 0.002 J | | | | | 0.0063 U | | | | |
| VOC | METHYL ACETATE | MG/KG | 0.005 J | 0.014 U | 0.013 U | 0.01 U | 0.011 U | 0.001 J | 0.9 U | 0.01 U | | | | | 0.0063 U | | | | |
| VOC | METHYL ETHYL KETONE | MG/KG | 0.009 J | 0.013 J | 0.016 | 0.01 U | 0.008 J | 0.011 U | 0.9 UJ | 0.026 | | | | | 0.013 U | 0.013 U | 0.014 U | 0.008 J | 0.015 U |
| VOC | METHYLCYCLOHEXANE | MG/KG | 0.029 UJ | 0.014 U | 0.013 U | 0.01 U | 0.01 J | 0.011 U | 3.9 | 0.001 J | | | | | 0.0063 U | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/KG | 0.029 UJ | 0.014 U | 0.013 U | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 U | | | | | 0.0063 U | | | | |
| VOC | STYRENE | MG/KG | 0.029 UJ | 0.014 UJ | 0.013 UJ | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 UJ | | | | | 0.0063 U | 0.006 U | 0.007 U | 0.007 U | 0.007 U |
| VOC | TETRACHLOROETHENE | MG/KG | 0.029 UJ | 0.014 UJ | 0.013 UJ | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 UJ | | | | | 0.0063 U | 0.006 U | 0.007 U | 0.007 U | 0.007 U |
| VOC | TOLUENE | MG/KG | 0.029 UJ | 0.002 J | 0.013 U | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.008 J | | | | | 0.0063 U | 0.006 U | 0.007 U | 0.007 U | 0.007 U |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/KG | | | | | | | | | | | | | | 0.006 U | 0.007 U | 0.007 U | 0.007 U |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/KG | 0.029 UJ | 0.014 U | 0.013 U | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 U | | | | | 0.0063 U | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/KG | 0.029 UJ | 0.014 U | 0.013 U | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 U | | | | | 0.0063 U | 0.006 U | 0.007 U | 0.007 U | 0.007 U |
| VOC | TRICHLOROETHYLENE (TCE) | MG/KG | 0.029 UJ | 0.014 U | 0.013 U | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 U | | | | | 0.0063 U | 0.006 U | 0.007 U | 0.007 U | 0.007 U |
| VOC | TRICHLOROFLUOROMETHANE | MG/KG | 0.029 UJ | 0.014 U | 0.013 U | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 U | | | | | 0.0063 U | | | | |
| VOC | VINYL ACETATE | MG/KG | | | | | | | | | | | | | | | 0.014 U | 0.014 U | 0.015 U |
| VOC | VINYL CHLORIDE | MG/KG | 0.029 UJ | 0.014 U | 0.013 U | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 U | | | | | 0.0063 U | 0.013 U | 0.014 U | 0.014 U | 0.015 U |
| VOC | XYLENE, O- | MG/KG | | | | | | | | | | | | | 0.0063 U | | | | |
| VOC | XYLENES (TOTAL) | MG/KG | 0.029 UJ | 0.014 UJ | 0.013 UJ | 0.01 U | 0.011 U | 0.011 U | 0.9 U | 0.01 UJ | | | | | | 0.006 U | 0.007 U | 0.007 U | 0.007 U |
| VOC | XYLENES, M & P | MG/KG | | | | | | | | | | | | | 0.0063 U | | | | |

**Table 3 Surface Water Data (including field duplicates)**

| Group | Analyte | Exposure Area | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | HCDW0001 | HCDW0001 | HCDW0002 | HCDW0002 | HCDW0003 | HCDW0003 | HCDW0004 | HCDW0004 | HCDW0005 | HCDW0005 | SSW-1 | SSW-2 | SSW-4 | SSW-4 | SSW-5 | SSW-6 | SSW-9 |
| | | Field Sample ID | HCDW0001-SW-AA-R1-0 | HCDW0001-SW-AA-R2-0 | HCDW0002-SW-AA-R1-0 | HCDW0002-SW-AA-R2-0 | HCDW0003-SW-AA-R1-0 | HCDW0003-SW-AA-R2-0 | HCDW0004-SW-AA-R1-0 | HCDW0004-SW-AA-R2-0 | HCDW0005-SW-AA-R1-0 | HCDW0005-SW-AA-R2-0 | 001-SW01 | 002-SW01 | 004-SW01 | 004-W002 | 005-W002 | 006-W002 | SSW-09 |
| | | Sample Date | 9/12/2005 | 10/20/2005 | 9/12/2005 | 10/20/2005 | 9/12/2005 | 10/20/2005 | 9/12/2005 | 10/20/2005 | 9/14/2005 | 10/20/2005 | 12/4/1991 | 12/4/1991 | 12/4/1991 | 6/30/1993 | 6/30/1993 | 6/30/1993 | 10/11/1996 |
| | | Depth (ft) | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 | | | | | | | 0 - 0 |
| | | Units | | | | | | | | | | | | | | | | | |
| METALS | ALUMINUM | MG/L | 0.0185 U | 0.0557 U | 0.0185 U | 0.0557 U | 0.0185 U | 0.0557 U | 0.0185 U | 0.0557 U | 0.537 | 0.0557 U | | | | 0.0402 | 1.49 | 1.25 | 0.132 |
| METALS | ANTIMONY | MG/L | 0.0027 U | 0.0047 U | 0.0027 U | 0.0047 U | 0.0027 U | 0.0047 U | 0.0027 U | 0.0047 U | 0.0029 J | 0.0047 U | | | | 0.0011 U | 0.0011 U | 0.0011 U | 0.0022 U |
| METALS | ARSENIC | MG/L | 0.0982 J | 0.0217 | 0.0724 J | 0.021 | 0.0276 | 0.0226 | 0.0076 J | 0.0168 | 0.0066 J | 0.0166 | | | | 0.0124 | 0.089 | 0.0172 | 0.0224 |
| METALS | BARIUM | MG/L | 0.37 | 0.117 J | 0.389 | 0.129 J | 0.386 | 0.137 J | 0.343 | 0.143 J | 0.376 | 0.148 J | 0.058 | 0.059 | 0.042 | 0.0711 | 0.15 | 0.0974 | 0.095 |
| METALS | BERYLLIUM | MG/L | 0.0001 U | 0.00064 U | 0.0001 U | 0.00064 U | 0.0001 U | 0.00064 U | 0.0001 U | 0.00064 U | 0.0001 U | 0.00064 U | | | | 0.0007 U | 0.0007 U | 0.0007 U | 0.0002 U |
| METALS | CADMIUM | MG/L | 0.0002 U | 0.00083 U | 0.0002 U | 0.00083 U | 0.0002 U | 0.00083 U | 0.0002 U | 0.00083 U | 0.0002 U | 0.00083 U | | | | 0.0048 U | 0.0048 U | 0.0048 U | 0.0004 U |
| METALS | CALCIUM | MG/L | 44 | 21.9 | 46 | 23.6 | 46.6 | 23.9 | 43.9 | 24.4 | 44.3 | 24.3 | | | | 18.5 | 19.3 | 18.7 | 16.3 |
| METALS | CHROMIUM | MG/L | 0.0008 U | 0.002 U | 0.0008 U | 0.002 U | 0.0008 U | 0.002 U | 0.0008 U | 0.002 U | 0.0008 U | 0.002 U | 0.0026 U | 0.0026 U | 0.0026 U | 0.0039 U | 0.0117 | 0.0103 | 0.0016 |
| METALS | COBALT | MG/L | 0.0009 U | 0.0014 U | 0.0009 U | 0.0014 U | 0.0009 U | 0.0014 U | 0.0009 U | 0.0014 U | 0.0009 U | 0.0014 U | | | | 0.0027 U | 0.0027 U | 0.0027 U | 0.0012 U |
| METALS | COPPER | MG/L | 0.0034 U | 0.005 U | 0.0034 U | 0.005 U | 0.0034 U | 0.005 U | 0.0053 J | 0.005 U | 0.0038 J | 0.005 U | | | | 0.0129 U | 0.0148 | 0.0129 U | 0.0048 |
| METALS | CYANIDE | MG/L | 0.0132 | 0.00086 U | 0.0187 | 0.00086 U | 0.0187 | 0.00086 U | 0.0178 | 0.00086 U | 0.0011 U | 0.00086 U | | | | 0.00001 U | 0.00001 U | 0.000000012 | |
| METALS | IRON | MG/L | 5.86 | 2.65 | 5.63 | 2.85 | 3.1 | 2.5 | 1.01 | 1.96 | 1.12 | 1.81 | | | | 1.52 | 17.9 | 3.79 | 2.52 |
| METALS | LEAD | MG/L | 0.0018 U | 0.0024 U | 0.0018 U | 0.0024 U | 0.0018 U | 0.0024 U | 0.0018 U | 0.0024 U | 0.0162 | 0.0024 U | 0.0035 | 0.0028 | 0.0009 U | 0.0011 | 0.0655 | 0.0462 | 0.0215 |
| METALS | MAGNESIUM | MG/L | 6.43 | 3.71 J | 6.71 | 3.93 J | 6.68 | 3.99 J | 6.47 | 4.02 J | 6.35 | 4.06 J | | | | 4.17 | 4.53 | 4.13 | 3.51 |
| METALS | MANGANESE | MG/L | 0.355 | 0.092 | 0.361 | 0.0971 | 0.427 | 0.103 | 0.325 | 0.0984 | 0.225 | 0.105 | | | | 0.0553 | 0.159 | 0.0725 | 0.095 |
| METALS | MERCURY | MG/L | 0.0001 U | 0.0001 U | 0.0001 U | 0.0001 U | 0.0001 J | 0.0001 U | 0.0001 U | 0.0001 U | 0.0001 U | 0.0001 U | | | | 0.0002 U | 0.0002 U | 0.0002 U | 0.0001 U |
| METALS | NICKEL | MG/L | 0.0015 J | 0.0015 U | 0.0013 J | 0.0015 U | 0.0019 J | 0.0015 U | 0.0009 U | 0.0016 J | 0.0012 J | 0.0015 U | | | | 0.0124 U | 0.0124 U | 0.0124 U | 0.0021 U |
| METALS | POTASSIUM | MG/L | 5.09 | 3.24 J | 5.48 | 3.45 J | 5.38 J | 3.44 J | 5.04 J | 3.48 J | 5.49 | 3.49 J | | | | 3.71 | 3.82 | 3.69 | 3.84 |
| METALS | SELENIUM | MG/L | 0.0042 U | 0.0042 U | 0.0042 J | 0.0042 U | 0.0042 U | 0.0042 U | 0.0042 U | 0.0042 U | 0.0042 U | 0.0042 U | | | | | | | 0.003 U |
| METALS | SILVER | MG/L | 0.0013 J | 0.0012 U | 0.0007 U | 0.0012 U | 0.0007 U | 0.0012 U | 0.0007 U | 0.0012 U | 0.0007 U | 0.0012 U | | | | 0.0032 U | 0.0032 U | 0.0032 U | 0.0012 U |
| METALS | SODIUM | MG/L | 65.4 | 25.6 | 73.6 | 29.1 | 70.9 | 29.6 | 67.1 | 29.8 | 66.4 | 30.3 | | | | 14.4 | 14.3 | 14.4 | 11.9 |
| METALS | THALLIUM | MG/L | 0.0044 U | 0.0046 U | 0.0044 U | 0.0046 U | 0.0044 U | 0.0046 U | 0.0044 U | 0.0046 U | 0.0044 J | 0.0046 U | | | | 0.0017 U | 0.0017 U | 0.0017 U | 0.0072 |
| METALS | VANADIUM | MG/L | 0.00063 J | 0.0012 U | 0.00054 J | 0.0012 U | 0.0005 U | 0.0012 U | 0.0005 U | 0.0012 U | 0.0005 U | 0.0012 U | | | | 0.0031 U | 0.0089 | 0.0051 | 0.0012 |
| METALS | ZINC | MG/L | 0.0179 J | 0.0094 J | 0.0137 J | 0.0081 J | 0.008 J | 0.0144 J | 0.0099 J | 0.0148 J | 0.0175 J | 0.0151 J | | | | 0.0063 | 0.11 | 0.0373 | 0.025 |
| PEST/PCB | 4,4'-DDD | MG/L | 0.00011 U | 0.0001 U | 0.0001 U | 0.0001 U | 0.00011 U | 0.0001 U | | 0.0001 U | 0.0001 U | 0.0001 U | | | | | | | |
| PEST/PCB | 4,4'-DDE | MG/L | 0.00011 U | 0.0001 U | 0.0001 U | 0.0001 U | 0.00011 U | 0.0001 U | | 0.0001 U | 0.0001 U | 0.0001 U | | | | | | | |
| PEST/PCB | 4,4'-DDT | MG/L | 0.00011 U | 0.0001 U | 0.0001 U | 0.0001 U | 0.00011 U | 0.0001 U | | 0.0001 U | 0.0001 U | 0.0001 U | | | | | | | |
| PEST/PCB | ALDRIN | MG/L | 0.000056 U | 0.000053 U | 0.000053 U | 0.00005 U | 0.000057 U | 0.000051 U | | 0.000051 U | 0.000051 U | 0.000053 U | | | | | | | |
| PEST/PCB | ALPHA-BHC | MG/L | 0.000056 U | 0.000053 U | 0.000053 U | 0.00005 U | 0.000057 U | 0.000051 U | | 0.000051 U | 0.000051 U | 0.000053 U | | | | | | | |
| PEST/PCB | ALPHA-CHLORDANE | MG/L | 0.000056 U | 0.000053 U | 0.000053 U | 0.00005 U | 0.000057 U | 0.000051 U | | 0.000051 U | 0.000051 U | 0.000053 U | | | | | | | |
| PEST/PCB | AROCLOR-1016 | MG/L | 0.0011 U | 0.001 U | 0.001 U | 0.001 U | 0.0011 U | 0.001 U | | 0.001 U | 0.001 U | 0.001 U | | | | | | | |
| PEST/PCB | AROCLOR-1221 | MG/L | 0.0022 U | 0.0021 U | 0.0021 U | 0.002 U | 0.0023 U | 0.002 U | | 0.002 U | 0.002 U | 0.0021 U | | | | | | | |
| PEST/PCB | AROCLOR-1232 | MG/L | 0.0011 U | 0.001 U | 0.001 U | 0.001 U | 0.0011 U | 0.001 U | | 0.001 U | 0.001 U | 0.001 U | | | | | | | |
| PEST/PCB | AROCLOR-1242 | MG/L | 0.0011 U | 0.001 U | 0.001 U | 0.001 U | 0.0011 U | 0.001 U | | 0.001 U | 0.001 U | 0.001 U | | | | | | | |
| PEST/PCB | AROCLOR-1248 | MG/L | 0.0011 U | 0.001 U | 0.001 U | 0.001 U | 0.0011 U | 0.001 U | | 0.001 U | 0.001 U | 0.001 U | | | | | | | |
| PEST/PCB | AROCLOR-1254 | MG/L | 0.0011 U | 0.001 U | 0.001 U | 0.001 U | 0.0011 U | 0.001 U | | 0.001 U | 0.001 U | 0.001 U | | | | | | | |
| PEST/PCB | AROCLOR-1260 | MG/L | 0.0011 U | 0.001 U | 0.001 U | 0.001 U | 0.0011 U | 0.001 U | | 0.001 U | 0.001 U | 0.001 U | | | | | | | |
| PEST/PCB | BETA-BHC | MG/L | 0.000056 U | 0.000053 U | 0.000053 U | 0.00005 U | 0.000057 U | 0.000051 U | | 0.000051 U | 0.000051 U | 0.000053 U | | | | | | | |
| PEST/PCB | DELTA-BHC | MG/L | 0.000056 U | 0.000053 U | 0.000053 U | 0.00005 U | 0.000057 U | 0.000051 U | | 0.000051 U | 0.000051 U | 0.000053 U | | | | | | | |
| PEST/PCB | DIELDRIN | MG/L | 0.00011 U | 0.0001 U | 0.0001 U | 0.0001 U | 0.00011 U | 0.0001 U | | 0.0001 U | 0.0001 U | 0.0001 U | | | | | | | |
| PEST/PCB | ENDOSULFAN I | MG/L | 0.000056 U | 0.000053 U | 0.000053 U | 0.00005 U | 0.000057 U | 0.000051 U | | 0.000051 U | 0.000051 U | 0.000053 U | | | | | | | |
| PEST/PCB | ENDOSULFAN II | MG/L | 0.00011 U | 0.0001 U | 0.0001 U | 0.0001 U | 0.00011 U | 0.0001 U | | 0.0001 U | 0.0001 U | 0.0001 U | | | | | | | |
| PEST/PCB | ENDOSULFAN SULFATE | MG/L | 0.00011 U | 0.0001 U | 0.0001 U | 0.0001 U | 0.00011 U | 0.0001 U | | 0.0001 U | 0.0001 U | 0.0001 U | | | | | | | |
| PEST/PCB | ENDRIN | MG/L | 0.00011 U | 0.0001 U | 0.0001 U | 0.0001 U | 0.00011 U | 0.0001 U | | 0.0001 U | 0.0001 U | 0.0001 U | | | | | | | |
| PEST/PCB | ENDRIN ALDEHYDE | MG/L | 0.00011 U | 0.0001 U | 0.0001 U | 0.0001 U | 0.00011 U | 0.0001 U | | 0.0001 U | 0.0001 U | 0.0001 U | | | | | | | |
| PEST/PCB | ENDRIN KETONE | MG/L | 0.00011 U | 0.0001 U | 0.0001 U | 0.0001 U | 0.00011 U | 0.0001 U | | 0.0001 U | 0.0001 U | 0.0001 U | | | | | | | |
| PEST/PCB | GAMMA-BHC (LINDANE) | MG/L | 0.000056 U | 0.000053 U | 0.000053 U | 0.00005 U | 0.000057 U | 0.000051 U | | 0.000051 U | 0.000051 U | 0.000053 U | | | | | | | |
| PEST/PCB | GAMMA-CHLORDANE | MG/L | 0.000056 U | 0.000053 U | 0.000053 U | 0.00005 U | 0.000057 U | 0.000051 U | | 0.000051 U | 0.000051 U | 0.000053 U | | | | | | | |
| PEST/PCB | HEPTACHLOR | MG/L | 0.000056 U | 0.000053 U | 0.000053 U | 0.00005 U | 0.000057 U | 0.000051 U | | 0.000051 U | 0.000051 U | 0.000053 U | | | | | | | |
| PEST/PCB | HEPTACHLOR EPOXIDE | MG/L | 0.000056 U | 0.000053 U | 0.000053 U | 0.00005 U | 0.000057 U | 0.000051 U | | 0.000051 U | 0.000051 U | 0.000053 U | | | | | | | |
| PEST/PCB | METHOXYCHLOR | MG/L | 0.00056 U | 0.00053 U | 0.00053 U | 0.0005 U | 0.00057 U | 0.00051 U | | 0.00051 U | 0.00051 U | 0.00053 U | | | | | | | |
| PEST/PCB | TOXAPHENE | MG/L | 0.0056 U | 0.0053 U | 0.0053 U | 0.005 U | 0.0057 U | 0.0051 U | | 0.0051 U | 0.0051 U | 0.0053 U | | | | | | | |
| SVOC | 1,1'-BIPHENYL | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | | | | | | | |
| SVOC | 1,2,4-TRICHLOROBENZENE | MG/L | | | | | | | | | | | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | 1,2-DICHLOROBENZENE | MG/L | | | | | | | | | | | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | 1,3-DICHLOROBENZENE | MG/L | | | | | | | | | | | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | 1,4-DICHLOROBENZENE | MG/L | | | | | | | | | | | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | 2,2'-OXYBIS(1-CHLOROPROPANE) | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | 2,4,5-TRICHLOROPHENOL | MG/L | 0.026 U | 0.025 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.05 U | 0.055 U | 0.055 U | 0.025 U | 0.025 U | 0.025 U | 0.06 U |
| SVOC | 2,4,6-TRICHLOROPHENOL | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |

**Table 3 Surface Water Data (including field duplicates)**

| Group | Analyte | Exposure Area | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | HCDW0001 | HCDW0001 | HCDW0002 | HCDW0002 | HCDW0003 | HCDW0003 | HCDW0004 | HCDW0004 | HCDW0005 | HCDW0005 | SSW-1 | SSW-2 | SSW-4 | SSW-4 | SSW-5 | SSW-6 | SSW-9 |
| | | Field Sample ID | HCDW0001-SW-AA-R1-0 | HCDW0001-SW-AA-R2-0 | HCDW0002-SW-AA-R1-0 | HCDW0002-SW-AA-R2-0 | HCDW0003-SW-AA-R1-0 | HCDW0003-SW-AA-R2-0 | HCDW0004-SW-AA-R1-0 | HCDW0004-SW-AA-R2-0 | HCDW0005-SW-AA-R1-0 | HCDW0005-SW-AA-R2-0 | 001-SW01 | 002-SW01 | 004-SW01 | 004-W002 | 005-W002 | 006-W002 | SSW-09 |
| | | Sample Date | 9/12/2005 | 10/20/2005 | 9/12/2005 | 10/20/2005 | 9/12/2005 | 10/20/2005 | 9/12/2005 | 10/20/2005 | 9/14/2005 | 10/20/2005 | 12/4/1991 | 12/4/1991 | 12/4/1991 | 6/30/1993 | 6/30/1993 | 6/30/1993 | 10/11/1996 |
| | | Depth (ft) | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 | | | | | | | 0 - 0 |
| SVOC | 2,4-DICHLOROPHENOL | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | 2,4-DIMETHYLPHENOL | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | 2,4-DINITROPHENOL | MG/L | 0.026 UJ | 0.025 U | 0.026 UJ | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.05 U | 0.055 U | 0.055 U | 0.025 U | 0.025 U | 0.025 U | 0.06 U |
| SVOC | 2,4-DINITROTOLUENE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | 2,6-DINITROTOLUENE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | 2-CHLORONAPHTHALENE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | 2-CHLOROPHENOL | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | 2-METHYLNAPHTHALENE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | 2-METHYLPHENOL | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | 2-NITROANILINE | MG/L | 0.026 U | 0.025 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.05 U | 0.055 U | 0.055 U | 0.025 U | 0.025 U | 0.025 U | 0.06 U |
| SVOC | 2-NITROPHENOL | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | 3,3'-DICHLOROBENZIDINE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.02 U | 0.022 U | 0.022 U | 0.01 U | 0.01 U | 0.01 U | 0.024 U |
| SVOC | 3-NITROANILINE | MG/L | 0.026 U | 0.025 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.05 U | 0.055 U | 0.055 U | 0.025 U | 0.025 U | 0.025 U | 0.06 U |
| SVOC | 4,6-DINITRO-2-METHYLPHENOL | MG/L | 0.026 U | 0.025 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.05 U | 0.055 U | 0.055 U | 0.025 U | 0.025 U | 0.025 U | 0.06 U |
| SVOC | 4-BROMOPHENYL PHENYL ETHER | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | 4-CHLORO-3-METHYLPHENOL | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | 4-CHLOROANILINE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | 4-CHLOROPHENYL-PHENYL ETHER | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | 4-METHYLPHENOL | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | 4-NITROANILINE | MG/L | 0.026 U | 0.025 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.05 U | 0.055 U | 0.055 U | 0.025 U | 0.025 U | 0.025 U | 0.06 U |
| SVOC | 4-NITROPHENOL | MG/L | 0.026 U | 0.025 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.05 U | 0.055 U | 0.055 U | 0.025 U | 0.025 U | 0.025 U | 0.06 U |
| SVOC | ACENAPHTHENE | MG/L | 0.0006 J | 0.01 U | 0.0005 J | 0.01 U | 0.0002 J | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | ACENAPHTHYLENE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | ACETOPHENONE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | | | | | | | |
| SVOC | ANTHRACENE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | ATRAZINE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | | | | | | | |
| SVOC | BENZALDEHYDE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | | | | | | | |
| SVOC | BENZO(A)ANTHRACENE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | BENZO(A)PYRENE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.001 J | 0.012 U |
| SVOC | BENZO(B)FLUORANTHENE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.002 J | 0.012 U |
| SVOC | BENZO(G,H,I)PERYLENE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | BENZO(K)FLUORANTHENE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | BENZOIC ACID | MG/L | | | | | | | | | | | 0.05 U | 0.055 U | 0.055 U | 0.01 U | 0.01 U | 0.01 U | 0.06 U |
| SVOC | BENZYL ALCOHOL | MG/L | | | | | | | | | | | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | BENZYL BUTYL PHTHALATE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | BIS(2-CHLOROETHOXY) METHANE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | BIS(2-CHLOROETHYL)ETHER | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | BIS(2-ETHYLHEXYL) PHTHALATE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.001 J | 0.012 U |
| SVOC | CAPROLACTAM | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | | | | | | | |
| SVOC | CARBAZOLE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | CHRYSENE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.001 J | 0.012 U |
| SVOC | DIBENZO(A,H)ANTHRACENE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | DIBENZOFURAN | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | DIETHYLPHTHALATE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | DIMETHYLPHTHALATE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | DI-N-BUTYLPHTHALATE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | DI-N-OCTYLPHTHALATE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | FLUORANTHENE | MG/L | 0.01 U | 0.01 U | 0.0002 J | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.003 J | 0.012 U |
| SVOC | FLUORENE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | HEXACHLOROBENZENE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | HEXACHLOROBUTADIENE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | HEXACHLOROCYCLOPENTADIENE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | HEXACHLOROETHANE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | INDENO(1,2,3-CD)PYRENE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.001 J | 0.012 U |
| SVOC | ISOPHORONE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | NAPHTHALENE | MG/L | 0.0005 J | 0.01 U | 0.0004 J | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | NITROBENZENE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | N-NITROSODI-N-PROPYLAMINE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | N-NITROSODIPHENYLAMINE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | PENTACHLOROPHENOL | MG/L | 0.026 U | 0.025 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.026 U | 0.05 U | 0.055 U | 0.055 U | 0.025 U | 0.025 U | 0.025 U | 0.06 U |
| SVOC | PHENANTHRENE | MG/L | 0.0003 J | 0.01 U | 0.0003 J | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.002 J | 0.012 U |
| SVOC | PHENOL | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.012 U |
| SVOC | PYRENE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.01 U | 0.011 U | 0.01 U | 0.01 U | 0.01 U | 0.011 U | 0.011 U | 0.01 U | 0.01 U | 0.002 J | 0.012 U |

**Table 3 Surface Water Data (including field duplicates)**

| Group | Analyte | Exposure Area | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC | UHC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | HCDW0001 | HCDW0001 | HCDW0002 | HCDW0002 | HCDW0003 | HCDW0003 | HCDW0004 | HCDW0004 | HCDW0005 | HCDW0005 | SSW-1 | SSW-2 | SSW-4 | SSW-4 | SSW-5 | SSW-6 | SSW-9 |
| | | Field Sample ID | HCDW0001-SW-AA-R1-0 | HCDW0001-SW-AA-R2-0 | HCDW0002-SW-AA-R1-0 | HCDW0002-SW-AA-R2-0 | HCDW0003-SW-AA-R1-0 | HCDW0003-SW-AA-R2-0 | HCDW0004-SW-AA-R1-0 | HCDW0004-SW-AA-R2-0 | HCDW0005-SW-AA-R1-0 | HCDW0005-SW-AA-R2-0 | 001-SW01 | 002-SW01 | 004-SW01 | 004-W002 | 005-W002 | 006-W002 | SSW-09 |
| | | Sample Date | 9/12/2005 | 10/20/2005 | 9/12/2005 | 10/20/2005 | 9/12/2005 | 10/20/2005 | 9/12/2005 | 10/20/2005 | 9/14/2005 | 10/20/2005 | 12/4/1991 | 12/4/1991 | 12/4/1991 | 6/30/1993 | 6/30/1993 | 6/30/1993 | 10/11/1996 |
| | | Depth (ft) | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 | | | | | | | 0 - 0 |
| VOC | 1,1,1-TRICHLOROETHANE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.005 U | 0.005 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.001 U |
| VOC | 1,1,2,2-TETRACHLOROETHANE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.005 U | 0.005 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.001 U |
| VOC | 1,1,2-TRICHLOROETHANE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.005 U | 0.005 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.001 U |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | | | | | | | |
| VOC | 1,1-DICHLOROETHANE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.005 U | 0.005 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.001 U |
| VOC | 1,1-DICHLOROETHENE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.005 U | 0.005 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.001 U |
| VOC | 1,2,4-TRICHLOROBENZENE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | | | | | | | |
| VOC | 1,2-DIBROMO-3-CHLOROPROPANE | MG/L | 0.01 UJ | 0.01 UJ | 0.01 UJ | 0.01 U | 0.01 U | 0.01 UJ | 0.01 U | 0.01 U | 0.01 U | 0.01 UJ | | | | | | | |
| VOC | 1,2-DIBROMOETHANE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | | | | | | | |
| VOC | 1,2-DICHLOROBENZENE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | | | | | | | |
| VOC | 1,2-DICHLOROETHANE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.05 U | 0.05 U | 0.05 U | 0.01 U | 0.01 U | 0.01 U | 0.001 U |
| VOC | 1,2-DICHLOROPROPANE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.005 U | 0.005 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.001 U |
| VOC | 1,3-DICHLOROBENZENE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | | | | | | | |
| VOC | 1,4-DICHLOROBENZENE | MG/L | 0.0007 J | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | | | | | | | |
| VOC | 2-HEXANONE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.005 U |
| VOC | 4-METHYL-2-PENTANONE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.005 U |
| VOC | ACETONE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.032 B | 0.013 B | 0.004 JB | 0.01 U | 0.01 U | 0.01 U | 0.005 U |
| VOC | BENZENE | MG/L | 0.006 J | 0.01 U | 0.004 J | 0.01 U | 0.002 J | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.005 U | 0.005 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.006 |
| VOC | BROMODICHLOROMETHANE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.005 U | 0.005 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.001 U |
| VOC | BROMOFORM | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.005 U | 0.005 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.001 U |
| VOC | BROMOMETHANE | MG/L | 0.01 UJ | 0.01 U | 0.01 UJ | 0.01 UJ | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.002 U |
| VOC | CARBON DISULFIDE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.005 U | 0.005 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.001 U |
| VOC | CARBON TETRACHLORIDE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.005 U | 0.005 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.001 U |
| VOC | CHLOROBENZENE | MG/L | 0.004 J | 0.01 U | 0.003 J | 0.01 U | 0.001 J | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.005 U | 0.005 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.001 U |
| VOC | CHLOROETHANE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.002 U |
| VOC | CHLOROFORM | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.005 U | 0.005 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.001 U |
| VOC | CHLOROMETHANE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 UJ | 0.01 U | 0.01 U | 0.01 U | 0.01 UJ | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.002 U |
| VOC | CIS-1,2-DICHLOROETHENE | MG/L | 0.001 J | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | | | | | | | |
| VOC | CIS-1,3-DICHLOROPROPENE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.005 U | 0.005 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.001 U |
| VOC | CYCLOHEXANE | MG/L | 0.002 J | 0.01 U | 0.001 J | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | | | | | | | |
| VOC | DIBROMOCHLOROMETHANE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.005 U | 0.005 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.001 U |
| VOC | DICHLORODIFLUOROMETHANE | MG/L | 0.01 UJ | 0.01 UJ | 0.01 UJ | 0.01 U | 0.01 U | 0.01 UJ | 0.01 U | 0.01 U | 0.01 U | 0.01 UJ | | | | | | | |
| VOC | DICHLOROMETHANE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.018 B | 0.016 B | 0.019 B | 0.01 U | 0.01 U | 0.01 U | 0.001 JB |
| VOC | ETHYLBENZENE | MG/L | 0.01 U | 0.01 U | 0.0006 J | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.005 U | 0.005 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.0008 J |
| VOC | ISOPROPYLBENZENE | MG/L | 0.0006 J | 0.01 U | 0.0009 J | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | | | | | | | |
| VOC | METHYL ACETATE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | | | | | | | |
| VOC | METHYL ETHYL KETONE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.005 U |
| VOC | METHYLCYCLOHEXANE | MG/L | 0.003 J | 0.01 U | 0.002 J | 0.01 U | 0.001 J | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | | | | | | | |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | | | | | | | |
| VOC | STYRENE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.005 U | 0.005 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.001 U |
| VOC | TETRACHLOROETHENE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.005 U | 0.005 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.001 U |
| VOC | TOLUENE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.005 U | 0.005 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.0003 J |
| VOC | TOTAL-1,2-DICHLOROETHENE | MG/L | | | | | | | | | | | 0.005 U | 0.005 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.0009 J |
| VOC | TRANS-1,2-DICHLOROETHENE | MG/L | 0.01 UJ | 0.01 U | 0.01 UJ | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 UJ | 0.01 U | | | | | | | |
| VOC | TRANS-1,3-DICHLOROPROPENE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.005 U | 0.005 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.001 U |
| VOC | TRICHLOROETHYLENE (TCE) | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.005 U | 0.005 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.001 U |
| VOC | TRICHLOROFLUOROMETHANE | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | | | | | | | |
| VOC | VINYL ACETATE | MG/L | | | | | | | | | | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | |
| VOC | VINYL CHLORIDE | MG/L | 0.001 J | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.002 U |
| VOC | XYLENES (TOTAL) | MG/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.005 U | 0.005 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.003 |

# Appendix C-1

## Risk Calculations for 5% Cr(VI) Analysis

# Table Index

| Table | Title | Media | Exposure Area |
|---|---|---|---|
| 0 | Site Risk Assessment Identification Information | All | All areas |
| 1 | Selection of Exposure Pathways | All | All areas |
| 2.1 | Occurrence, Distribution, and Selection of the Chemicals of Potential Concern | Soil (0-10 ft bgs) | EUSA |
| 2.2 | Occurrence, Distribution, and Selection of the Chemicals of Potential Concern | Soil (0-10 ft bgs) | NFA |
| 2.3 | Occurrence, Distribution, and Selection of the Chemicals of Potential Concern | Soil (0-10 ft bgs) | SFA |
| 2.4 | Occurrence, Distribution, and Selection of the Chemicals of Potential Concern | Soil (0-10 ft bgs) | UNDV |
| 2.5 | Occurrence, Distribution, and Selection of the Chemicals of Potential Concern | Soil (0-2 ft bgs) | EUSA |
| 2.6 | Occurrence, Distribution, and Selection of the Chemicals of Potential Concern | Soil (0-2 ft bgs) | NFA |
| 2.7 | Occurrence, Distribution, and Selection of the Chemicals of Potential Concern | Soil (0-2 ft bgs) | SFA |
| 2.8 | Occurrence, Distribution, and Selection of the Chemicals of Potential Concern | Soil (0-2 ft bgs) | UNDV |
| 2.9 | Occurrence, Distribution, and Selection of the Chemicals of Potential Concern | Soil (0-0.5 ft bgs) | EUSA, NFA, SFA, UNDV |
| 2.10 | Occurrence, Distribution, and Selection of the Chemicals of Potential Concern | Sediment (0-0.5 ft bgs) | UHC |
| 2.11 | Occurrence, Distribution, and Selection of the Chemicals of Potential Concern | Surface Water | UHC |
| 3.1 | Exposure Point Concentrations - Reasonable Maximum Exposure | Soil (0-10 ft bgs) | All areas |
| 3.2 | Exposure Point Concentrations - Reasonable Maximum Exposure | Soil (0-2 ft bgs) | All areas |
| 3.3 | Exposure Point Concentrations - Reasonable Maximum Exposure | Soil, Sediment (0-0.5 ft bgs) | NFA, SFA, UNDV, UHC |
| 3.4 | Exposure Point Concentrations - Reasonable Maximum Exposure | Sediment (0-0.5 ft bgs) | UHC |
| 3.5 | Exposure Point Concentrations - Reasonable Maximum Exposure | Surface Water | UHC |
| 3.6 | Exposure Point Concentrations - Reasonable Maximum Exposure | Dust (based on soil 0-10 ft bgs) | All areas |
| 3.7 | Exposure Point Concentrations - Reasonable Maximum Exposure | Dust (based on soil 0-2 ft bgs) | All areas |
| 4.1 | Values Used for Daily Intake Calculations - Reasonable Maximum Exposure | Soil | EUSA, NFA, SFA, UNDV |
| 4.2 | Values Used for Daily Intake Calculations - Reasonable Maximum Exposure | Sediment | UHC |
| 4.3 | Values Used for Daily Intake Calculations - Reasonable Maximum Exposure | Surface Water | UHC |
| 4.4 | Age-adjusted Exposure Factors for MMOA Chemicals | All | All areas |
| 4.5 | Values Used for Daily Absorbed Dose Calculations | Surface Water | UHC |
| 5.1 | Non-cancer Toxicity Data - Oral/Dermal | All | All areas |
| 5.2 | Non-cancer Toxicity Data - Inhalation | All | All areas |
| 6.1 | Cancer Toxicity Data - Oral/Dermal | All | All areas |
| 6.2 | Cancer Toxicity Data - Inhalation | All | All areas |
| 7.1 | Calculation of Chemical Cancer Risks - Utility Worker | Soil (0-10 ft bgs) | EUSA, NFA, SFA, UNDV |
| 7.2 | Calculation of Chemical Cancer Risks - Construction Worker | Soil (0-10 ft bgs) | EUSA, NFA, SFA, UNDV |
| 7.3 | Calculation of Chemical Cancer Risks - Outdoor Worker | Soil (0-2 ft bgs) | EUSA, NFA, SFA, UNDV |
| 7.4 | Calculation of Chemical Cancer Risks - Resident | Soil (0-2 ft) | EUSA, NFA, SFA, UNDV |
| 7.5 | Calculation of Chemical Cancer Risks - Child Recreator | Soil (0-2 ft bgs), SD, SW | UNDV, UHC |
| 7.6 | Calculation of Chemical Cancer Risks - Adolescent Recreator | Soil (0-2 ft bgs), SD, SW | UNDV, UHC |
| 7.7 | Calculation of Chemical Cancer Risks - Adult Recreator | Soil (0-2 ft bgs), SD, SW | UNDV, UHC |
| 7.8 | Calculation of Chemical Non-cancer Hazards - Utility Worker | Soil (0-10 ft bgs) | EUSA, NFA, SFA, UNDV |
| 7.9 | Calculation of Chemical Non-cancer Hazards - Construction Worker | Soil (0-10 ft bgs) | EUSA, NFA, SFA, UNDV |
| 7.10 | Calculation of Chemical Non-cancer Hazards - Outdoor Worker | Soil (0-2 ft bgs) | EUSA, NFA, SFA, UNDV |
| 7.11 | Calculation of Chemical Non-cancer Hazards - Resident | Soil (0-2 ft) | EUSA, NFA, SFA, UNDV |
| 7.12 | Calculation of Chemical Non-cancer Hazards - Child Recreator | Soil (0-2 ft bgs), SD, SW | UNDV, UHC |
| 7.13 | Calculation of Chemical Non-cancer Hazards - Adolescent Recreator | Soil (0-2 ft bgs), SD, SW | UNDV, UHC |
| 7.14 | Calculation of Chemical Non-cancer Hazards - Adult Recreator | Soil (0-2 ft bgs), SD, SW | UNDV, UHC |
| 9.1 | Chemical Cancer Risks and Non-cancer Hazards - Utility Worker | Soil (0-10 ft bgs) | EUSA, NFA, SFA, UNDV |
| 9.2 | Chemical Cancer Risks and Non-cancer Hazards - Construction Worker | Soil (0-10 ft bgs) | EUSA, NFA, SFA, UNDV |
| 9.3 | Chemical Cancer Risks and Non-cancer Hazards - Outdoor Worker | Soil (0-2 ft bgs) | EUSA, NFA, SFA, UNDV |
| 9.4 | Chemical Cancer Risks and Non-cancer Hazards - Resident | Soil (0-2 ft) | EUSA, NFA, SFA, UNDV |
| 9.5 | Chemical Cancer Risks and Non-cancer Hazards - Child Recreator | Soil (0-2 ft bgs), SD, SW | UNDV, UHC |
| 9.6 | Chemical Cancer Risks and Non-cancer Hazards - Adolescent Recreator | Soil (0-2 ft bgs), SD, SW | UNDV, UHC |
| 9.7 | Chemical Cancer Risks and Non-cancer Hazards - Adult Recreator | Soil (0-2 ft bgs), SD, SW | UNDV, UHC |
| 11 | Summary of Total Cancer Risks and Non-cancer Hazards by Exposure Area | All | All areas |
| 12 | Risk Summary Detail | All | All areas |
| 13 | Risk Summary Detail by Media | All | UNDV, UHC |
| 14.1 | Cancer Risk and Percent Contribution by Medium for Each Receptor and Exposure Area | All | All areas |
| 14.2 | Non-cancer Hazard and Percent Contribution by Medium for Each Receptor and Exposure Area | All | All areas |

| Exposure Areas |
|---|
| EUSA – East of United States Avenue |
| NFA – North of Foster Avenue |
| SFA – South of Foster Avenue |
| UHC – Upper Hilliards Creek |
| UNDV – Undeveloped Area |

**Table 0**
**Site Risk Assessment Identification Information**
**Former Manufacturing Plant**

| | |
|---|---|
| Site Name/OU: | Former Manufacturing Plant |
| Region: | 2 |
| EPA ID Number: | EPA ID# NJ0000453514 |
| State: | NJ |
| Status: | PRP-lead Remedial Investigation |
| Federal Facility (Y/N): | N |
| EPA Project Manager: | Raymond Klimcsak |
| EPA Risk Assessor: | Nicholas Mazziotta |
| Prepared by (Organization): | Gradient |
| Prepared for (Organization): | The Sherwin-Williams Company |
| Document Title: | Former Manufacturing Plant, Soils – Human Health Risk Assessment Report |
| Document Date: | 09/15/17 |
| Probabilistic Risk Assessment (Y/N): | N |

**Table 1**
**Selection of Exposure Pathways**

| Scenario Timeframe | Medium | Exposure Medium | Exposure Point | Receptor Population | Receptor Age | Exposure Route | Type of Analysis | Rationale for Selection or Exclusion of Exposure Pathway |
|---|---|---|---|---|---|---|---|---|
| Current/Future | Soil | Soil (0-10 feet) | EUSA<br>NFA<br>SFA<br>UNDV | Utility Worker | Adult | Ingestion<br>Dermal<br>Inhalation | Quant | Exposure to soil during utility work |
| | | | | Construction Worker | Adult | Ingestion<br>Dermal<br>Inhalation | Quant | Exposure to soil during future construction activities |
| Future | Soil | Soil (0-2 feet) | EUSA<br>NFA<br>SFA<br>UNDV | Outdoor Worker | Adult | Ingestion<br>Dermal<br>Inhalation | Quant | Exposure to soil outdoors |
| Current/Future | Soil | Soil (0-2 feet) | UNDV | Recreator | Adult | Ingestion<br>Dermal<br>Inhalation | Quant | Exposure to soil while visiting site |
| | | | | | Adolescent | Ingestion<br>Dermal<br>Inhalation | Quant | Exposure to soil while visiting site |
| | | | | | Child | Ingestion<br>Dermal<br>Inhalation | Quant | Exposure to soil while visiting site |
| Current/Future | Soil | Soil (0-2 feet) | EUSA<br>NFA<br>SFA<br>UNDV | Resident | Adult | Ingestion<br>Dermal<br>Inhalation | Quant | Exposure to soil at residence |
| | | | | | Child | Ingestion<br>Dermal<br>Inhalation | Quant | Exposure to soil at residence |
| Current/Future | Sediment | Sediment (0-0.5 feet) | UHC | Recreator | Adult | Ingestion<br>Dermal | Quant | Exposure to sediment while visiting site |
| | | | | | Adolescent | Ingestion<br>Dermal | Quant | Exposure to sediment while visiting site |
| | | | | | Child | Ingestion<br>Dermal | Quant | Exposure to sediment while visiting site |
| Current/Future | Surface Water | Surface Water | UHC | Recreator | Adult | Dermal | Quant | Exposure to surface water while visiting site |
| | | | | | Adolescent | Dermal | Quant | Exposure to surface water while visiting site |
| | | | | | Child | Dermal | Quant | Exposure to surface water while visiting site |

Notes:

Exposure Areas:

EUSA – East of United States Avenue.
NFA – North of Foster Avenue.
SFA – South of Foster Avenue.
UHC – Upper Hilliards Creek.
UNDV – Undeveloped Area.

**Table 2.1**

**Occurrence, Distribution, and Selection of Chemicals of Potential Concern**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Medium: | Soil (0-10 ft bgs) |
| Exposure Medium: | Soil from East of United States Avenue (EUSA) |

| Exposure Point | Chemical Group | CAS Number | Chemical | Minimum Detected Concentration (Qualifier) (1) | Maximum Detected Concentration (Qualifier) (1) | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening (2) | Background Value (3) | Screening Criteria (4) | Criteria Basis (4) | Exceeds Crit | COPC Flag (Y/N) | Rationale for Selection or Deletion (5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EUSA | METALS | 7429-90-5 | ALUMINUM | 366 | 3310 | MG/KG | MPSB0063 | 9/9 | 15.8-20.6 | 3310 | 15300 | 7700 | EPA RSL (n) | 0 | No | BSL |
| EUSA | METALS | 7440-38-2 | ARSENIC | 1.5(J) | 3.2(J) | MG/KG | MPSB0061 | 8/9 | 0.79-1 | 3.2 | 194 | 0.68 | EPA RSL (c) | 8 | Yes | ASL |
| EUSA | METALS | 7440-39-3 | BARIUM | 2.7(J) | 57.3 | MG/KG | MPSB0061 | 8/28 | 10-20.6 | 57.3 | 287 | 1500 | EPA RSL (n) | 0 | No | BSL |
| EUSA | METALS | 7440-41-7 | BERYLLIUM | 0.07(J) | 0.21(J) | MG/KG | MPSB0061 | 6/9 | 0.39-0.52 | 0.21 | 1.035 | 16 | EPA RSL (n) | 0 | No | BSL |
| EUSA | METALS | 7440-43-9 | CADMIUM | 0.052(J) | 0.35(J) | MG/KG | MPSB0062 | 4/9 | 0.39-0.52 | 0.35 | 3.7 | 7.1 | EPA RSL (n, Cadmium (Diet)) | 0 | No | BSL |
| EUSA | METALS | 7440-70-2 | CALCIUM | 94.2(J) | 8140 | MG/KG | MPSB0062 | 9/9 | 394-516 | 8140 | 7600 | | EN | | No | EN |
| EUSA | METALS | 7440-47-3 | CHROMIUM | 1.5 | 18.9 | MG/KG | MPSB0313 | 24/43 | 0.76-10 | 18.9 | 249 | 12000 | EPA RSL (n, Chromium(III), Insoluble Salts) | 0 | No | BSL |
| EUSA | METALS | 18540-29-9 | CHROMIUM, HEXAVALENT | 0.47 | 1.4 | MG/KG | MPSB0313 | 8/15 | 0.41-0.45 | 1.4 | | 0.3 | EPA RSL (c) | 8 | Yes | ASL |
| EUSA | METALS | 7440-48-4 | COBALT | 0.25(J) | 3.1(J) | MG/KG | MPSB0062 | 7/9 | 3.9-5.2 | 3.1 | 7.75 | 2.3 | EPA RSL (n) | 1 | Yes | ASL |
| EUSA | METALS | 7440-50-8 | COPPER | 0.57(J) | 23.3 | MG/KG | MPSB0062 | 9/9 | 2-2.6 | 23.3 | 72.5 | 310 | EPA RSL (n) | 0 | No | BSL |
| EUSA | METALS | 57-12-5 | CYANIDE | 0.16(J) | 0.17(J) | MG/KG | MPSB0061 | 2/28 | 2.6-2.9 | 0.17 | 58.4 | 2.3 | EPA RSL (n, Cyanide (CN-)) | 0 | No | BSL |
| EUSA | METALS | 7439-89-6 | IRON | 1070 | 7570 | MG/KG | MPSB0080 | 9/9 | 7.9-10.3 | 7570 | 50400 | 5500 | EPA RSL (n) | 5 | Yes | ASL |
| EUSA | METALS | 7439-92-1 | LEAD | 2.7 | 217 | MG/KG | MPSB0063 | 8/27 | 0.84-10 | 217 | 178 | 400 | EPA RSL (L, Lead and Compounds) | 0 | No | BSL |
| EUSA | METALS | 7439-95-4 | MAGNESIUM | 51.8(J) | 4370 | MG/KG | MPSB0062 | 9/9 | 394-516 | 4370 | 926 | | EN | | No | EN |
| EUSA | METALS | 7439-96-5 | MANGANESE | 4.4 | 71.7 | MG/KG | MPSB0062 | 9/9 | 1.2-1.5 | 71.7 | 316 | 180 | EPA RSL (n, Manganese (Non-diet)) | 0 | No | BSL |
| EUSA | METALS | 7439-97-6 | MERCURY | 0.0099(J) | 0.069(J) | MG/KG | MPSB0062 | 5/9 | 0.084-0.11 | 0.069 | 0.45 | 2.3 | EPA RSL (n, Mercuric Chloride (and other Mercury salts)) | 0 | No | BSL |
| EUSA | METALS | 7440-02-0 | NICKEL | 0.22(J) | 11.7 | MG/KG | MPSB0062 | 8/9 | 3.2-4.1 | 11.7 | 12.55 | 150 | EPA RSL (n, Nickel Soluble Salts) | 0 | No | BSL |
| EUSA | METALS | 7440-09-7 | POTASSIUM | 18.3(J) | 638 | MG/KG | MPSB0061 | 9/9 | 394-516 | 638 | 467 | | EN | | No | EN |
| EUSA | METALS | 7782-49-2 | SELENIUM | 0.38(J) | 0.48(J) | MG/KG | MPSB0064 | 2/9 | 2.8-3.6 | 0.48 | | 39 | EPA RSL (n) | 0 | No | BSL |
| EUSA | METALS | 7440-23-5 | SODIUM | 11.2(J) | 486(J) | MG/KG | MPSB0082 | 9/9 | 394-516 | 486 | 257 | | EN | | No | EN |
| EUSA | METALS | 7440-28-0 | THALLIUM | 0.33(J) | 0.33(J) | MG/KG | MPSB0064 | 1/9 | 2-2.6 | 0.33 | 1.2 | 0.078 | EPA RSL (n, Thallium (Soluble Salts)) | 1 | Yes | ASL |
| EUSA | METALS | 7440-62-2 | VANADIUM | 2.2(J) | 11.6 | MG/KG | MPSB0063 | 9/9 | 3.9-5.2 | 11.6 | 39.6 | 39 | EPA RSL (n, Vanadium and Compounds) | 0 | No | BSL |
| EUSA | METALS | 7440-66-6 | ZINC | 1.4(J) | 65.7 | MG/KG | MPSB0062 | 9/9 | 4.7-6.2 | 65.7 | 208 | 2300 | EPA RSL (n) | 0 | No | BSL |
| EUSA | PEST/PCB | 72-55-9 | 4,4'-DDE | 0.002(J) | 0.002(J) | MG/KG | MPSB0063 | 1/9 | 0.0034-0.0039 | 0.002 | 0.0061 | 2 | EPA RSL (c) | 0 | No | BSL |
| EUSA | PEST/PCB | 50-29-3 | 4,4'-DDT | 0.0028(J) | 0.0028(J) | MG/KG | MPSB0063 | 1/9 | 0.0034-0.0039 | 0.0028 | 0.0091 | 1.9 | EPA RSL (c) | 0 | No | BSL |
| EUSA | PEST/PCB | 5103-71-9 | ALPHA-CHLORDANE | 0.0021 | 0.0021 | MG/KG | MPSB0062 | 1/9 | 0.0018-0.002 | 0.0021 | | 0.2 | NJ RDCSRS (c) | 0 | No | BSL |
| EUSA | PEST/PCB | 11097-69-1 | AROCLOR-1254 | 0.058(J) | 0.058(J) | MG/KG | MPSB0062 | 1/9 | 0.034-0.039 | 0.058 | | 0.12 | EPA RSL (n) | 0 | No | BSL |
| EUSA | PEST/PCB | 11096-82-5 | AROCLOR-1260 | 0.063 | 0.063 | MG/KG | MPSB0062 | 1/9 | 0.034-0.039 | 0.063 | 0.022 | 0.2 | NJ RDCSRS (c) | 0 | No | BSL |
| EUSA | PEST/PCB | 5103-74-2 | GAMMA-CHLORDANE | 0.0019 | 0.0019 | MG/KG | MPSB0062 | 1/9 | 0.0018-0.002 | 0.0019 | 0.000395 | 0.2 | NJ RDCSRS (c) | 0 | No | BSL |
| EUSA | SVOC | 91-57-6 | 2-METHYLNAPHTHALENE | 0.031(J) | 0.68 | MG/KG | TB-41 | 2/11 | 0.18-0.37 | 0.68 | 0.86 | 24 | EPA RSL (n) | 0 | No | BSL |
| EUSA | SVOC | 120-12-7 | ANTHRACENE | 0.026(J) | 0.026(J) | MG/KG | MPSB0080 | 1/11 | 0.18-0.37 | 0.026 | 6.6 | 1800 | EPA RSL (n) | 0 | No | BSL |
| EUSA | SVOC | 56-55-3 | BENZO(A)ANTHRACENE | 0.018(J) | 0.088(J) | MG/KG | MPSB0080 | 5/11 | 0.18-0.37 | 0.088 | 21 | 0.16 | EPA RSL (c) | 0 | No | BSL |
| EUSA | SVOC | 50-32-8 | BENZO(A)PYRENE | 0.048(J) | 0.073(J) | MG/KG | MPSB0063 | 4/11 | 0.0039-0.37 | 0.073 | 17 | 0.016 | EPA RSL (c) | 4 | Yes | ASL |
| EUSA | SVOC | 205-99-2 | BENZO(B)FLUORANTHENE | 0.039(J) | 0.073(J) | MG/KG | MPSB0061 | 4/11 | 0.18-0.37 | 0.073 | 18 | 0.16 | EPA RSL (c) | 0 | No | BSL |
| EUSA | SVOC | 191-24-2 | BENZO(G,H,I)PERYLENE | 0.057(J) | 0.074(J) | MG/KG | MPSB0063 | 4/11 | 0.18-0.37 | 0.074 | 12 | 180 | EPA RSL (n, Pyrene) | 0 | No | BSL |
| EUSA | SVOC | 207-08-9 | BENZO(K)FLUORANTHENE | 0.04(J) | 0.069(J) | MG/KG | MPSB0063 | 4/11 | 0.18-0.37 | 0.069 | 17 | 1.6 | EPA RSL (c) | 0 | No | BSL |
| EUSA | SVOC | 85-68-7 | BENZYL BUTYL PHTHALATE | 0.027(J) | 0.027(J) | MG/KG | MPSB0062 | 1/11 | 0.18-0.37 | 0.027 | | 290 | EPA RSL (c) | 0 | No | BSL |
| EUSA | SVOC | 117-81-7 | BIS(2-ETHYLHEXYL) PHTHALATE | 0.032(J) | 0.16(J) | MG/KG | MPSB0062 | 5/11 | 0.18-0.37 | 0.16 | | 35 | NJ RDCSRS (c) | 0 | No | BSL |
| EUSA | SVOC | 105-60-2 | CAPROLACTAM | 0.023(J) | 0.023(J) | MG/KG | MPSB0082 | 1/9 | 0.18-0.2 | 0.023 | | 3100 | EPA RSL (n) | 0 | No | BSL |
| EUSA | SVOC | 218-01-9 | CHRYSENE | 0.02(J) | 0.12(J) | MG/KG | MPSB0080 | 5/11 | 0.18-0.37 | 0.12 | 22 | 16 | EPA RSL (c) | 0 | No | BSL |
| EUSA | SVOC | 53-70-3 | DIBENZO(A,H)ANTHRACENE | 0.021 | 0.021 | MG/KG | MPSB0063 | 1/11 | 0.0039-0.37 | 0.021 | 4.3 | 0.016 | EPA RSL (c) | 1 | Yes | ASL |
| EUSA | SVOC | 84-74-2 | DI-N-BUTYLPHTHALATE | 0.025(J) | 0.045(J) | MG/KG | TB-41 | 2/11 | 0.18-0.37 | 0.045 | 0.041 | 630 | EPA RSL (n) | 0 | No | BSL |
| EUSA | SVOC | 206-44-0 | FLUORANTHENE | 0.025(J) | 0.13(J) | MG/KG | MPSB0063, MPSB0080 | 6/11 | 0.18-0.37 | 0.13 | 44 | 240 | EPA RSL (n) | 0 | No | BSL |
| EUSA | SVOC | 86-73-7 | FLUORENE | 0.038(J) | 0.038(J) | MG/KG | MPSB0081 | 1/11 | 0.18-0.37 | 0.038 | 3.3 | 240 | EPA RSL (n) | 0 | No | BSL |
| EUSA | SVOC | 193-39-5 | INDENO(1,2,3-CD)PYRENE | 0.045(J) | 0.06(J) | MG/KG | MPSB0063 | 4/11 | 0.18-0.37 | 0.06 | 12 | 0.16 | EPA RSL (c) | 0 | No | BSL |
| EUSA | SVOC | 91-20-3 | NAPHTHALENE | 0.024(J) | 2.4 | MG/KG | TB-41 | 2/11 | 0.18-0.37 | 2.4 | 1.7 | 3.8 | EPA RSL (c) | 0 | No | BSL |
| EUSA | SVOC | 85-01-8 | PHENANTHRENE | 0.023(J) | 0.26 | MG/KG | MPSB0080 | 6/11 | 0.18-0.37 | 0.26 | 32 | 1800 | EPA RSL (n, Anthracene) | 0 | No | BSL |
| EUSA | SVOC | 129-00-0 | PYRENE | 0.028(J) | 0.23 | MG/KG | MPSB0080 | 6/11 | 0.18-0.37 | 0.23 | 45 | 180 | EPA RSL (n) | 0 | No | BSL |
| EUSA | VOC | 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | 0.0034(J) | 0.0034(J) | MG/KG | MPSB0081 | 1/26 | 0.0047-0.3 | 0.0034 | | 0.6 | EPA RSL (c) | 0 | No | BSL |
| EUSA | VOC | 67-64-1 | ACETONE | 0.004(J) | 0.11(B) | MG/KG | TB-46 | 16/26 | 0.005-0.6 | 0.11 | 1.2 | 6100 | EPA RSL (n) | 0 | No | BSL |
| EUSA | VOC | 74-83-9 | BROMOMETHANE | 0.0017(J) | 0.0017(J) | MG/KG | MPSB0079 | 1/26 | 0.0047-0.3 | 0.0017 | | 0.68 | EPA RSL (n) | 0 | No | BSL |
| EUSA | VOC | 75-15-0 | CARBON DISULFIDE | 0.003(J) | 0.008 | MG/KG | TB-52 | 8/26 | 0.0047-0.3 | 0.008 | | 77 | EPA RSL (n) | 0 | No | BSL |

**Table 2.1**

**Occurrence, Distribution, and Selection of Chemicals of Potential Concern**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Medium: | Soil (0-10 ft bgs) |
| Exposure Medium: | Soil from East of United States Avenue (EUSA) |

| Exposure Point | Chemical Group | CAS Number | Chemical | Minimum Detected Concentration (Qualifier) (1) | Maximum Detected Concentration (Qualifier) (1) | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening (2) | Background Value (3) | Screening Criteria (4) | Criteria Basis (4) | Exceeds Crit | COPC Flag (Y/N) | Rationale for Selection or Deletion (5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EUSA | VOC | 67-66-3 | CHLOROFORM | 0.0087 | 0.0088 | MG/KG | MPSB0062 | 2/26 | 0.0047-0.3 | 0.0088 | | 0.32 | EPA RSL (c) | 0 | No | BSL |
| EUSA | VOC | 74-87-3 | CHLOROMETHANE | 0.006(J) | 0.006(J) | MG/KG | TB-46 | 1/26 | 0.0047-0.3 | 0.006 | 0.0032 | 4 | NJ RDCSRS | 0 | No | BSL |
| EUSA | VOC | 110-82-7 | CYCLOHEXANE | 0.011 | 0.011 | MG/KG | MPSB0061 | 1/9 | 0.0047-0.3 | 0.011 | | 650 | EPA RSL (n) | 0 | No | BSL |
| EUSA | VOC | 75-09-2 | DICHLOROMETHANE | 0.006(B) | 0.041(B) | MG/KG | TB-46 | 17/26 | 0.0047-0.3 | 0.041 | 0.002 | 34 | NJ RDCSRS (c) | 0 | No | BSL |
| EUSA | VOC | 98-82-8 | ISOPROPYLBENZENE | 0.0043(J) | 0.0043(J) | MG/KG | MPSB0061 | 1/9 | 0.0047-0.3 | 0.0043 | | 190 | EPA RSL (n) | 0 | No | BSL |
| EUSA | VOC | 78-93-3 | METHYL ETHYL KETONE | 0.002(J) | 0.02 | MG/KG | MPSB0061 | 7/26 | 0.005-0.6 | 0.02 | 0.14 | 2700 | EPA RSL (n) | 0 | No | BSL |
| EUSA | VOC | 108-87-2 | METHYLCYCLOHEXANE | 0.04 | 0.12(J) | MG/KG | MPSB0082 | 2/9 | 0.0047-0.3 | 0.12 | | 650 | EPA RSL (n, Cyclohexane) | 0 | No | BSL |
| EUSA | VOC | 91-20-3 | NAPHTHALENE | 0.001(J) | 0.028(B) | MG/KG | TB-42 | 7/17 | 0.005-0.01 | 0.028 | | 3.8 | EPA RSL (c) | 0 | No | BSL |

Notes:

Only analytes detected in at least one sample are presented.

(1) B – Analyte was detected in an associated blank sample; J – Estimated.

(2) The maximum detected concentration was used for the screening.

(3) Maximum detected concentrations from site-specific background locations (BKSB0001-BKSB0007, BKSB0011-BKSB0013, BSBESB01-BSBESB10).

(4) All compounds were screened against the lower of the EPA (2016b) Regional Screening Level (RSL) for residential soil (THQ = 0.1; Target Cancer Risk = $10^{-6}$) and New Jersey Residential Direct Contact Soil Remediation Standards (NJ RDCSRS) (NJDEP, 2011a).

n – Non-cancer.

c – Cancer.

L – Based on blood lead modeling.

Surrogate/form – Surrogate/chemical form used in the absence of chemical-specific screening value.

(5) Rationale codes:

Selection reason: ASL – Above screening level.

Deletion reason: BSL – Below screening level.

EN – Essential human nutrient.

**Table 2.2**

**Occurrence, Distribution, and Selection of Chemicals of Potential Concern**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Medium: | Soil (0-10 ft bgs) |
| Exposure Medium: | Soil from North of Foster Avenue (NFA) |

| Exposure Point | Chemical Group | CAS Number | Chemical | Minimum Detected Concentration (Qualifier) (1) | Maximum Detected Concentration (Qualifier) (1) | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening (2) | Background Value (3) | Screening Criteria (4) | Criteria Basis (4) | Exceeds Crit | COPC Flag (Y/N) | Rationale for Selection or Deletion (5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NFA | EPH | | C10-C12 AROMATICS | 6.4(J) | 60(+) | MG/KG | MPSB0212 | 4/34 | 2.1-2.7 | 60 | | | EPH | | No | EPH |
| NFA | EPH | | C12-C16 ALIPHATICS | 2.7 | 22.5(J+) | MG/KG | MPSB0212 | 4/34 | 2.1-12 | 22.5 | | | EPH | | No | EPH |
| NFA | EPH | | C12-C16 AROMATICS | 4.9(J) | 19.5(+) | MG/KG | MPSB0212 | 4/34 | 2.1-2.7 | 19.5 | | | EPH | | No | EPH |
| NFA | EPH | | C16-C21 ALIPHATICS | 4.6 | 10.5(+) | MG/KG | MPSB0212 | 4/34 | 2.1-12 | 10.5 | | | EPH | | No | EPH |
| NFA | EPH | | C16-C21 AROMATICS | 4.45(J) | 17(+) | MG/KG | MPSB0212 | 4/34 | 2.1-2.7 | 17 | | | EPH | | No | EPH |
| NFA | EPH | | C21-C36 AROMATICS | 6.15 | 52.5(J+) | MG/KG | MPSB0192 | 4/34 | 2.1-2.7 | 52.5 | | | EPH | | No | EPH |
| NFA | EPH | | C21-C40 ALIPHATICS | 9 | 125(J+) | MG/KG | MPSB0192 | 4/34 | 2.1-12 | 125 | | | EPH | | No | EPH |
| NFA | EPH | | C9-C12 ALIPHATICS | 8.1 | 265(+) | MG/KG | MPSB0212 | 4/34 | 2.1-12 | 265 | | | EPH | | No | EPH |
| NFA | HERBICIDES | 94-75-7 | 2,4-D | 0.051(J) | 0.051(J) | MG/KG | MPSB0035 | 1/2 | 0.043-0.0445 | 0.051 | | 70 | EPA RSL (n) | 0 | No | BSL |
| NFA | HERBICIDES | 1918-00-9 | DICAMBA | 0.0044(J) | 0.0044(J) | MG/KG | MPSB0035 | 1/2 | 0.0043-0.00445 | 0.0044 | | 190 | EPA RSL (n) | 0 | No | BSL |
| NFA | METALS | 7429-90-5 | ALUMINUM | 72.4 | 22000 | MG/KG | MPSB0139 | 327/327 | 0.999-180 | 22000 | 15300 | 7700 | EPA RSL (n) | 6 | Yes | ASL |
| NFA | METALS | 7440-36-0 | ANTIMONY | 0.21(J) | 8.2(J) | MG/KG | MPSB0139 | 50/329 | 0.21-54 | 8.2 | 3.4 | 3.1 | EPA RSL (n, Antimony (metallic)) | 8 | Yes | ASL |
| NFA | METALS | 7440-38-2 | ARSENIC | 0.42(J) | 696.5(+) | MG/KG | MPSB0192 | 318/330 | 0.26-9 | 696.5 | 194 | 0.68 | EPA RSL (c) | 310 | Yes | ASL |
| NFA | METALS | 7440-39-3 | BARIUM | 1.6 | 4400 | MG/KG | MPSB0197 | 297/344 | 0.02-186 | 4400 | 287 | 1500 | EPA RSL (n) | 13 | Yes | ASL |
| NFA | METALS | 7440-41-7 | BERYLLIUM | 0.024(J) | 0.87 | MG/KG | MPSB0033 | 82/329 | 0.02-5.9 | 0.87 | 1.035 | 16 | EPA RSL (n) | 0 | No | BSL |
| NFA | METALS | 7440-43-9 | CADMIUM | 0.028(J) | 8.3(+) | MG/KG | ERTSB-018 | 176/325 | 0.04-4.5 | 8.3 | 3.7 | 7.1 | EPA RSL (n, Cadmium (Diet)) | 2 | Yes | ASL |
| NFA | METALS | 7440-70-2 | CALCIUM | 38.9 | 200000 | MG/KG | MPSB0019 | 253/325 | 0.71-4500 | 200000 | 7600 | | EN | | No | EN |
| NFA | METALS | 7440-47-3 | CHROMIUM | 1.4 | 975 | MG/KG | MPSB0289 | 385/391 | 0.09-90 | 975 | 249 | 12000 | EPA RSL (n, Chromium(III), Insoluble Salts) | 0 | No | BSL |
| NFA | METALS | 18540-29-9 | CHROMIUM, HEXAVALENT | 0.38 | 293 | MG/KG | MPSB0289 | 29/48 | 0.4-22.5 | 293 | | 0.3 | EPA RSL (c) | 29 | Yes | ASL |
| NFA | METALS | 7440-48-4 | COBALT | 0.042(J) | 13.2(J) | MG/KG | MPSB0139 | 219/327 | 0.12-45 | 13.2 | 7.75 | 2.3 | EPA RSL (n) | 55 | Yes | ASL |
| NFA | METALS | 7440-50-8 | COPPER | 0.175(J) | 379.5(J+) | MG/KG | MPSB0192 | 306/329 | 0.09-22.5 | 379.5 | 72.5 | 310 | EPA RSL (n) | 1 | Yes | ASL |
| NFA | METALS | 57-12-5 | CYANIDE | 0.057(J) | 352 | MG/KG | MPSB0197 | 153/253 | 0.016-28 | 352 | 58.4 | 2.3 | EPA RSL (n, Cyanide (CN-)) | 53 | Yes | ASL |
| NFA | METALS | 7439-89-6 | IRON | 312 | 51400 | MG/KG | MPSB0139 | 327/327 | 0.999-90 | 51400 | 50400 | 5500 | EPA RSL (n) | 153 | Yes | ASL |
| NFA | METALS | 7439-92-1 | LEAD | 1.5 | 15300 | MG/KG | MPSB0197 | 322/326 | 0.14-450 | 15300 | 178 | 400 | EPA RSL (L, Lead and Compounds) | 51 | Yes | ASL |
| NFA | METALS | 7439-95-4 | MAGNESIUM | 14.4 | 118000 | MG/KG | MPSB0019 | 265/327 | 0.85-4500 | 118000 | 926 | | EN | | No | EN |
| NFA | METALS | 7439-96-5 | MANGANESE | 2.5(J) | 2010(J) | MG/KG | MPSB0033 | 326/326 | 0.03-135 | 2010 | 316 | 180 | EPA RSL (n, Manganese (Non-diet)) | 23 | Yes | ASL |
| NFA | METALS | 7439-97-6 | MERCURY | 0.0024(J) | 2.1(+) | MG/KG | ERTSB-018 | 212/324 | 0.02-0.175 | 2.1 | 0.45 | 2.3 | EPA RSL (n, Mercuric Chloride (and other Mercury salts)) | 0 | No | BSL |
| NFA | METALS | 7440-02-0 | NICKEL | 0.15(J) | 28.6(J) | MG/KG | MPSB0139 | 286/329 | 0.2-36 | 28.6 | 12.55 | 150 | EPA RSL (n, Nickel Soluble Salts) | 0 | No | BSL |
| NFA | METALS | 7440-09-7 | POTASSIUM | 42.7(J) | 5740(J) | MG/KG | MPSB0140 | 199/327 | 0.999-4500 | 5740 | 467 | | EN | | No | EN |
| NFA | METALS | 7782-49-2 | SELENIUM | 0.16 | 3.87(J+) | MG/KG | ERTSB-018 | 93/330 | 0.22-480 | 3.87 | | 39 | EPA RSL (n) | 0 | No | BSL |
| NFA | METALS | 7440-22-4 | SILVER | 0.014(J) | 1.3 | MG/KG | SGW-234 | 35/330 | 0.12-3.3 | 1.3 | 0.68 | 39 | EPA RSL (n) | 0 | No | BSL |
| NFA | METALS | 7440-23-5 | SODIUM | 7.5(J) | 9820(J) | MG/KG | MPSB0140 | 213/327 | 0.999-4500 | 9820 | 257 | | EN | | No | EN |
| NFA | METALS | 7440-28-0 | THALLIUM | 0.11(J) | 3.7 | MG/KG | B-76 | 17/329 | 0.24-4.4 | 3.7 | 1.2 | 0.078 | EPA RSL (n, Thallium (Soluble Salts)) | 17 | Yes | ASL |
| NFA | METALS | 7440-62-2 | VANADIUM | 0.43(J) | 82.2(J) | MG/KG | MPSB0139 | 321/327 | 0.1-45 | 82.2 | 39.6 | 39 | EPA RSL (n, Vanadium and Compounds) | 8 | Yes | ASL |
| NFA | METALS | 7440-66-6 | ZINC | 0.92(J) | 2930 | MG/KG | MPSB0197 | 308/330 | 0.03-540 | 2930 | 208 | 2300 | EPA RSL (n) | 2 | Yes | ASL |
| NFA | PEST/PCB | 72-54-8 | 4,4'-DDD | 0.00056(J) | 0.044 | MG/KG | MPSB0004 | 16/98 | 0.0033-0.018 | 0.044 | 0.0013 | 2.3 | EPA RSL (c) | 0 | No | BSL |
| NFA | PEST/PCB | 72-55-9 | 4,4'-DDE | 0.000096(J) | 0.094 | MG/KG | MPSB0010 | 27/98 | 0.0033-0.018 | 0.094 | 0.0061 | 2 | EPA RSL (c) | 0 | No | BSL |
| NFA | PEST/PCB | 50-29-3 | 4,4'-DDT | 0.000083(J) | 0.75(J) | MG/KG | MPSB0019 | 30/89 | 0.0033-0.018 | 0.75 | 0.0091 | 1.9 | EPA RSL (c) | 0 | No | BSL |
| NFA | PEST/PCB | 309-00-2 | ALDRIN | 0.001(J) | 0.17 | MG/KG | MPSB0033 | 7/99 | 0.0017-0.018 | 0.17 | | 0.039 | EPA RSL (c) | 2 | Yes | ASL |
| NFA | PEST/PCB | 319-84-6 | ALPHA-BHC | 0.000056(J) | 0.000056(J) | MG/KG | MPSB0193 | 1/98 | 0.0017-0.0092 | 0.000056 | | 0.086 | EPA RSL (c) | 0 | No | BSL |
| NFA | PEST/PCB | 5103-71-9 | ALPHA-CHLORDANE | 0.000045(J) | 0.095 | MG/KG | MPSB0033 | 11/99 | 0.0017-0.018 | 0.095 | | 0.2 | NJ RDCSRS (c) | 0 | No | BSL |
| NFA | PEST/PCB | 53469-21-9 | AROCLOR-1242 | 0.0037(J) | 0.19(J) | MG/KG | MPSB0148 | 21/274 | 0.0087-380 | 0.19 | | 0.2 | NJ RDCSRS (c) | 0 | No | BSL |
| NFA | PEST/PCB | 12672-29-6 | AROCLOR-1248 | 0.038(J) | 0.44 | MG/KG | MPSB0019 | 7/275 | 0.0087-38 | 0.44 | | 0.2 | NJ RDCSRS (c) | 1 | No | LDF |
| NFA | PEST/PCB | 11097-69-1 | AROCLOR-1254 | 0.0031(J) | 0.26(J) | MG/KG | MPSB0076 | 39/270 | 0.0087-38 | 0.26 | | 0.12 | EPA RSL (n) | 5 | Yes | ASL |
| NFA | PEST/PCB | 11096-82-5 | AROCLOR-1260 | 0.0029(J) | 1200 | MG/KG | MPSB0143 | 99/275 | 0.0087-380 | 1200 | 0.022 | 0.2 | NJ RDCSRS (c) | 45 | Yes | ASL |
| NFA | PEST/PCB | 319-85-7 | BETA-BHC | 0.00032(J) | 0.0049(J) | MG/KG | MPSB0030 | 3/98 | 0.0017-0.0092 | 0.0049 | | 0.3 | EPA RSL (c) | 0 | No | BSL |
| NFA | PEST/PCB | 319-86-8 | DELTA-BHC | 0.0004715(J) | 0.001(J) | MG/KG | MPSB0011 | 2/98 | 0.0017-0.0092 | 0.001 | | 0.3 | EPA RSL (c, Hexachlorocyclohexane, Beta-) | 0 | No | BSL |
| NFA | PEST/PCB | 60-57-1 | DIELDRIN | 0.000074(J) | 0.27(J) | MG/KG | MPSB0020 | 15/97 | 0.0033-0.018 | 0.27 | | 0.034 | EPA RSL (c) | 4 | Yes | ASL |
| NFA | PEST/PCB | 959-98-8 | ENDOSULFAN I | 0.000047(J) | 0.00014(J) | MG/KG | MPSB0196 | 2/99 | 0.0017-0.0092 | 0.00014 | | 47 | EPA RSL (n) | 0 | No | BSL |
| NFA | PEST/PCB | 33213-65-9 | ENDOSULFAN II | 0.000041(J) | 0.0018(J) | MG/KG | MPSB0033 | 4/96 | 0.0033-0.018 | 0.0018 | | 47 | EPA RSL (n, Endosulfan) | 0 | No | BSL |
| NFA | PEST/PCB | 1031-07-8 | ENDOSULFAN SULFATE | 0.00025(J) | 0.00025(J) | MG/KG | MPSB0194 | 1/98 | 0.0033-0.018 | 0.00025 | | 47 | EPA RSL (n, Endosulfan) | 0 | No | BSL |
| NFA | PEST/PCB | 72-20-8 | ENDRIN | 0.000054(J) | 0.28 | MG/KG | MPSB0024 | 9/94 | 0.0033-0.035 | 0.28 | | 1.9 | EPA RSL (n) | 0 | No | BSL |
| NFA | PEST/PCB | 7421-93-4 | ENDRIN ALDEHYDE | 0.00005(J) | 0.15(J) | MG/KG | MPSB0024 | 11/93 | 0.0033-0.0079 | 0.15 | 0.00082 | 1.9 | EPA RSL (n, Endrin) | 0 | No | BSL |
| NFA | PEST/PCB | 53494-70-5 | ENDRIN KETONE | 0.00027(J) | 0.6(J) | MG/KG | MPSB0019 | 14/95 | 0.0033-0.018 | 0.6 | 0.013 | 1.9 | EPA RSL (n, Endrin) | 0 | No | BSL |

**Table 2.2**
**Occurrence, Distribution, and Selection of Chemicals of Potential Concern**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Medium: | Soil (0-10 ft bgs) |
| Exposure Medium: | Soil from North of Foster Avenue (NFA) |

| Exposure Point | Chemical Group | CAS Number | Chemical | Minimum Detected Concentration (Qualifier) (1) | Maximum Detected Concentration (Qualifier) (1) | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening (2) | Background Value (3) | Screening Criteria (4) | Criteria Basis (4) | Exceeds Crit | COPC Flag (Y/N) | Rationale for Selection or Deletion (5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NFA | PEST/PCB | 5103-74-2 | GAMMA-CHLORDANE | 0.0001(J) | 0.11 | MG/KG | MPSB0033 | 11/97 | 0.0017-0.018 | 0.11 | 0.000395 | 0.2 | NJ RDCSRS (c) | 0 | No | BSL |
| NFA | PEST/PCB | 76-44-8 | HEPTACHLOR | 0.000053(J) | 0.00021(J) | MG/KG | MPSB0191 | 5/98 | 0.0017-0.0092 | 0.00021 | | 0.1 | NJ RDCSRS (c) | 0 | No | BSL |
| NFA | PEST/PCB | 1024-57-3 | HEPTACHLOR EPOXIDE | 0.000039(J) | 0.0047(J) | MG/KG | MPSB0024 | 6/91 | 0.0017-0.004 | 0.0047 | | 0.07 | EPA RSL (c) | 0 | No | BSL |
| NFA | PEST/PCB | 72-43-5 | METHOXYCHLOR | 0.000052(J) | 0.043(J) | MG/KG | MPSB0022 | 2/99 | 0.017-0.092 | 0.043 | | 32 | EPA RSL (n) | 0 | No | BSL |
| NFA | SVOC | 92-52-4 | 1,1'-BIPHENYL | 0.0023(J) | 25 | MG/KG | MPSB0012 | 62/309 | 0.18-20 | 25 | 0.21 | 4.7 | EPA RSL (n) | 3 | Yes | ASL |
| NFA | SVOC | 95-94-3 | 1,2,4,5-TETRACHLOROBENZENE | 0.011(J) | 4.4 | MG/KG | MPSB0143 | 5/306 | 0.18-20 | 4.4 | | 2.3 | EPA RSL (n) | 1 | No | LDF |
| NFA | SVOC | 58-90-2 | 2,3,4,6-TETRACHLOROPHENOL | 0.029(J) | 4.6(J) | MG/KG | ERTSB-002 | 5/306 | 0.18-20 | 4.6 | | 190 | EPA RSL (n) | 0 | No | BSL |
| NFA | SVOC | 105-67-9 | 2,4-DIMETHYLPHENOL | 0.66 | 0.66 | MG/KG | TB-02 | 1/329 | 0.18-20 | 0.66 | | 130 | EPA RSL (n) | 0 | No | BSL |
| NFA | SVOC | 606-20-2 | 2,6-DINITROTOLUENE | 1.2(J) | 1.2(J) | MG/KG | TB-38 | 1/329 | 0.18-20 | 1.2 | | 0.36 | EPA RSL (c) | 1 | No | LDF |
| NFA | SVOC | 91-57-6 | 2-METHYLNAPHTHALENE | 0.0048(J) | 240 | MG/KG | TB-38 | 111/329 | 0.18-20 | 240 | 0.86 | 24 | EPA RSL (n) | 1 | Yes | ASL |
| NFA | SVOC | 99-09-2 | 3-NITROANILINE | 9.1 | 9.1 | MG/KG | ERTSB-007 | 1/329 | 0.34-93 | 9.1 | | 25 | EPA RSL (n, 4-Nitroaniline) | 0 | No | BSL |
| NFA | SVOC | 106-44-5 | 4-METHYLPHENOL | 0.0057(J) | 5.3(J) | MG/KG | ERTSB-007 | 3/329 | 0.18-20 | 5.3 | | 31 | NJ RDCSRS (n) | 0 | No | BSL |
| NFA | SVOC | 100-01-6 | 4-NITROANILINE | 9.3 | 9.3 | MG/KG | ERTSB-007 | 1/329 | 0.34-93 | 9.3 | | 25 | EPA RSL (n) | 0 | No | BSL |
| NFA | SVOC | 83-32-9 | ACENAPHTHENE | 0.0037(J) | 33 | MG/KG | ERTSB08 | 115/329 | 0.014-20 | 33 | 4.6 | 360 | EPA RSL (n) | 0 | No | BSL |
| NFA | SVOC | 208-96-8 | ACENAPHTHYLENE | 0.0022(J) | 8.3 | MG/KG | ERTSB-014 | 41/329 | 0.18-20 | 8.3 | 0.0066 | 360 | EPA RSL (n, Acenaphthene) | 0 | No | BSL |
| NFA | SVOC | 98-86-2 | ACETOPHENONE | 0.0065(J) | 0.23 | MG/KG | MPSB0105 | 28/309 | 0.18-20 | 0.23 | 0.18 | 2 | NJ RDCSRS (n) | 0 | No | BSL |
| NFA | SVOC | 120-12-7 | ANTHRACENE | 0.0036(J) | 67 | MG/KG | ERTSB08 | 136/329 | 0.014-20 | 67 | 6.6 | 1800 | EPA RSL (n) | 0 | No | BSL |
| NFA | SVOC | 100-52-7 | BENZALDEHYDE | 0.004(J) | 0.81 | MG/KG | MPSB0015 | 33/309 | 0.18-20 | 0.81 | 0.44 | 170 | EPA RSL (c) | 0 | No | BSL |
| NFA | SVOC | 56-55-3 | BENZO(A)ANTHRACENE | 0.0031(J) | 80 | MG/KG | ERTSB08 | 181/329 | 0.014-20 | 80 | 21 | 0.16 | EPA RSL (c) | 78 | Yes | ASL |
| NFA | SVOC | 50-32-8 | BENZO(A)PYRENE | 0.00066(J) | 69 | MG/KG | ERTSB08 | 210/329 | 0.0035-20 | 69 | 17 | 0.016 | EPA RSL (c) | 176 | Yes | ASL |
| NFA | SVOC | 205-99-2 | BENZO(B)FLUORANTHENE | 0.0065(J) | 65(J) | MG/KG | ERTSB-008; ERTSB08 | 181/329 | 0.014-20 | 65 | 18 | 0.16 | EPA RSL (c) | 93 | Yes | ASL |
| NFA | SVOC | 191-24-2 | BENZO(G,H,I)PERYLENE | 0.013(J) | 36(J) | MG/KG | ERTSB08 | 147/326 | 0.18-20 | 36 | 12 | 180 | EPA RSL (n, Pyrene) | 0 | No | BSL |
| NFA | SVOC | 207-08-9 | BENZO(K)FLUORANTHENE | 0.0097(J) | 59 | MG/KG | ERTSB08 | 168/329 | 0.014-20 | 59 | 17 | 1.6 | EPA RSL (c) | 13 | Yes | ASL |
| NFA | SVOC | 85-68-7 | BENZYL BUTYL PHTHALATE | 0.0061(J) | 95 | MG/KG | MPSB0140 | 27/328 | 0.18-20 | 95 | | 290 | EPA RSL (c) | 0 | No | BSL |
| NFA | SVOC | 117-81-7 | BIS(2-ETHYLHEXYL) PHTHALATE | 0.016(J) | 6.5 | MG/KG | MPSB0156 | 71/329 | 0.18-20 | 6.5 | | 35 | NJ RDCSRS (c) | 0 | No | BSL |
| NFA | SVOC | 105-60-2 | CAPROLACTAM | 0.0185(J) | 0.089(J) | MG/KG | MPSB0154 | 14/309 | 0.18-20 | 0.089 | | 3100 | EPA RSL (n) | 0 | No | BSL |
| NFA | SVOC | 86-74-8 | CARBAZOLE | 0.0044(J) | 35 | MG/KG | ERTSB08 | 100/329 | 0.18-20 | 35 | 4.4 | 24 | NJ RDCSRS (c) | 2 | Yes | ASL |
| NFA | SVOC | 218-01-9 | CHRYSENE | 0.0057(J) | 78 | MG/KG | ERTSB08 | 184/329 | 0.014-20 | 78 | 22 | 16 | EPA RSL (c) | 4 | Yes | ASL |
| NFA | SVOC | 53-70-3 | DIBENZO(A,H)ANTHRACENE | 0.00011(J) | 13(J) | MG/KG | ERTSB08 | 149/327 | 0.0034-20 | 13 | 4.3 | 0.016 | EPA RSL (c) | 105 | Yes | ASL |
| NFA | SVOC | 132-64-9 | DIBENZOFURAN | 0.0045(J) | 26 | MG/KG | TB-38 | 100/329 | 0.18-20 | 26 | 2.4 | 7.3 | EPA RSL (n) | 3 | Yes | ASL |
| NFA | SVOC | 84-66-2 | DIETHYLPHTHALATE | 0.002(J) | 0.0674(J+) | MG/KG | MPSB0157 | 14/329 | 0.18-20 | 0.0674 | | 5100 | EPA RSL (n) | 0 | No | BSL |
| NFA | SVOC | 131-11-3 | DIMETHYLPHTHALATE | 0.073(J) | 0.5(J) | MG/KG | ERTSB-011 | 3/329 | 0.18-20 | 0.5 | | 5100 | EPA RSL (n, Diethyl Phthalate) | 0 | No | BSL |
| NFA | SVOC | 84-74-2 | DI-N-BUTYLPHTHALATE | 0.0057(J) | 0.62 | MG/KG | MPSB0151 | 50/329 | 0.18-20 | 0.62 | 0.041 | 630 | EPA RSL (n) | 0 | No | BSL |
| NFA | SVOC | 117-84-0 | DI-N-OCTYLPHTHALATE | 0.0076(J) | 0.21(J) | MG/KG | MPSB0025 | 5/314 | 0.18-20 | 0.21 | | 63 | EPA RSL (n) | 0 | No | BSL |
| NFA | SVOC | 206-44-0 | FLUORANTHENE | 0.0032(J) | 200 | MG/KG | ERTSB08 | 200/329 | 0.18-20 | 200 | 44 | 240 | EPA RSL (n) | 0 | No | BSL |
| NFA | SVOC | 86-73-7 | FLUORENE | 0.0028(J) | 33 | MG/KG | ERTSB08 | 108/329 | 0.18-20 | 33 | 3.3 | 240 | EPA RSL (n) | 0 | No | BSL |
| NFA | SVOC | 193-39-5 | INDENO(1,2,3-CD)PYRENE | 0.0036(J) | 37(J) | MG/KG | ERTSB08 | 166/328 | 0.014-20 | 37 | 12 | 0.16 | EPA RSL (c) | 56 | Yes | ASL |
| NFA | SVOC | 91-20-3 | NAPHTHALENE | 0.0032(J) | 580 | MG/KG | TB-38 | 139/333 | 0.014-20 | 580 | 1.7 | 3.8 | EPA RSL (c) | 24 | Yes | ASL |
| NFA | SVOC | 86-30-6 | N-NITROSODIPHENYLAMINE | 0.69(J) | 0.69(J) | MG/KG | TB-38 | 1/329 | 0.18-20 | 0.69 | | 99 | NJ RDCSRS (c) | 0 | No | BSL |
| NFA | SVOC | 87-86-5 | PENTACHLOROPHENOL | 0.0021(J) | 0.36 | MG/KG | ERTSB-008 | 6/328 | 0.029-93 | 0.36 | | 1 | EPA RSL (c) | 0 | No | BSL |
| NFA | SVOC | 85-01-8 | PHENANTHRENE | 0.0021(J) | 220 | MG/KG | ERTSB08 | 196/329 | 0.014-20 | 220 | 32 | 1800 | EPA RSL (n, Anthracene) | 0 | No | BSL |
| NFA | SVOC | 108-95-2 | PHENOL | 0.0037(J) | 0.075(J) | MG/KG | MPSB0139 | 5/329 | 0.18-20 | 0.075 | | 1900 | EPA RSL (n) | 0 | No | BSL |
| NFA | SVOC | 129-00-0 | PYRENE | 0.0029(J) | 160 | MG/KG | ERTSB08 | 201/329 | 0.18-20 | 160 | 45 | 180 | EPA RSL (n) | 0 | No | BSL |
| NFA | VOC | 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | 0.05 | 0.05 | MG/KG | TB-06 | 1/192 | 0.0044-80 | 0.05 | | 0.6 | EPA RSL (c) | 0 | No | BSL |
| NFA | VOC | 79-00-5 | 1,1,2-TRICHLOROETHANE | 0.003(J) | 0.014 | MG/KG | TB-28 | 4/194 | 0.0044-80 | 0.014 | | 0.15 | EPA RSL (n) | 0 | No | BSL |
| NFA | VOC | 75-35-4 | 1,1-DICHLOROETHENE | 0.056 | 0.056 | MG/KG | MPSB0076 | 1/194 | 0.0044-80 | 0.056 | | 11 | NJ RDCSRS (n) | 0 | No | BSL |
| NFA | VOC | 87-61-6 | 1,2,3-TRICHLOROBENZENE | 0.0023(J) | 0.0023(J) | MG/KG | MPSB0150 | 1/146 | 0.0044-59 | 0.0023 | | 6.3 | EPA RSL (n) | 0 | No | BSL |
| NFA | VOC | 120-82-1 | 1,2,4-TRICHLOROBENZENE | 0.0055(J) | 0.15(J) | MG/KG | MPSB0023 | 2/155 | 0.0044-64 | 0.15 | | 5.8 | EPA RSL (n) | 0 | No | BSL |
| NFA | VOC | 106-46-7 | 1,4-DICHLOROBENZENE | 0.46 | 0.46 | MG/KG | MPSB0023 | 1/155 | 0.0044-64 | 0.46 | | 2.6 | EPA RSL (c) | 0 | No | BSL |
| NFA | VOC | 591-78-6 | 2-HEXANONE | 860 | 860 | MG/KG | MPSB0151 | 1/194 | 0.0088-160 | 860 | | 20 | EPA RSL (n) | 1 | No | LDF |
| NFA | VOC | 108-10-1 | 4-METHYL-2-PENTANONE | 0.00027(J) | 0.00027(J) | MG/KG | MPSB0191 | 1/194 | 0.0088-160 | 0.00027 | | 3300 | EPA RSL (n) | 0 | No | BSL |
| NFA | VOC | 67-64-1 | ACETONE | 0.0012(J) | 22(B) | MG/KG | MW-12 | 66/194 | 0.0088-160 | 22 | 1.2 | 6100 | EPA RSL (n) | 0 | No | BSL |
| NFA | VOC | 71-43-2 | BENZENE | 0.0013(J) | 37(J) | MG/KG | MPSB0125 | 22/198 | 0.0044-80 | 37 | | 1.2 | EPA RSL (c) | 6 | Yes | ASL |
| NFA | VOC | 74-83-9 | BROMOMETHANE | 0.098(J) | 1.5(J) | MG/KG | MPSB0150 | 2/193 | 0.0044-160 | 1.5 | | 0.68 | EPA RSL (n) | 1 | No | LDF |
| NFA | VOC | 75-15-0 | CARBON DISULFIDE | 0.00028(J) | 0.014 | MG/KG | MPSB0210 | 10/194 | 0.0044-80 | 0.014 | | 77 | EPA RSL (n) | 0 | No | BSL |

**Table 2.2**
**Occurrence, Distribution, and Selection of Chemicals of Potential Concern**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Medium: | Soil (0-10 ft bgs) |
| Exposure Medium: | Soil from North of Foster Avenue (NFA) |

| Exposure Point | Chemical Group | CAS Number | Chemical | Minimum Detected Concentration (Qualifier) (1) | Maximum Detected Concentration (Qualifier) (1) | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening (2) | Background Value (3) | Screening Criteria (4) | Criteria Basis (4) | Exceeds Crit | COPC Flag (Y/N) | Rationale for Selection or Deletion (5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NFA | VOC | 108-90-7 | CHLOROBENZENE | 0.000016(J) | 0.058 | MG/KG | MPSB0076 | 2/194 | 0.0044-80 | 0.058 | | 28 | EPA RSL (n) | 0 | No | BSL |
| NFA | VOC | 67-66-3 | CHLOROFORM | 0.0055(J) | 0.0055(J) | MG/KG | MPSB0191 | 1/194 | 0.0044-80 | 0.0055 | | 0.32 | EPA RSL (c) | 0 | No | BSL |
| NFA | VOC | 74-87-3 | CHLOROMETHANE | 0.12(J) | 0.12(J) | MG/KG | MPSB0150 | 1/194 | 0.0044-160 | 0.12 | 0.0032 | 4 | NJ RDCSRS | 0 | No | BSL |
| NFA | VOC | 156-59-2 | CIS-1,2-DICHLOROETHENE | 0.0022(J) | 1.1(J) | MG/KG | MPSB0125 | 8/161 | 0.0044-64 | 1.1 | | 16 | EPA RSL (n) | 0 | No | BSL |
| NFA | VOC | 110-82-7 | CYCLOHEXANE | 0.005(J) | 280 | MG/KG | MPSB0086 | 41/160 | 0.0044-64 | 280 | | 650 | EPA RSL (n) | 0 | No | BSL |
| NFA | VOC | 75-71-8 | DICHLORODIFLUOROMETHANE | 0.47(J) | 0.47(J) | MG/KG | MPSB0107 | 1/160 | 0.0044-64 | 0.47 | | 8.7 | EPA RSL (n) | 0 | No | BSL |
| NFA | VOC | 75-09-2 | DICHLOROMETHANE | 0.002(JB) | 34(JB) | MG/KG | TB-60 | 21/194 | 0.0044-80 | 34 | 0.002 | 34 | NJ RDCSRS (c) | 0 | No | BSL |
| NFA | VOC | 100-41-4 | ETHYLBENZENE | 0.000094(J) | 770 | MG/KG | MPSB0013 | 70/198 | 0.0044-230 | 770 | | 5.8 | EPA RSL (c) | 31 | Yes | ASL |
| NFA | VOC | 98-82-8 | ISOPROPYLBENZENE | 0.000805(J) | 130 | MG/KG | MPSB0086 | 61/158 | 0.0044-64 | 130 | | 190 | EPA RSL (n) | 0 | No | BSL |
| NFA | VOC | 79-20-9 | METHYL ACETATE | 0.036(J) | 0.65 | MG/KG | MPSB0020 | 11/160 | 0.0044-64 | 0.65 | 0.021 | 7800 | EPA RSL (n) | 0 | No | BSL |
| NFA | VOC | 78-93-3 | METHYL ETHYL KETONE | 0.0018(J) | 0.014 | MG/KG | MPSB0013 | 17/194 | 0.0088-160 | 0.014 | 0.14 | 2700 | EPA RSL (n) | 0 | No | BSL |
| NFA | VOC | 108-87-2 | METHYLCYCLOHEXANE | 0.0036(J) | 2900 | MG/KG | MPSB0086 | 74/160 | 0.0044-150 | 2900 | | 650 | EPA RSL (n, Cyclohexane) | 1 | Yes | ASL |
| NFA | VOC | 100-42-5 | STYRENE | 0.001(J) | 67 | MG/KG | TB-38 | 2/194 | 0.0044-80 | 67 | | 90 | NJ RDCSRS (n) | 0 | No | BSL |
| NFA | VOC | 127-18-4 | TETRACHLOROETHENE | 0.000079(J) | 0.26(J) | MG/KG | MPSB0024 | 10/194 | 0.0044-80 | 0.26 | | 2 | NJ RDCSRS (c) | 0 | No | BSL |
| NFA | VOC | 108-88-3 | TOLUENE | 0.00014(J) | 44 | MG/KG | TB-38 | 19/198 | 0.0044-80 | 44 | | 490 | EPA RSL (n) | 0 | No | BSL |
| NFA | VOC | 540-59-0 | TOTAL-1,2-DICHLOROETHENE | 0.003(J) | 0.019(+) | MG/KG | TB-06 | 2/33 | 0.005-80 | 0.019 | | 16 | EPA RSL (n, Dichloroethylene, 1,2-cis-) | 0 | No | BSL |
| NFA | VOC | 156-60-5 | TRANS-1,2-DICHLOROETHENE | 0.064(J) | 0.66 | MG/KG | MPSB0024 | 2/161 | 0.0044-64 | 0.66 | | 160 | EPA RSL (n) | 0 | No | BSL |
| NFA | VOC | 79-01-6 | TRICHLOROETHYLENE (TCE) | 0.00195(J) | 0.92(J) | MG/KG | MPSB0107 | 11/194 | 0.0044-80 | 0.92 | | 0.41 | EPA RSL (n) | 2 | Yes | ASL |
| NFA | VOC | 75-01-4 | VINYL CHLORIDE | 0.00235(J) | 0.00235(J+) | MG/KG | MPSB0210 | 1/194 | 0.0044-160 | 0.00235 | | 0.059 | EPA RSL (c) | 0 | No | BSL |
| NFA | VOC | 1330-20-7 | XYLENES (TOTAL) | 0.000044(J) | 6600 | MG/KG | MPSB0013 | 72/196 | 0.0044-230 | 6600 | | 58 | EPA RSL (n) | 14 | Yes | ASL |

Notes:

Only analytes detected in at least one sample are presented.

(1) B – Analyte was detected in an associated blank sample; J – Estimated; + – Value is the average of a parent sample and a field duplicate sample.

(2) The maximum detected concentration was used for the screening.

(3) Maximum detected concentrations from site-specific background locations (BKSB0001-BKSB0007, BKSB0011-BKSB0013, BSBESB01-BSBESB10).

(4) All compounds except EPH were screened against the lower of the EPA (2016b) Regional Screening Level (RSL) for residential soil (THQ = 0.1; Target Cancer Risk = $10^{-6}$) and New Jersey Residential Direct Contact Soil Remediation Standards (NJ RDCSRS) (NJDEP, 2011a). EPH compounds were screened on a sample-specific basis in accordance with the New Jersey Protocol for Addressing Extractable Petroleum Hydrocarbons (NJDEP, 2010a).

n – Non-cancer.

c – Cancer.

L – Based on blood lead modeling.

Surrogate/form – Surrogate/chemical form used in the absence of chemical-specific screening value.

(5) Rationale codes:

Selection reason: ASL – Above screening level.

Deletion reason: BSL – Below screening level.

EN – Essential human nutrient.

EPH – Petroleum hydrocarbon fractions were screened on a sample-specific basis; see text.

LDF – Low detection frequency (<5%).

**Table 2.3**
**Occurrence, Distribution, and Selection of Chemicals of Potential Concern**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Medium: | Soil (0-10 ft bgs) |
| Exposure Medium: | Soil from South of Foster Avenue (SFA) |

| Exposure Point | Chemical Group | CAS Number | Chemical | Minimum Detected Concentration (Qualifier) (1) | Maximum Detected Concentration (Qualifier) (1) | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening (2) | Background Value (3) | Screening Criteria (4) | Criteria Basis (4) | Exceeds Crit | COPC Flag (Y/N) | Rationale for Selection or Deletion (5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SFA | EPH | | C10-C12 AROMATICS | 14(J) | 395(J+) | MG/KG | MPSB0308 | 7/18 | 2.2-16.5 | 395 | | | EPH | | No | EPH |
| SFA | EPH | | C12-C16 ALIPHATICS | 2.9 | 415(J+) | MG/KG | MPSB0308 | 9/18 | 2.2-121.5 | 415 | | | EPH | | No | EPH |
| SFA | EPH | | C12-C16 AROMATICS | 6 | 116.5(+) | MG/KG | MPSB0308 | 7/18 | 2.2-16.5 | 116.5 | | | EPH | | No | EPH |
| SFA | EPH | | C16-C21 ALIPHATICS | 4.5 | 245(J+) | MG/KG | MPSB0308 | 9/18 | 2.2-121.5 | 245 | | | EPH | | No | EPH |
| SFA | EPH | | C16-C21 AROMATICS | 11 | 160(J+) | MG/KG | MPSB0206 | 7/18 | 2.2-16.5 | 160 | | | EPH | | No | EPH |
| SFA | EPH | | C21-C36 AROMATICS | 12 | 260(J) | MG/KG | MPSB0206 | 7/18 | 2.2-16.5 | 260 | | | EPH | | No | EPH |
| SFA | EPH | | C21-C40 ALIPHATICS | 8.4 | 275(+) | MG/KG | MPSB0308 | 9/18 | 2.2-121.5 | 275 | | | EPH | | No | EPH |
| SFA | EPH | | C9-C12 ALIPHATICS | 6.8(J) | 2750(+) | MG/KG | MPSB0308 | 9/18 | 2.2-121.5 | 2750 | | | EPH | | No | EPH |
| SFA | METALS | 7429-90-5 | ALUMINUM | 136 | 10100 | MG/KG | MPSB0026 | 127/127 | 1.2-53.4 | 10100 | 15300 | 7700 | EPA RSL (n) | 1 | Yes | ASL |
| SFA | METALS | 7440-36-0 | ANTIMONY | 0.3(J) | 1090(J) | MG/KG | HCSB0183/195 | 50/127 | 0.23-16 | 1090 | 3.4 | 3.1 | EPA RSL (n, Antimony (metallic)) | 16 | Yes | ASL |
| SFA | METALS | 7440-38-2 | ARSENIC | 0.52(J) | 142 | MG/KG | HCSB0297 | 107/111 | 0.26-2.7 | 142 | 194 | 0.68 | EPA RSL (c) | 105 | Yes | ASL |
| SFA | METALS | 7440-39-3 | BARIUM | 3.3(J) | 4630 | MG/KG | HCSB0313 | 129/141 | 0.02-53.4 | 4630 | 287 | 1500 | EPA RSL (n) | 5 | Yes | ASL |
| SFA | METALS | 7440-41-7 | BERYLLIUM | 0.015(J) | 1 | MG/KG | HCSB0293 | 71/127 | 0.016-1.3 | 1 | 1.035 | 16 | EPA RSL (n) | 0 | No | BSL |
| SFA | METALS | 7440-43-9 | CADMIUM | 0.034(J) | 401 | MG/KG | MW-14 | 89/120 | 0.04-1.3 | 401 | 3.7 | 7.1 | EPA RSL (n, Cadmium (Diet)) | 1 | Yes | ASL |
| SFA | METALS | 7440-70-2 | CALCIUM | 42.8(J) | 128000 | MG/KG | MPSB0051 | 116/127 | 0.77-4290 | 128000 | 7600 | | EN | | No | EN |
| SFA | METALS | 7440-47-3 | CHROMIUM | 1 | 1070 | MG/KG | MW-14 | 172/176 | 0.1-10 | 1070 | 249 | 12000 | EPA RSL (n, Chromium(III), Insoluble Salts) | 0 | No | BSL |
| SFA | METALS | 18540-29-9 | CHROMIUM, HEXAVALENT | 0.43 | 6.2 | MG/KG | MPSB0301 | 17/30 | 0.41-0.56 | 6.2 | | 0.3 | EPA RSL (c) | 17 | Yes | ASL |
| SFA | METALS | 7440-48-4 | COBALT | 0.069(J) | 7.2(J) | MG/KG | HCSB0313 | 96/127 | 0.13-13.3 | 7.2 | 7.75 | 2.3 | EPA RSL (n) | 24 | Yes | ASL |
| SFA | METALS | 7440-50-8 | COPPER | 0.47(J) | 187 | MG/KG | HCSB0313 | 115/127 | 0.1-6.7 | 187 | 72.5 | 310 | EPA RSL (n) | 0 | No | BSL |
| SFA | METALS | 57-12-5 | CYANIDE | 0.057(J) | 62.3(J) | MG/KG | MPSB0041 | 70/138 | 0.07-60.1 | 62.3 | 58.4 | 2.3 | EPA RSL (n, Cyanide (CN-)) | 45 | Yes | ASL |
| SFA | METALS | 7439-89-6 | IRON | 117 | 30500 | MG/KG | HCSB0379 | 123/123 | 2-25.5 | 30500 | 50400 | 5500 | EPA RSL (n) | 43 | Yes | ASL |
| SFA | METALS | 7439-92-1 | LEAD | 1.5 | 103000 | MG/KG | MW-14 | 155/159 | 0.11-115 | 103000 | 178 | 400 | EPA RSL (L, Lead and Compounds) | 36 | Yes | ASL |
| SFA | METALS | 7439-95-4 | MAGNESIUM | 20.45 | 75600 | MG/KG | MPSB0051 | 124/127 | 0.93-4290 | 75600 | 926 | | EN | | No | EN |
| SFA | METALS | 7439-96-5 | MANGANESE | 3.7 | 524(J) | MG/KG | MPSB0048 | 116/116 | 0.03-11.8 | 524 | 316 | 180 | EPA RSL (n, Manganese (Non-diet)) | 5 | Yes | ASL |
| SFA | METALS | 7439-97-6 | MERCURY | 0.011(J) | 4.1 | MG/KG | MPSB0220 | 84/126 | 0.02-0.21 | 4.1 | 0.45 | 2.3 | EPA RSL (n, Mercuric Chloride (and other Mercury salts)) | 2 | Yes | ASL |
| SFA | METALS | 7440-02-0 | NICKEL | 0.18(J) | 14.5(J) | MG/KG | HCSB0313 | 108/127 | 0.22-10.7 | 14.5 | 12.55 | 150 | EPA RSL (n, Nickel Soluble Salts) | 0 | No | BSL |
| SFA | METALS | 7440-09-7 | POTASSIUM | 11.3(J) | 3050(J) | MG/KG | MPSB0048 | 110/127 | 3.1-1330 | 3050 | 467 | | EN | | No | EN |
| SFA | METALS | 7782-49-2 | SELENIUM | 0.26(J) | 2.2 | MG/KG | HCSB0313 | 35/127 | 0.2-5.3 | 2.2 | | 39 | EPA RSL (n) | 0 | No | BSL |
| SFA | METALS | 7440-22-4 | SILVER | 0.061 | 28.1 | MG/KG | MW-14 | 15/127 | 0.052-2.7 | 28.1 | 0.68 | 39 | EPA RSL (n) | 0 | No | BSL |
| SFA | METALS | 7440-23-5 | SODIUM | 9.4(J) | 3430 | MG/KG | MPSB0026 | 81/127 | 4.9-1330 | 3430 | 257 | | EN | | No | EN |
| SFA | METALS | 7440-28-0 | THALLIUM | 0.4(J) | 2.2 | MG/KG | HCSB0293 | 12/127 | 0.2-3.8 | 2.2 | 1.2 | 0.078 | EPA RSL (n, Thallium (Soluble Salts)) | 12 | Yes | ASL |
| SFA | METALS | 7440-62-2 | VANADIUM | 1(J) | 45.4 | MG/KG | MPSB0041 | 124/127 | 0.11-13.3 | 45.4 | 39.6 | 39 | EPA RSL (n, Vanadium and Compounds) | 1 | Yes | ASL |
| SFA | METALS | 7440-66-6 | ZINC | 1.3(J) | 12300 | MG/KG | MW-14 | 126/127 | 0.03-47.1 | 12300 | 208 | 2300 | EPA RSL (n) | 1 | Yes | ASL |
| SFA | PEST/PCB | 72-54-8 | 4,4'-DDD | 0.0019(J) | 0.018(J) | MG/KG | HCSB0181 | 10/40 | 0.0034-0.0088 | 0.018 | 0.0013 | 2.3 | EPA RSL (c) | 0 | No | BSL |
| SFA | PEST/PCB | 72-55-9 | 4,4'-DDE | 0.0028(J) | 0.018 | MG/KG | MPSB0026 | 11/40 | 0.0034-0.0088 | 0.018 | 0.0061 | 2 | EPA RSL (c) | 0 | No | BSL |
| SFA | PEST/PCB | 50-29-3 | 4,4'-DDT | 0.0034(J) | 0.053 | MG/KG | MPSB0039 | 15/39 | 0.0034-0.0088 | 0.053 | 0.0091 | 1.9 | EPA RSL (c) | 0 | No | BSL |
| SFA | PEST/PCB | 309-00-2 | ALDRIN | 0.0044(J) | 0.0044(J) | MG/KG | HCSB0183/195 | 1/40 | 0.0018-0.0088 | 0.0044 | | 0.039 | EPA RSL (c) | 0 | No | BSL |
| SFA | PEST/PCB | 5103-71-9 | ALPHA-CHLORDANE | 0.00089(J) | 0.0046 | MG/KG | HCSB0183/195 | 6/38 | 0.0018-0.0023 | 0.0046 | | 0.2 | NJ RDCSRS (c) | 0 | No | BSL |
| SFA | PEST/PCB | 11097-69-1 | AROCLOR-1254 | 0.011(J) | 0.49 | MG/KG | MPSB0129 | 30/90 | 0.017-0.18 | 0.49 | | 0.12 | EPA RSL (n) | 5 | Yes | ASL |
| SFA | PEST/PCB | 11096-82-5 | AROCLOR-1260 | 0.005(J) | 0.185(+) | MG/KG | HCSB0297 | 30/90 | 0.017-0.18 | 0.185 | 0.022 | 0.2 | NJ RDCSRS (c) | 0 | No | BSL |
| SFA | PEST/PCB | 319-85-7 | BETA-BHC | 0.0016(J) | 0.0081(J) | MG/KG | MPSB0039 | 3/41 | 0.0018-0.0088 | 0.0081 | | 0.3 | EPA RSL (c) | 0 | No | BSL |
| SFA | PEST/PCB | 60-57-1 | DIELDRIN | 0.0027(J) | 0.006(J) | MG/KG | HCSB0183/195 | 5/41 | 0.0034-0.0088 | 0.006 | | 0.034 | EPA RSL (c) | 0 | No | BSL |
| SFA | PEST/PCB | 33213-65-9 | ENDOSULFAN II | 0.0046 | 0.015(J) | MG/KG | HCSB0184/196 | 7/41 | 0.0034-0.0088 | 0.015 | | 47 | EPA RSL (n, Endosulfan) | 0 | No | BSL |
| SFA | PEST/PCB | 72-20-8 | ENDRIN | 0.004(J) | 0.0072(J) | MG/KG | HCSB0181 | 4/40 | 0.0034-0.0088 | 0.0072 | | 1.9 | EPA RSL (n) | 0 | No | BSL |
| SFA | PEST/PCB | 7421-93-4 | ENDRIN ALDEHYDE | 0.0025(J) | 0.018 | MG/KG | HCSB0184/196 | 4/41 | 0.0034-0.0088 | 0.018 | 0.00082 | 1.9 | EPA RSL (n, Endrin) | 0 | No | BSL |
| SFA | PEST/PCB | 53494-70-5 | ENDRIN KETONE | 0.0022(J) | 0.0023(J) | MG/KG | MPSB0038 | 2/41 | 0.0034-0.0088 | 0.0023 | 0.013 | 1.9 | EPA RSL (n, Endrin) | 0 | No | BSL |
| SFA | PEST/PCB | 5103-74-2 | GAMMA-CHLORDANE | 0.0011(J) | 0.0046(J) | MG/KG | HCSB0184/196 | 5/36 | 0.0018-0.0023 | 0.0046 | 0.000395 | 0.2 | NJ RDCSRS (c) | 0 | No | BSL |
| SFA | SVOC | 92-52-4 | 1,1'-BIPHENYL | 0.0044(J) | 0.2025(J+) | MG/KG | MPSB0206 | 4/92 | 0.17-5.5 | 0.2025 | 0.21 | 4.7 | EPA RSL (n) | 0 | No | BSL |
| SFA | SVOC | 106-46-7 | 1,4-DICHLOROBENZENE | 0.1121(J) | 0.1121(J+) | MG/KG | PWSB0014 | 1/29 | 0.33-9.1 | 0.1121 | | 2.6 | EPA RSL (c) | 0 | No | BSL |
| SFA | SVOC | 58-90-2 | 2,3,4,6-TETRACHLOROPHENOL | 0.04(J) | 0.59(J) | MG/KG | MPSB0207 | 7/80 | 0.17-5.5 | 0.59 | | 190 | EPA RSL (n) | 0 | No | BSL |

**Table 2.3**
**Occurrence, Distribution, and Selection of Chemicals of Potential Concern**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Medium: | Soil (0-10 ft bgs) |
| Exposure Medium: | Soil from South of Foster Avenue (SFA) |

| Exposure Point | Chemical Group | CAS Number | Chemical | Minimum Detected Concentration (Qualifier) (1) | Maximum Detected Concentration (Qualifier) (1) | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening (2) | Background Value (3) | Screening Criteria (4) | Criteria Basis (4) | Exceeds Crit | COPC Flag (Y/N) | Rationale for Selection or Deletion (5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SFA | SVOC | 95-95-4 | 2,4,5-TRICHLOROPHENOL | 0.011(J) | 0.025(J) | MG/KG | MPSB0207 | 3/120 | 0.17-46 | 0.025 | | 630 | EPA RSL (n) | 0 | No | BSL |
| SFA | SVOC | 88-06-2 | 2,4,6-TRICHLOROPHENOL | 0.015(J) | 0.021(J) | MG/KG | MPSB0207 | 2/120 | 0.17-9.1 | 0.021 | | 6.3 | EPA RSL (n) | 0 | No | BSL |
| SFA | SVOC | 105-67-9 | 2,4-DIMETHYLPHENOL | 0.042(J) | 4.1 | MG/KG | MW-13 | 4/121 | 0.17-9.1 | 4.1 | | 130 | EPA RSL (n) | 0 | No | BSL |
| SFA | SVOC | 121-14-2 | 2,4-DINITROTOLUENE | 0.019(J) | 0.019(J) | MG/KG | MPSB0220 | 1/121 | 0.081-8.05 | 0.019 | | 0.7 | NJ RDCSRS (c) | 0 | No | BSL |
| SFA | SVOC | 91-57-6 | 2-METHYLNAPHTHALENE | 0.0025(J) | 38(+) | MG/KG | TB-30 | 44/121 | 0.17-8.05 | 38 | 0.86 | 24 | EPA RSL (n) | 1 | Yes | ASL |
| SFA | SVOC | 95-48-7 | 2-METHYLPHENOL | 0.024(J) | 0.024(J) | MG/KG | MPSB0038 | 1/121 | 0.17-8.05 | 0.024 | | 310 | NJ RDCSRS (n) | 0 | No | BSL |
| SFA | SVOC | 106-44-5 | 4-METHYLPHENOL | 0.12(J) | 0.12(J) | MG/KG | MPSB0220 | 1/121 | 0.17-8.05 | 0.12 | | 31 | NJ RDCSRS (n) | 0 | No | BSL |
| SFA | SVOC | 83-32-9 | ACENAPHTHENE | 0.005(J) | 1.7(J) | MG/KG | MPSB0219 | 53/149 | 0.17-15 | 1.7 | 4.6 | 360 | EPA RSL (n) | 0 | No | BSL |
| SFA | SVOC | 208-96-8 | ACENAPHTHYLENE | 0.015(J) | 0.295(J+) | MG/KG | HCSB0292 | 13/149 | 0.17-15 | 0.295 | 0.0066 | 360 | EPA RSL (n, Acenaphthene) | 0 | No | BSL |
| SFA | SVOC | 98-86-2 | ACETOPHENONE | 0.044(J) | 0.31 | MG/KG | MPSB0040 | 4/92 | 0.17-5.5 | 0.31 | 0.18 | 2 | NJ RDCSRS (n) | 0 | No | BSL |
| SFA | SVOC | 120-12-7 | ANTHRACENE | 0.00265(J) | 3.75(J+) | MG/KG | MPSB0206 | 73/149 | 0.17-15 | 3.75 | 6.6 | 1800 | EPA RSL (n) | 0 | No | BSL |
| SFA | SVOC | 100-52-7 | BENZALDEHYDE | 0.011(J) | 0.265(J+) | MG/KG | MPSB0206 | 5/92 | 0.17-5.5 | 0.265 | 0.44 | 170 | EPA RSL (c) | 0 | No | BSL |
| SFA | SVOC | 56-55-3 | BENZO(A)ANTHRACENE | 0.0058(J) | 32 | MG/KG | HCSB0297 | 93/149 | 0.04-15 | 32 | 21 | 0.16 | EPA RSL (c) | 53 | Yes | ASL |
| SFA | SVOC | 50-32-8 | BENZO(A)PYRENE | 0.004 | 37 | MG/KG | HCSB0297 | 102/149 | 0.0038-15 | 37 | 17 | 0.016 | EPA RSL (c) | 90 | Yes | ASL |
| SFA | SVOC | 205-99-2 | BENZO(B)FLUORANTHENE | 0.012(J) | 44 | MG/KG | HCSB0297 | 91/149 | 0.036-15 | 44 | 18 | 0.16 | EPA RSL (c) | 60 | Yes | ASL |
| SFA | SVOC | 191-24-2 | BENZO(G,H,I)PERYLENE | 0.008(J) | 44 | MG/KG | HCSB0297 | 79/148 | 0.17-15 | 44 | 12 | 180 | EPA RSL (n, Pyrene) | 0 | No | BSL |
| SFA | SVOC | 207-08-9 | BENZO(K)FLUORANTHENE | 0.0087(J) | 41 | MG/KG | HCSB0297 | 90/149 | 0.04-15 | 41 | 17 | 1.6 | EPA RSL (c) | 18 | Yes | ASL |
| SFA | SVOC | 65-85-0 | BENZOIC ACID | 0.073(J) | 0.073(J) | MG/KG | MW-18 | 1/25 | 0.33-39 | 0.073 | | 25000 | EPA RSL (n) | 0 | No | BSL |
| SFA | SVOC | 85-68-7 | BENZYL BUTYL PHTHALATE | 0.019(J) | 0.034(J) | MG/KG | MPSB0026 | 3/120 | 0.17-8.05 | 0.034 | | 290 | EPA RSL (c) | 0 | No | BSL |
| SFA | SVOC | 117-81-7 | BIS(2-ETHYLHEXYL) PHTHALATE | 0.018(J) | 11 | MG/KG | TB-08 | 42/120 | 0.17-8.05 | 11 | | 35 | NJ RDCSRS (c) | 0 | No | BSL |
| SFA | SVOC | 105-60-2 | CAPROLACTAM | 0.013(J) | 0.0645(J+) | MG/KG | MPSB0112 | 11/92 | 0.17-5.5 | 0.0645 | | 3100 | EPA RSL (n) | 0 | No | BSL |
| SFA | SVOC | 86-74-8 | CARBAZOLE | 0.0066(J) | 3.5(J) | MG/KG | MPSB0219 | 36/121 | 0.17-8.05 | 3.5 | 4.4 | 24 | NJ RDCSRS (c) | 0 | No | BSL |
| SFA | SVOC | 218-01-9 | CHRYSENE | 0.0088(J) | 55 | MG/KG | HCSB0297 | 95/149 | 0.17-15 | 55 | 22 | 16 | EPA RSL (c) | 6 | Yes | ASL |
| SFA | SVOC | 53-70-3 | DIBENZO(A,H)ANTHRACENE | 0.00017(J) | 14(J) | MG/KG | HCSB0297 | 69/149 | 0.0034-15 | 14 | 4.3 | 0.016 | EPA RSL (c) | 60 | Yes | ASL |
| SFA | SVOC | 132-64-9 | DIBENZOFURAN | 0.0065(J) | 0.68(J) | MG/KG | MPSB0219 | 28/121 | 0.17-8.05 | 0.68 | 2.4 | 7.3 | EPA RSL (n) | 0 | No | BSL |
| SFA | SVOC | 84-66-2 | DIETHYLPHTHALATE | 0.0066(J) | 0.013(J) | MG/KG | MPSB0215 | 3/121 | 0.17-8.05 | 0.013 | | 5100 | EPA RSL (n) | 0 | No | BSL |
| SFA | SVOC | 131-11-3 | DIMETHYLPHTHALATE | 0.094(J) | 0.094(J) | MG/KG | MPSB0220 | 1/121 | 0.17-8.05 | 0.094 | | 5100 | EPA RSL (n, Diethyl Phthalate) | 0 | No | BSL |
| SFA | SVOC | 84-74-2 | DI-N-BUTYLPHTHALATE | 0.0096(J) | 0.82 | MG/KG | TB-69 | 25/121 | 0.17-8.05 | 0.82 | 0.041 | 630 | EPA RSL (n) | 0 | No | BSL |
| SFA | SVOC | 117-84-0 | DI-N-OCTYLPHTHALATE | 0.0069(J) | 0.082(J) | MG/KG | MPSB0206 | 4/115 | 0.17-8.05 | 0.082 | | 63 | EPA RSL (n) | 0 | No | BSL |
| SFA | SVOC | 206-44-0 | FLUORANTHENE | 0.014(J) | 120 | MG/KG | HCSB0297 | 97/149 | 0.17-15 | 120 | 44 | 240 | EPA RSL (n) | 0 | No | BSL |
| SFA | SVOC | 86-73-7 | FLUORENE | 0.005(J) | 1.7(J) | MG/KG | MPSB0219 | 52/149 | 0.17-15 | 1.7 | 3.3 | 240 | EPA RSL (n) | 0 | No | BSL |
| SFA | SVOC | 193-39-5 | INDENO(1,2,3-CD)PYRENE | 0.0072(J) | 37 | MG/KG | HCSB0297 | 82/148 | 0.036-15 | 37 | 12 | 0.16 | EPA RSL (c) | 43 | Yes | ASL |
| SFA | SVOC | 91-20-3 | NAPHTHALENE | 0.0055(J) | 150(+) | MG/KG | TB-30 | 50/149 | 0.17-32 | 150 | 1.7 | 3.8 | EPA RSL (c) | 12 | Yes | ASL |
| SFA | SVOC | 87-86-5 | PENTACHLOROPHENOL | 0.049(J) | 15(J) | MG/KG | MPSB0207 | 11/121 | 0.34-39 | 15 | | 1 | EPA RSL (c) | 3 | Yes | ASL |
| SFA | SVOC | 85-01-8 | PHENANTHRENE | 0.0079(J) | 39 | MG/KG | HCSB0297 | 93/149 | 0.17-15 | 39 | 32 | 1800 | EPA RSL (n, Anthracene) | 0 | No | BSL |
| SFA | SVOC | 108-95-2 | PHENOL | 0.034(J) | 0.034(J) | MG/KG | MPSB0109 | 1/121 | 0.17-8.05 | 0.034 | | 1900 | EPA RSL (n) | 0 | No | BSL |
| SFA | SVOC | 129-00-0 | PYRENE | 0.013(J) | 120 | MG/KG | HCSB0297 | 98/149 | 0.17-15 | 120 | 45 | 180 | EPA RSL (n) | 0 | No | BSL |
| SFA | VOC | 71-55-6 | 1,1,1-TRICHLOROETHANE | 0.003(J) | 0.1585(J+) | MG/KG | TB-07 | 8/96 | 0.0042-32 | 0.1585 | | 290 | NJ RDCSRS (n) | 0 | No | BSL |
| SFA | VOC | 79-00-5 | 1,1,2-TRICHLOROETHANE | 0.005(J) | 0.005(J) | MG/KG | TB-33 | 1/96 | 0.00395-32 | 0.005 | | 0.15 | EPA RSL (n) | 0 | No | BSL |
| SFA | VOC | 106-46-7 | 1,4-DICHLOROBENZENE | 0.00024(J) | 0.00024(J) | MG/KG | MPSB0207 | 1/57 | 0.0042-32 | 0.00024 | | 2.6 | EPA RSL (c) | 0 | No | BSL |
| SFA | VOC | 591-78-6 | 2-HEXANONE | 0.069 | 0.069 | MG/KG | TB-91 | 1/96 | 0.006-65 | 0.069 | | 20 | EPA RSL (n) | 0 | No | BSL |
| SFA | VOC | 108-10-1 | 4-METHYL-2-PENTANONE | 0.0048(J) | 0.0048(J) | MG/KG | MPSB0048 | 1/96 | 0.006-65 | 0.0048 | | 3300 | EPA RSL (n) | 0 | No | BSL |
| SFA | VOC | 67-64-1 | ACETONE | 0.0025(J) | 51(B) | MG/KG | MW-13 | 51/95 | 0.006-65 | 51 | 1.2 | 6100 | EPA RSL (n) | 0 | No | BSL |
| SFA | VOC | 71-43-2 | BENZENE | 0.0039(J) | 3.2(J) | MG/KG | MW-13 | 11/96 | 0.0013-32 | 3.2 | | 1.2 | EPA RSL (c) | 2 | Yes | ASL |
| SFA | VOC | 75-15-0 | CARBON DISULFIDE | 0.0019(J) | 0.014 | MG/KG | TB-49 | 5/97 | 0.0042-32 | 0.014 | | 77 | EPA RSL (n) | 0 | No | BSL |
| SFA | VOC | 67-66-3 | CHLOROFORM | 0.00255(J) | 0.1565(J+) | MG/KG | TB-07 | 11/97 | 0.0042-32 | 0.1565 | | 0.32 | EPA RSL (c) | 0 | No | BSL |
| SFA | VOC | 110-82-7 | CYCLOHEXANE | 0.0012(J) | 16(J) | MG/KG | MPSB0018 | 13/61 | 0.0042-32 | 16 | | 650 | EPA RSL (n) | 0 | No | BSL |
| SFA | VOC | 75-71-8 | DICHLORODIFLUOROMETHANE | 0.5(J) | 0.5(J) | MG/KG | MPSB0110 | 1/62 | 0.0042-32 | 0.5 | | 8.7 | EPA RSL (n) | 0 | No | BSL |
| SFA | VOC | 75-09-2 | DICHLOROMETHANE | 0.005(JB) | 9.2(B) | MG/KG | MW-13 | 24/97 | 0.00395-32 | 9.2 | 0.002 | 34 | NJ RDCSRS (c) | 0 | No | BSL |
| SFA | VOC | 100-41-4 | ETHYLBENZENE | 0.003(J) | 61 | MG/KG | MW-13 | 27/96 | 0.0042-32 | 61 | | 5.8 | EPA RSL (c) | 5 | Yes | ASL |
| SFA | VOC | 98-82-8 | ISOPROPYLBENZENE | 0.013 | 22(J) | MG/KG | MPSB0018 | 20/62 | 0.0042-32 | 22 | | 190 | EPA RSL (n) | 0 | No | BSL |
| SFA | VOC | 79-20-9 | METHYL ACETATE | 0.066(J) | 0.64(J) | MG/KG | MPSB0040 | 4/62 | 0.0042-32 | 0.64 | 0.021 | 7800 | EPA RSL (n) | 0 | No | BSL |
| SFA | VOC | 78-93-3 | METHYL ETHYL KETONE | 0.0022(J) | 22 | MG/KG | MW-13 | 23/94 | 0.006-58 | 22 | 0.14 | 2700 | EPA RSL (n) | 0 | No | BSL |
| SFA | VOC | 108-87-2 | METHYLCYCLOHEXANE | 0.0085(J) | 610(J) | MG/KG | MPSB0110 | 26/62 | 0.0042-32 | 610 | | 650 | EPA RSL (n, Cyclohexane) | 0 | No | BSL |
| SFA | VOC | 91-20-3 | NAPHTHALENE | 0.002(J) | 0.006(B) | MG/KG | TB-49 | 3/3 | 0.006-0.012 | 0.006 | | 3.8 | EPA RSL (c) | 0 | No | BSL |
| SFA | VOC | 127-18-4 | TETRACHLOROETHENE | 0.0011(J) | 0.0094(J) | MG/KG | MPSB0207 | 2/97 | 0.0013-32 | 0.0094 | | 2 | NJ RDCSRS (c) | 0 | No | BSL |

**Table 2.3**
**Occurrence, Distribution, and Selection of Chemicals of Potential Concern**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Medium: | Soil (0-10 ft bgs) |
| Exposure Medium: | Soil from South of Foster Avenue (SFA) |

| Exposure Point | Chemical Group | CAS Number | Chemical | Minimum Detected Concentration (Qualifier) (1) | Maximum Detected Concentration (Qualifier) (1) | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening (2) | Background Value (3) | Screening Criteria (4) | Criteria Basis (4) | Exceeds Crit | COPC Flag (Y/N) | Rationale for Selection or Deletion (5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SFA | VOC | 108-88-3 | TOLUENE | 0.0001(J) | 63 | MG/KG | TB-67 | 34/96 | 0.0042-32 | 63 | | 490 | EPA RSL (n) | 0 | No | BSL |
| SFA | VOC | 79-01-6 | TRICHLOROETHYLENE (TCE) | 0.003(J) | 0.4(J+) | MG/KG | TB-07 | 10/96 | 0.0013-32 | 0.4 | | 0.41 | EPA RSL (n) | 0 | No | BSL |
| SFA | VOC | 1330-20-7 | XYLENES (TOTAL) | 0.002(J) | 370 | MG/KG | TB-67 | 33/97 | 0.0042-32 | 370 | | 58 | EPA RSL (n) | 2 | Yes | ASL |

Notes:

Only analytes detected in at least one sample are presented.

(1) B – Analyte was detected in an associated blank sample; J – Estimated; + – Value is the average of a parent sample and a field duplicate sample.

(2) The maximum detected concentration was used for the screening.

(3) Maximum detected concentrations from site-specific background locations (BKSB0001-BKSB0007, BKSB0011-BKSB0013, BSBESB01-BSBESB10).

(4) All compounds except EPH were screened against the lower of the EPA (2016b) Regional Screening Level (RSL) for residential soil (THQ = 0.1; Target Cancer Risk = $10^{-6}$) and New Jersey Residential Direct Contact Soil Remediation Standards (NJ RDCSRS) (NJDEP, 2011a). EPH compounds were screened on a sample-specific basis in accordance with the New Jersey Protocol for Addressing Extractable Petroleum Hydrocarbons (NJDEP, 2010a).

n – Non-cancer.
c – Cancer.
L – Based on blood lead modeling.
Surrogate/form – Surrogate/chemical form used in the absence of chemical-specific screening value.

(5) Rationale codes:

Selection reason: ASL – Above screening level.
Deletion reason: BSL – Below screening level.
EN – Essential human nutrient.
EPH – Petroleum hydrocarbon fractions were screened on a sample-specific basis; see text.

**Table 2.4**

**Occurrence, Distribution, and Selection of Chemicals of Potential Concern**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Medium: | Soil (0-10 ft bgs) |
| Exposure Medium: | Soil from Undeveloped Area (UNDV) |

| Exposure Point | Chemical Group | CAS Number | Chemical | Minimum Detected Concentration (Qualifier) (1) | Maximum Detected Concentration (Qualifier) (1) | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening (2) | Background Value (3) | Screening Criteria (4) | Criteria Basis (4) | Exceeds Crit | COPC Flag (Y/N) | Rationale for Selection or Deletion (5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UNDV | EPH | | C10-C12 AROMATICS | 12 | 450(J) | MG/KG | HCSB0498 | 18/36 | 2-28 | 450 | | | EPH | | No | EPH |
| UNDV | EPH | | C12-C16 ALIPHATICS | 4.5 | 200(J) | MG/KG | HCSB0498 | 18/36 | 2-56 | 200 | | | EPH | | No | EPH |
| UNDV | EPH | | C12-C16 AROMATICS | 7.1 | 84(J) | MG/KG | HCSB0498 | 18/36 | 2-28 | 84 | | | EPH | | No | EPH |
| UNDV | EPH | | C16-C21 ALIPHATICS | 6 | 140(J) | MG/KG | MPSB0203; HCSB0498 | 18/36 | 2-56 | 140 | | | EPH | | No | EPH |
| UNDV | EPH | | C16-C21 AROMATICS | 10 | 240 | MG/KG | MPSB0333 | 18/36 | 2-28 | 240 | | | EPH | | No | EPH |
| UNDV | EPH | | C21-C36 AROMATICS | 10 | 690(J) | MG/KG | HCSB0500 | 18/36 | 2-28 | 690 | | | EPH | | No | EPH |
| UNDV | EPH | | C21-C40 ALIPHATICS | 32 | 1800(J) | MG/KG | HCSB0500 | 18/36 | 2-56 | 1800 | | | EPH | | No | EPH |
| UNDV | EPH | | C9-C12 ALIPHATICS | 8.25 | 1900(J) | MG/KG | HCSB0498 | 18/36 | 2-56 | 1900 | | | EPH | | No | EPH |
| UNDV | METALS | 7429-90-5 | ALUMINUM | 95 | 12100(J) | MG/KG | HCSB0152/125 | 271/271 | 2.3-123 | 12100 | 15300 | 7700 | EPA RSL (n) | 14 | Yes | ASL |
| UNDV | METALS | 7440-36-0 | ANTIMONY | 0.21(J) | 515(J) | MG/KG | HCSB0115/142 | 121/273 | 0.26-37.95 | 515 | 3.4 | 3.1 | EPA RSL (n, Antimony (metallic)) | 72 | Yes | ASL |
| UNDV | METALS | 7440-38-2 | ARSENIC | 0.37(J) | 5270(J) | MG/KG | HCSB0307 | 234/260 | 0.19-6.1 | 5270 | 194 | 0.68 | EPA RSL (c) | 222 | Yes | ASL |
| UNDV | METALS | 7440-39-3 | BARIUM | 1.8(J) | 14500 | MG/KG | TB-73 | 245/270 | 0.01-123 | 14500 | 287 | 1500 | EPA RSL (n) | 19 | Yes | ASL |
| UNDV | METALS | 7440-41-7 | BERYLLIUM | 0.011(J) | 0.81(J) | MG/KG | HCSB0152/125 | 183/273 | 0.01-3.1 | 0.81 | 1.035 | 16 | EPA RSL (n) | 0 | No | BSL |
| UNDV | METALS | 7440-43-9 | CADMIUM | 0.03(J) | 36.6(JD) | MG/KG | RSSB0165 | 183/273 | 0.02-10.1 | 36.6 | 3.7 | 7.1 | EPA RSL (n, Cadmium (Diet)) | 5 | Yes | ASL |
| UNDV | METALS | 7440-70-2 | CALCIUM | 9.6(J) | 53400 | MG/KG | WPH1 | 242/271 | 0.01-9600 | 53400 | 7600 | | EN | | No | EN |
| UNDV | METALS | 7440-47-3 | CHROMIUM | 0.92 | 4040(J) | MG/KG | MPSB0326, HCSB0307 | 308/308 | 0.05-20.7 | 4040 | 249 | 12000 | EPA RSL (n, Chromium(III), Insoluble Salts) | 0 | No | BSL |
| UNDV | METALS | 18540-29-9 | CHROMIUM, HEXAVALENT | 0.3625 | 2.8(J) | MG/KG | MPSB0325 | 20/44 | 0.41-2.9 | 2.8 | | 0.3 | EPA RSL (c) | 20 | Yes | ASL |
| UNDV | METALS | 7440-48-4 | COBALT | 0.051(J) | 82.4 | MG/KG | WPH1 | 231/271 | 0.03-30.7 | 82.4 | 7.75 | 2.3 | EPA RSL (n) | 94 | Yes | ASL |
| UNDV | METALS | 7440-50-8 | COPPER | 0.1(J) | 1360 | MG/KG | WPH1 | 244/270 | 0.07-50.5 | 1360 | 72.5 | 310 | EPA RSL (n) | 4 | Yes | ASL |
| UNDV | METALS | 57-12-5 | CYANIDE | 0.062(J) | 953(J) | MG/KG | HCSB0307 | 136/254 | 0.04-7.5 | 953 | 58.4 | 2.3 | EPA RSL (n, Cyanide (CN-)) | 87 | Yes | ASL |
| UNDV | METALS | 7439-89-6 | IRON | 88.6 | 49200(J) | MG/KG | HCSB0115/142 | 271/271 | 1.1-209 | 49200 | 50400 | 5500 | EPA RSL (n) | 117 | Yes | ASL |
| UNDV | METALS | 7439-92-1 | LEAD | 0.9(J) | 25300(J) | MG/KG | HCSB0307 | 310/323 | 0.15-114 | 25300 | 178 | 400 | EPA RSL (L, Lead and Compounds) | 88 | Yes | ASL |
| UNDV | METALS | 7439-95-4 | MAGNESIUM | 6.2(J) | 9980(J) | MG/KG | MPSB0049 | 246/271 | 0.41-3070 | 9980 | 926 | | EN | | No | EN |
| UNDV | METALS | 7439-96-5 | MANGANESE | 2 | 1420(J) | MG/KG | HCSB0117/144 | 264/264 | 0.02-31.4 | 1420 | 316 | 180 | EPA RSL (n, Manganese (Non-diet)) | 29 | Yes | ASL |
| UNDV | METALS | 7439-97-6 | MERCURY | 0.02(J) | 25.2 | MG/KG | TB-73 | 181/254 | 0.01-1.2 | 25.2 | 0.45 | 2.3 | EPA RSL (n, Mercuric Chloride (and other Mercury salts)) | 22 | Yes | ASL |
| UNDV | METALS | 7440-02-0 | NICKEL | 0.14(J) | 67.1 | MG/KG | WPH2 | 240/273 | 0.07-24.5 | 67.1 | 12.55 | 150 | EPA RSL (n, Nickel Soluble Salts) | 0 | No | BSL |
| UNDV | METALS | 7440-09-7 | POTASSIUM | 19.6(J) | 1660(J) | MG/KG | HCSB0298 | 224/271 | 2.1-3070 | 1660 | 467 | | EN | | No | EN |
| UNDV | METALS | 7782-49-2 | SELENIUM | 0.34(J) | 4.7(J) | MG/KG | MPSB0232 | 84/273 | 0.24-7.3 | 4.7 | | 39 | EPA RSL (n) | 0 | No | BSL |
| UNDV | METALS | 7440-22-4 | SILVER | 0.061(J) | 2.2 | MG/KG | MPSB0059 | 76/273 | 0.057-6.1 | 2.2 | 0.68 | 39 | EPA RSL (n) | 0 | No | BSL |
| UNDV | METALS | 7440-23-5 | SODIUM | 2.7(J) | 1870(J) | MG/KG | MPSB0230 | 126/271 | 20.3-3070 | 1870 | 257 | | EN | | No | EN |
| UNDV | METALS | 7440-28-0 | THALLIUM | 0.21(J) | 3.8(J) | MG/KG | HCSB0116/143 | 14/273 | 0.28-5.4 | 3.8 | 1.2 | 0.078 | EPA RSL (n, Thallium (Soluble Salts)) | 14 | Yes | ASL |
| UNDV | METALS | 7440-62-2 | VANADIUM | 0.66(J) | 87.8(J) | MG/KG | HCSB0152/125 | 259/264 | 0.06-30.7 | 87.8 | 39.6 | 39 | EPA RSL (n, Vanadium and Compounds) | 13 | Yes | ASL |
| UNDV | METALS | 7440-66-6 | ZINC | 0.51(J) | 5270 | MG/KG | WPH2 | 255/273 | 0.03-124 | 5270 | 208 | 2300 | EPA RSL (n) | 8 | Yes | ASL |
| UNDV | PEST/PCB | 72-54-8 | 4,4'-DDD | 0.002(J) | 1.9(J) | MG/KG | HCSB0118/145 | 46/133 | 0.0034-0.15 | 1.9 | 0.0013 | 2.3 | EPA RSL (c) | 0 | No | BSL |
| UNDV | PEST/PCB | 72-55-9 | 4,4'-DDE | 0.00073(J) | 0.42(J) | MG/KG | HCSB0118/145 | 39/138 | 0.0034-0.15 | 0.42 | 0.0061 | 2 | EPA RSL (c) | 0 | No | BSL |
| UNDV | PEST/PCB | 50-29-3 | 4,4'-DDT | 0.0023(J) | 0.22(J) | MG/KG | HCSB0115/142, HCSB0119/146 | 38/126 | 0.0034-0.097 | 0.22 | 0.0091 | 1.9 | EPA RSL (c) | 0 | No | BSL |
| UNDV | PEST/PCB | 309-00-2 | ALDRIN | 0.0018(J) | 0.011(J) | MG/KG | MPSB0049 | 4/139 | 0.0017-0.05 | 0.011 | | 0.039 | EPA RSL (c) | 0 | No | BSL |
| UNDV | PEST/PCB | 319-84-6 | ALPHA-BHC | 0.0011(J) | 0.0011(J) | MG/KG | MPSB0069 | 1/140 | 0.0017-0.05 | 0.0011 | | 0.086 | EPA RSL (c) | 0 | No | BSL |
| UNDV | PEST/PCB | 5103-71-9 | ALPHA-CHLORDANE | 0.001625(J) | 0.02 | MG/KG | HCSB0177/190 | 20/136 | 0.0017-0.05 | 0.02 | | 0.2 | NJ RDCSRS (c) | 0 | No | BSL |
| UNDV | PEST/PCB | 11097-69-1 | AROCLOR-1254 | 0.021 | 1.4(J) | MG/KG | HCSB0152/125 | 17/192 | 0.018-1.1 | 1.4 | | 0.12 | EPA RSL (n) | 10 | Yes | ASL |
| UNDV | PEST/PCB | 11096-82-5 | AROCLOR-1260 | 0.013(J) | 3.1(J) | MG/KG | HCSB0112/139 | 53/192 | 0.018-1.1 | 3.1 | 0.022 | 0.2 | NJ RDCSRS (c) | 34 | Yes | ASL |
| UNDV | PEST/PCB | 319-85-7 | BETA-BHC | 0.0019(J) | 0.023 | MG/KG | HCSB0121/148 | 10/125 | 0.0017-0.05 | 0.023 | | 0.3 | EPA RSL (c) | 0 | No | BSL |
| UNDV | PEST/PCB | 319-86-8 | DELTA-BHC | 0.0015(J) | 0.056(+) | MG/KG | MPSB0049 | 7/138 | 0.0017-0.05 | 0.056 | | 0.3 | EPA RSL (c, Hexachlorocyclohexane, Beta-) | 0 | No | BSL |
| UNDV | PEST/PCB | 60-57-1 | DIELDRIN | 0.00043(J) | 0.077(J) | MG/KG | HCSB0122/149; HCSB0153/126 | 29/131 | 0.0034-0.097 | 0.077 | | 0.034 | EPA RSL (c) | 4 | Yes | ASL |
| UNDV | PEST/PCB | 959-98-8 | ENDOSULFAN I | 0.0011(J) | 0.0023 | MG/KG | MPSB0054 | 3/139 | 0.0017-0.05 | 0.0023 | | 47 | EPA RSL (n) | 0 | No | BSL |
| UNDV | PEST/PCB | 33213-65-9 | ENDOSULFAN II | 0.0039(J) | 0.032 | MG/KG | HCSB0177/190 | 7/139 | 0.0034-0.097 | 0.032 | | 47 | EPA RSL (n, Endosulfan) | 0 | No | BSL |
| UNDV | PEST/PCB | 1031-07-8 | ENDOSULFAN SULFATE | 0.0034(J) | 0.021(J) | MG/KG | HCSB0116/143 | 5/134 | 0.0034-0.097 | 0.021 | | 47 | EPA RSL (n, Endosulfan) | 0 | No | BSL |
| UNDV | PEST/PCB | 72-20-8 | ENDRIN | 0.0072(J) | 0.051 | MG/KG | HCSB0177/190 | 2/138 | 0.0034-0.097 | 0.051 | | 1.9 | EPA RSL (n) | 0 | No | BSL |
| UNDV | PEST/PCB | 7421-93-4 | ENDRIN ALDEHYDE | 0.002025(J) | 0.085(J) | MG/KG | HCSB0122/149 | 25/136 | 0.0034-0.097 | 0.085 | 0.00082 | 1.9 | EPA RSL (n, Endrin) | 0 | No | BSL |
| UNDV | PEST/PCB | 53494-70-5 | ENDRIN KETONE | 0.0027(J) | 0.055(J) | MG/KG | MPSB0058 | 10/136 | 0.0034-0.097 | 0.055 | 0.013 | 1.9 | EPA RSL (n, Endrin) | 0 | No | BSL |
| UNDV | PEST/PCB | 58-89-9 | GAMMA-BHC (LINDANE) | 0.0019(J) | 0.018(J) | MG/KG | HCSB0120/147 | 5/138 | 0.0017-0.05 | 0.018 | | 0.4 | NJ RDCSRS (c) | 0 | No | BSL |

**Table 2.4**

**Occurrence, Distribution, and Selection of Chemicals of Potential Concern**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Medium: | Soil (0-10 ft bgs) |
| Exposure Medium: | Soil from Undeveloped Area (UNDV) |

| Exposure Point | Chemical Group | CAS Number | Chemical | Minimum Detected Concentration (Qualifier) (1) | Maximum Detected Concentration (Qualifier) (1) | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening (2) | Background Value (3) | Screening Criteria (4) | Criteria Basis (4) | Exceeds Crit | COPC Flag (Y/N) | Rationale for Selection or Deletion (5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UNDV | PEST/PCB | 5103-74-2 | GAMMA-CHLORDANE | 0.001(J) | 0.047(J) | MG/KG | HCSB0107/134 | 17/138 | 0.0017-0.05 | 0.047 | 0.000395 | 0.2 | NJ RDCSRS (c) | 0 | No | BSL |
| UNDV | PEST/PCB | 76-44-8 | HEPTACHLOR | 0.001625 | 0.0068 | MG/KG | MPSB0067 | 2/140 | 0.0017-0.05 | 0.0068 | | 0.1 | NJ RDCSRS (c) | 0 | No | BSL |
| UNDV | PEST/PCB | 1024-57-3 | HEPTACHLOR EPOXIDE | 0.0012(J) | 0.022(J) | MG/KG | HCSB0115/142 | 8/138 | 0.0017-0.05 | 0.022 | | 0.07 | EPA RSL (c) | 0 | No | BSL |
| UNDV | PEST/PCB | 72-43-5 | METHOXYCHLOR | 0.0029(J) | 0.14 | MG/KG | MPSB0050 | 6/139 | 0.017-0.5 | 0.14 | | 32 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 92-52-4 | 1,1'-BIPHENYL | 0.0062(J) | 0.27 | MG/KG | MPSB0203 | 14/215 | 0.17-42 | 0.27 | 0.21 | 4.7 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 58-90-2 | 2,3,4,6-TETRACHLOROPHENOL | 0.025(J) | 17(J) | MG/KG | MPSB0203 | 14/130 | 0.17-48 | 17 | | 190 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 95-95-4 | 2,4,5-TRICHLOROPHENOL | 0.023(J) | 3 | MG/KG | MPSB0049 | 7/215 | 0.17-100 | 3 | | 630 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 120-83-2 | 2,4-DICHLOROPHENOL | 0.062(J) | 0.062(J) | MG/KG | MPSB0056 | 1/215 | 0.17-42 | 0.062 | | 19 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 105-67-9 | 2,4-DIMETHYLPHENOL | 0.825(J) | 0.825(J+) | MG/KG | HCSB0501 | 1/215 | 0.17-42 | 0.825 | | 130 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 95-57-8 | 2-CHLOROPHENOL | 0.0091(J) | 0.0091(J) | MG/KG | MPSB0203 | 1/215 | 0.17-42 | 0.0091 | | 39 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 91-57-6 | 2-METHYLNAPHTHALENE | 0.0038(J) | 1.386(J+) | MG/KG | HCSB0119/146 | 67/224 | 0.17-42 | 1.386 | 0.86 | 24 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 106-44-5 | 4-METHYLPHENOL | 0.018(J) | 2.4(J) | MG/KG | HCSB0153/126 | 11/215 | 0.17-42 | 2.4 | | 31 | NJ RDCSRS (n) | 0 | No | BSL |
| UNDV | SVOC | 83-32-9 | ACENAPHTHENE | 0.0031(J) | 5.2(J) | MG/KG | HCSB0117/144 | 117/256 | 0.17-42 | 5.2 | 4.6 | 360 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 208-96-8 | ACENAPHTHYLENE | 0.003(J) | 1.42(J+) | MG/KG | HCSB0119/146 | 55/256 | 0.17-42 | 1.42 | 0.0066 | 360 | EPA RSL (n, Acenaphthene) | 0 | No | BSL |
| UNDV | SVOC | 98-86-2 | ACETOPHENONE | 0.0085(J) | 0.19(J) | MG/KG | MPSB0056 | 20/215 | 0.17-42 | 0.19 | 0.18 | 2 | NJ RDCSRS (n) | 0 | No | BSL |
| UNDV | SVOC | 120-12-7 | ANTHRACENE | 0.0049(J) | 6(J) | MG/KG | HCSB0117/144 | 139/256 | 0.17-42 | 6 | 6.6 | 1800 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 100-52-7 | BENZALDEHYDE | 0.0071(J) | 0.535(J+) | MG/KG | HCSB0150/123 | 24/215 | 0.17-42 | 0.535 | 0.44 | 170 | EPA RSL (c) | 0 | No | BSL |
| UNDV | SVOC | 56-55-3 | BENZO(A)ANTHRACENE | 0.0068(J) | 29 | MG/KG | MPSB0222 | 172/256 | 0.14-42 | 29 | 21 | 0.16 | EPA RSL (c) | 116 | Yes | ASL |
| UNDV | SVOC | 50-32-8 | BENZO(A)PYRENE | 0.00022(J) | 37(J) | MG/KG | MPSB0222 | 196/255 | 0.0037-42 | 37 | 17 | 0.016 | EPA RSL (c) | 175 | Yes | ASL |
| UNDV | SVOC | 205-99-2 | BENZO(B)FLUORANTHENE | 0.0049(J) | 76(J) | MG/KG | MPSB0222 | 175/253 | 0.14-42 | 76 | 18 | 0.16 | EPA RSL (c) | 124 | Yes | ASL |
| UNDV | SVOC | 191-24-2 | BENZO(G,H,I)PERYLENE | 0.015(J) | 21(J) | MG/KG | MPSB0222 | 155/251 | 0.17-42 | 21 | 12 | 180 | EPA RSL (n, Pyrene) | 0 | No | BSL |
| UNDV | SVOC | 207-08-9 | BENZO(K)FLUORANTHENE | 0.0043(J) | 37(J) | MG/KG | MPSB0222 | 173/253 | 0.14-42 | 37 | 17 | 1.6 | EPA RSL (c) | 64 | Yes | ASL |
| UNDV | SVOC | 85-68-7 | BENZYL BUTYL PHTHALATE | 0.011(J) | 0.51 | MG/KG | MPSB0226 | 27/214 | 0.17-42 | 0.51 | | 290 | EPA RSL (c) | 0 | No | BSL |
| UNDV | SVOC | 117-81-7 | BIS(2-ETHYLHEXYL) PHTHALATE | 0.021(J) | 11 | MG/KG | MPSB0218 | 74/215 | 0.17-42 | 11 | | 35 | NJ RDCSRS (c) | 0 | No | BSL |
| UNDV | SVOC | 105-60-2 | CAPROLACTAM | 0.014(J) | 2.4 | MG/KG | HCSB0113/140 | 25/215 | 0.17-42 | 2.4 | | 3100 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 86-74-8 | CARBAZOLE | 0.0042(J) | 3.2(J) | MG/KG | HCSB0117/144, MPSB0222 | 97/215 | 0.17-42 | 3.2 | 4.4 | 24 | NJ RDCSRS (c) | 0 | No | BSL |
| UNDV | SVOC | 218-01-9 | CHRYSENE | 0.004(J) | 45 | MG/KG | MPSB0222 | 181/256 | 0.17-42 | 45 | 22 | 16 | EPA RSL (c) | 4 | Yes | ASL |
| UNDV | SVOC | 53-70-3 | DIBENZO(A,H)ANTHRACENE | 0.000094(J) | 4.9(J) | MG/KG | HCSB0296; MPSB0222 | 162/255 | 0.0037-42 | 4.9 | 4.3 | 0.016 | EPA RSL (c) | 135 | Yes | ASL |
| UNDV | SVOC | 132-64-9 | DIBENZOFURAN | 0.005(J) | 1.7 | MG/KG | MPSB0044 | 68/215 | 0.17-42 | 1.7 | 2.4 | 7.3 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 84-66-2 | DIETHYLPHTHALATE | 0.012(J) | 0.023(J) | MG/KG | MPSB0224 | 5/215 | 0.17-42 | 0.023 | | 5100 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 131-11-3 | DIMETHYLPHTHALATE | 0.0765(J) | 0.1(J) | MG/KG | MPSB0067 | 2/215 | 0.17-42 | 0.1 | | 5100 | EPA RSL (n, Diethyl Phthalate) | 0 | No | BSL |
| UNDV | SVOC | 84-74-2 | DI-N-BUTYLPHTHALATE | 0.0062(J) | 21(J) | MG/KG | MPSB0203 | 46/215 | 0.17-48 | 21 | 0.041 | 630 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 117-84-0 | DI-N-OCTYLPHTHALATE | 0.0032(J) | 0.42(J+) | MG/KG | HCSB0175/188 | 5/210 | 0.17-42 | 0.42 | | 63 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 206-44-0 | FLUORANTHENE | 0.006(J) | 87 | MG/KG | MPSB0222 | 190/256 | 0.17-42 | 87 | 44 | 240 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 86-73-7 | FLUORENE | 0.012(J) | 2.6(J) | MG/KG | HCSB0117/144 | 105/256 | 0.17-42 | 2.6 | 3.3 | 240 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 193-39-5 | INDENO(1,2,3-CD)PYRENE | 0.009(J) | 20(J) | MG/KG | MPSB0222 | 158/251 | 0.14-42 | 20 | 12 | 0.16 | EPA RSL (c) | 104 | Yes | ASL |
| UNDV | SVOC | 91-20-3 | NAPHTHALENE | 0.005(J) | 2.4 | MG/KG | MPSB0050 | 79/256 | 0.17-42 | 2.4 | 1.7 | 3.8 | EPA RSL (c) | 0 | No | BSL |
| UNDV | SVOC | 87-86-5 | PENTACHLOROPHENOL | 0.014(J) | 650 | MG/KG | MPSB0203 | 82/233 | 0.33-100 | 650 | | 1 | EPA RSL (c) | 20 | Yes | ASL |
| UNDV | SVOC | 85-01-8 | PHENANTHRENE | 0.0036(J) | 25 | MG/KG | MPSB0222 | 174/256 | 0.17-42 | 25 | 32 | 1800 | EPA RSL (n, Anthracene) | 0 | No | BSL |
| UNDV | SVOC | 108-95-2 | PHENOL | 0.025(J) | 0.69(J+) | MG/KG | HCSB0150/123 | 6/215 | 0.17-42 | 0.69 | | 1900 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 129-00-0 | PYRENE | 0.006(J) | 88 | MG/KG | MPSB0222 | 187/256 | 0.17-42 | 88 | 45 | 180 | EPA RSL (n) | 0 | No | BSL |
| UNDV | VOC | 75-35-4 | 1,1-DICHLOROETHENE | 0.002(J) | 0.002(J) | MG/KG | HCSB0152/125 | 1/138 | 0.0025-15 | 0.002 | | 11 | NJ RDCSRS (n) | 0 | No | BSL |
| UNDV | VOC | 87-61-6 | 1,2,3-TRICHLOROBENZENE | 0.00029(J) | 0.00039(J) | MG/KG | MPSB0203 | 2/85 | 0.0025-5.1 | 0.00039 | | 6.3 | EPA RSL (n) | 0 | No | BSL |
| UNDV | VOC | 120-82-1 | 1,2,4-TRICHLOROBENZENE | 0.0366(J) | 0.0366(J+) | MG/KG | MPSB0049 | 1/135 | 0.0025-15 | 0.0366 | | 5.8 | EPA RSL (n) | 0 | No | BSL |
| UNDV | VOC | 95-50-1 | 1,2-DICHLOROBENZENE | 0.0093(J) | 0.0093(J) | MG/KG | MPSB0068 | 1/136 | 0.0025-15 | 0.0093 | | 180 | EPA RSL (n) | 0 | No | BSL |
| UNDV | VOC | 106-46-7 | 1,4-DICHLOROBENZENE | 0.07675(J) | 0.07675(J+) | MG/KG | MPSB0049 | 1/135 | 0.0025-15 | 0.07675 | | 2.6 | EPA RSL (c) | 0 | No | BSL |
| UNDV | VOC | 108-10-1 | 4-METHYL-2-PENTANONE | 0.0041(J) | 0.0041(J) | MG/KG | MPSB0042 | 1/138 | 0.0086-15 | 0.0041 | | 3300 | EPA RSL (n) | 0 | No | BSL |
| UNDV | VOC | 67-64-1 | ACETONE | 0.0033(J) | 1.2(J) | MG/KG | HCSB0500 | 56/138 | 0.0086-15 | 1.2 | 1.2 | 6100 | EPA RSL (n) | 0 | No | BSL |
| UNDV | VOC | 71-43-2 | BENZENE | 0.0013(J) | 1.2(J+) | MG/KG | HCSB0119/146 | 9/138 | 0.0025-15 | 1.2 | | 1.2 | EPA RSL (c) | 0 | No | BSL |
| UNDV | VOC | 75-15-0 | CARBON DISULFIDE | 0.0024(J) | 0.14 | MG/KG | MPSB0203 | 14/138 | 0.0025-15 | 0.14 | | 77 | EPA RSL (n) | 0 | No | BSL |
| UNDV | VOC | 67-66-3 | CHLOROFORM | 0.0075 | 0.26(J) | MG/KG | HCSB0117/144 | 6/138 | 0.0025-15 | 0.26 | | 0.32 | EPA RSL (c) | 0 | No | BSL |
| UNDV | VOC | 156-59-2 | CIS-1,2-DICHLOROETHENE | 0.00049(J) | 1.31(J+) | MG/KG | HCSB0119/146 | 11/137 | 0.0025-15 | 1.31 | | 16 | EPA RSL (n) | 0 | No | BSL |
| UNDV | VOC | 110-82-7 | CYCLOHEXANE | 0.085(J) | 0.085(J) | MG/KG | MPSB0050 | 1/137 | 0.0025-15 | 0.085 | | 650 | EPA RSL (n) | 0 | No | BSL |
| UNDV | VOC | 75-09-2 | DICHLOROMETHANE | 0.0025 | 0.009(B) | MG/KG | B-78 | 4/138 | 0.0025-15 | 0.009 | 0.002 | 34 | NJ RDCSRS (c) | 0 | No | BSL |

**Table 2.4**
**Occurrence, Distribution, and Selection of Chemicals of Potential Concern**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Medium: | Soil (0-10 ft bgs) |
| Exposure Medium: | Soil from Undeveloped Area (UNDV) |

| Exposure Point | Chemical Group | CAS Number | Chemical | Minimum Detected Concentration (Qualifier) (1) | Maximum Detected Concentration (Qualifier) (1) | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening (2) | Background Value (3) | Screening Criteria (4) | Criteria Basis (4) | Exceeds Crit | COPC Flag (Y/N) | Rationale for Selection or Deletion (5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UNDV | VOC | 100-41-4 | ETHYLBENZENE | 0.00026(J) | 1.3 | MG/KG | MPSB0050 | 19/138 | 0.0025-15 | 1.3 | | 5.8 | EPA RSL (c) | 0 | No | BSL |
| UNDV | VOC | 98-82-8 | ISOPROPYLBENZENE | 0.00037(J) | 0.35 | MG/KG | MPSB0050 | 10/137 | 0.0025-15 | 0.35 | | 190 | EPA RSL (n) | 0 | No | BSL |
| UNDV | VOC | 79-20-9 | METHYL ACETATE | 0.05135(J) | 16 | MG/KG | HCSB0117/144 | 7/137 | 0.0043-15 | 16 | 0.021 | 7800 | EPA RSL (n) | 0 | No | BSL |
| UNDV | VOC | 78-93-3 | METHYL ETHYL KETONE | 0.0018(J) | 0.29(J) | MG/KG | HCSB0500 | 22/138 | 0.0086-15 | 0.29 | 0.14 | 2700 | EPA RSL (n) | 0 | No | BSL |
| UNDV | VOC | 108-87-2 | METHYLCYCLOHEXANE | 0.003(J) | 33(J) | MG/KG | HCSB0112/139 | 19/137 | 0.0025-15 | 33 | | 650 | EPA RSL (n, Cyclohexane) | 0 | No | BSL |
| UNDV | VOC | 100-42-5 | STYRENE | 0.00025(J) | 0.07725(J+) | MG/KG | MPSB0049 | 3/138 | 0.0025-15 | 0.07725 | | 90 | NJ RDCSRS (n) | 0 | No | BSL |
| UNDV | VOC | 127-18-4 | TETRACHLOROETHENE | 0.000075(J) | 0.13(J) | MG/KG | HCSB0498 | 12/138 | 0.0025-15 | 0.13 | | 2 | NJ RDCSRS (c) | 0 | No | BSL |
| UNDV | VOC | 108-88-3 | TOLUENE | 0.000086(J) | 1.35(J+) | MG/KG | HCSB0119/146 | 21/138 | 0.0025-15 | 1.35 | | 490 | EPA RSL (n) | 0 | No | BSL |
| UNDV | VOC | 156-60-5 | TRANS-1,2-DICHLOROETHENE | 0.1(J) | 0.11(J) | MG/KG | HCSB0117/144 | 2/137 | 0.0025-15 | 0.11 | | 160 | EPA RSL (n) | 0 | No | BSL |
| UNDV | VOC | 79-01-6 | TRICHLOROETHYLENE (TCE) | 0.011(J) | 0.13(J) | MG/KG | HCSB0498 | 3/138 | 0.0025-15 | 0.13 | | 0.41 | EPA RSL (n) | 0 | No | BSL |
| UNDV | VOC | 1330-20-7 | XYLENES (TOTAL) | 0.00047(J) | 5.8 | MG/KG | MPSB0050 | 33/138 | 0.0025-15 | 5.8 | | 58 | EPA RSL (n) | 0 | No | BSL |

Notes:

Only analytes detected in at least one sample are presented.

(1) B – Analyte was detected in an associated blank sample; J – Estimated; + – Value is the average of a parent sample and a field duplicate sample.

(2) The maximum detected concentration was used for the screening.

(3) Maximum detected concentrations from site-specific background locations (BKSB0001-BKSB0007, BKSB0011-BKSB0013, BSBESB01-BSBESB10).

(4) All compounds except EPH were screened against the lower of the EPA (2016b) Regional Screening Level (RSL) for residential soil (THQ = 0.1; Target Cancer Risk = $10^{-6}$) and New Jersey Residential Direct Contact Soil Remediation Standards (NJ RDCSRS) (NJDEP, 2011a). EPH compounds were screened on a sample-specific basis in accordance with the New Jersey Protocol for Addressing Extractable Petroleum Hydrocarbons (NJDEP, 2010a).

n – Non-cancer.
c – Cancer.
L – Based on blood lead modeling.
Surrogate/form – Surrogate/chemical form used in the absence of chemical-specific screening value.

(5) Rationale codes:

Selection reason: ASL – Above screening level.
Deletion reason: BSL – Below screening level.
EN – Essential human nutrient.
EPH – Petroleum hydrocarbon fractions were screened on a sample-specific basis; see text.

**Table 2.5**

**Occurrence, Distribution, and Selection of Chemicals of Potential Concern**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Medium: | Soil (0-2 ft bgs) |
| Exposure Medium: | Soil from East of United States Avenue (EUSA) |

| Exposure Point | Chemical Group | CAS Number | Chemical | Minimum Detected Concentration (Qualifier) (1) | Maximum Detected Concentration (Qualifier) (1) | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening (2) | Background Value (3) | Screening Criteria (4) | Criteria Basis (4) | Exceeds Crit | COPC Flag (Y/N) | Rationale for Selection or Deletion (5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EUSA | METALS | 7429-90-5 | ALUMINUM | 366 | 3310 | MG/KG | MPSB0063 | 8/8 | 15.8-20.6 | 3310 | 15300 | 7700 | EPA RSL (n) | 0 | No | BSL |
| EUSA | METALS | 7440-38-2 | ARSENIC | 1.5(J) | 3.2(J) | MG/KG | MPSB0061 | 7/8 | 0.79-1 | 3.2 | 194 | 0.68 | EPA RSL (c) | 7 | Yes | ASL |
| EUSA | METALS | 7440-39-3 | BARIUM | 7.4(J) | 57.3 | MG/KG | MPSB0061 | 7/8 | 16-20.6 | 57.3 | 287 | 1500 | EPA RSL (n) | 0 | No | BSL |
| EUSA | METALS | 7440-41-7 | BERYLLIUM | 0.07(J) | 0.21(J) | MG/KG | MPSB0061 | 5/8 | 0.39-0.52 | 0.21 | 1.035 | 16 | EPA RSL (n) | 0 | No | BSL |
| EUSA | METALS | 7440-43-9 | CADMIUM | 0.052(J) | 0.35(J) | MG/KG | MPSB0062 | 4/8 | 0.39-0.52 | 0.35 | 3.7 | 7.1 | EPA RSL (n, Cadmium (Diet)) | 0 | No | BSL |
| EUSA | METALS | 7440-70-2 | CALCIUM | 94.2(J) | 8140 | MG/KG | MPSB0062 | 8/8 | 394-516 | 8140 | 7600 | | EN | | No | EN |
| EUSA | METALS | 7440-47-3 | CHROMIUM | 1.5 | 18.9 | MG/KG | MPSB0313 | 18/18 | 0.76-1 | 18.9 | 249 | 12000 | EPA RSL (n, Chromium(III), Insoluble Salts) | 0 | No | BSL |
| EUSA | METALS | 18540-29-9 | CHROMIUM, HEXAVALENT | 0.47 | 0.77 | MG/KG | MPSB0313 | 6/10 | 0.41-0.43 | 0.77 | | 0.3 | EPA RSL (c) | 6 | Yes | ASL |
| EUSA | METALS | 7440-48-4 | COBALT | 0.25(J) | 3.1(J) | MG/KG | MPSB0062 | 7/8 | 3.9-5.2 | 3.1 | 7.75 | 2.3 | EPA RSL (n) | 1 | Yes | ASL |
| EUSA | METALS | 7440-50-8 | COPPER | 0.57(J) | 23.3 | MG/KG | MPSB0062 | 8/8 | 2-2.6 | 23.3 | 72.5 | 310 | EPA RSL (n) | 0 | No | BSL |
| EUSA | METALS | 57-12-5 | CYANIDE | 0.16(J) | 0.17(J) | MG/KG | MPSB0061 | 2/8 | 2.6-2.8 | 0.17 | 58.4 | 2.3 | EPA RSL (n, Cyanide (CN-)) | 0 | No | BSL |
| EUSA | METALS | 7439-89-6 | IRON | 1070 | 7570 | MG/KG | MPSB0080 | 8/8 | 7.9-10.3 | 7570 | 50400 | 5500 | EPA RSL (n) | 5 | Yes | ASL |
| EUSA | METALS | 7439-92-1 | LEAD | 4.7 | 217 | MG/KG | MPSB0063 | 7/7 | 0.84-1 | 217 | 178 | 400 | EPA RSL (L, Lead and Compounds) | 0 | No | BSL |
| EUSA | METALS | 7439-95-4 | MAGNESIUM | 51.8(J) | 4370 | MG/KG | MPSB0062 | 8/8 | 394-516 | 4370 | 926 | | EN | | No | EN |
| EUSA | METALS | 7439-96-5 | MANGANESE | 5 | 71.7 | MG/KG | MPSB0062 | 8/8 | 1.2-1.5 | 71.7 | 316 | 180 | EPA RSL (n, Manganese (Non-diet)) | 0 | No | BSL |
| EUSA | METALS | 7439-97-6 | MERCURY | 0.0099(J) | 0.069(J) | MG/KG | MPSB0062 | 4/8 | 0.084-0.11 | 0.069 | 0.45 | 2.3 | EPA RSL (n, Mercuric Chloride (and other Mercury salts)) | 0 | No | BSL |
| EUSA | METALS | 7440-02-0 | NICKEL | 0.22(J) | 11.7 | MG/KG | MPSB0062 | 8/8 | 3.2-4.1 | 11.7 | 12.55 | 150 | EPA RSL (n, Nickel Soluble Salts) | 0 | No | BSL |
| EUSA | METALS | 7440-09-7 | POTASSIUM | 18.3(J) | 638 | MG/KG | MPSB0061 | 8/8 | 394-516 | 638 | 467 | | EN | | No | EN |
| EUSA | METALS | 7782-49-2 | SELENIUM | 0.38(J) | 0.48(J) | MG/KG | MPSB0064 | 2/8 | 2.8-3.6 | 0.48 | | 39 | EPA RSL (n) | 0 | No | BSL |
| EUSA | METALS | 7440-23-5 | SODIUM | 11.2(J) | 295(J) | MG/KG | MPSB0082 | 8/8 | 394-516 | 295 | 257 | | EN | | No | EN |
| EUSA | METALS | 7440-28-0 | THALLIUM | 0.33(J) | 0.33(J) | MG/KG | MPSB0064 | 1/8 | 2-2.6 | 0.33 | 1.2 | 0.078 | EPA RSL (n, Thallium (Soluble Salts)) | 1 | Yes | ASL |
| EUSA | METALS | 7440-62-2 | VANADIUM | 2.2(J) | 11.6 | MG/KG | MPSB0063 | 8/8 | 3.9-5.2 | 11.6 | 39.6 | 39 | EPA RSL (n, Vanadium and Compounds) | 0 | No | BSL |
| EUSA | METALS | 7440-66-6 | ZINC | 3.3(J) | 65.7 | MG/KG | MPSB0062 | 8/8 | 4.7-6.2 | 65.7 | 208 | 2300 | EPA RSL (n) | 0 | No | BSL |
| EUSA | PEST/PCB | 72-55-9 | 4,4'-DDE | 0.002(J) | 0.002(J) | MG/KG | MPSB0063 | 1/8 | 0.0034-0.0037 | 0.002 | 0.0061 | 2 | EPA RSL (c) | 0 | No | BSL |
| EUSA | PEST/PCB | 50-29-3 | 4,4'-DDT | 0.0028(J) | 0.0028(J) | MG/KG | MPSB0063 | 1/8 | 0.0034-0.0037 | 0.0028 | 0.0091 | 1.9 | EPA RSL (c) | 0 | No | BSL |
| EUSA | PEST/PCB | 5103-71-9 | ALPHA-CHLORDANE | 0.0021 | 0.0021 | MG/KG | MPSB0062 | 1/8 | 0.0018-0.0019 | 0.0021 | | 0.2 | NJ RDCSRS (c) | 0 | No | BSL |
| EUSA | PEST/PCB | 11097-69-1 | AROCLOR-1254 | 0.058(J) | 0.058(J) | MG/KG | MPSB0062 | 1/8 | 0.034-0.037 | 0.058 | | 0.12 | EPA RSL (n) | 0 | No | BSL |
| EUSA | PEST/PCB | 11096-82-5 | AROCLOR-1260 | 0.063 | 0.063 | MG/KG | MPSB0062 | 1/8 | 0.034-0.037 | 0.063 | 0.022 | 0.2 | NJ RDCSRS (c) | 0 | No | BSL |
| EUSA | PEST/PCB | 5103-74-2 | GAMMA-CHLORDANE | 0.0019 | 0.0019 | MG/KG | MPSB0062 | 1/8 | 0.0018-0.0019 | 0.0019 | 0.000395 | 0.2 | NJ RDCSRS (c) | 0 | No | BSL |
| EUSA | SVOC | 91-57-6 | 2-METHYLNAPHTHALENE | 0.031(J) | 0.031(J) | MG/KG | MPSB0080 | 1/8 | 0.18-0.2 | 0.031 | 0.86 | 24 | EPA RSL (n) | 0 | No | BSL |
| EUSA | SVOC | 120-12-7 | ANTHRACENE | 0.026(J) | 0.026(J) | MG/KG | MPSB0080 | 1/8 | 0.18-0.2 | 0.026 | 6.6 | 1800 | EPA RSL (n) | 0 | No | BSL |
| EUSA | SVOC | 56-55-3 | BENZO(A)ANTHRACENE | 0.018(J) | 0.088(J) | MG/KG | MPSB0080 | 5/8 | 0.18-0.2 | 0.088 | 21 | 0.16 | EPA RSL (c) | 0 | No | BSL |
| EUSA | SVOC | 50-32-8 | BENZO(A)PYRENE | 0.048(J) | 0.073(J) | MG/KG | MPSB0063 | 4/8 | 0.0039-0.19 | 0.073 | 17 | 0.016 | EPA RSL (c) | 4 | Yes | ASL |
| EUSA | SVOC | 205-99-2 | BENZO(B)FLUORANTHENE | 0.039(J) | 0.073(J) | MG/KG | MPSB0061 | 4/8 | 0.18-0.2 | 0.073 | 18 | 0.16 | EPA RSL (c) | 0 | No | BSL |
| EUSA | SVOC | 191-24-2 | BENZO(G,H,I)PERYLENE | 0.057(J) | 0.074(J) | MG/KG | MPSB0063 | 4/8 | 0.18-0.2 | 0.074 | 12 | 180 | EPA RSL (n, Pyrene) | 0 | No | BSL |
| EUSA | SVOC | 207-08-9 | BENZO(K)FLUORANTHENE | 0.04(J) | 0.069(J) | MG/KG | MPSB0063 | 4/8 | 0.18-0.2 | 0.069 | 17 | 1.6 | EPA RSL (c) | 0 | No | BSL |
| EUSA | SVOC | 85-68-7 | BENZYL BUTYL PHTHALATE | 0.027(J) | 0.027(J) | MG/KG | MPSB0062 | 1/8 | 0.18-0.2 | 0.027 | | 290 | EPA RSL (c) | 0 | No | BSL |
| EUSA | SVOC | 117-81-7 | BIS(2-ETHYLHEXYL) PHTHALATE | 0.032(J) | 0.16(J) | MG/KG | MPSB0062 | 3/8 | 0.18-0.2 | 0.16 | | 35 | NJ RDCSRS (c) | 0 | No | BSL |
| EUSA | SVOC | 105-60-2 | CAPROLACTAM | 0.023(J) | 0.023(J) | MG/KG | MPSB0082 | 1/8 | 0.18-0.2 | 0.023 | | 3100 | EPA RSL (n) | 0 | No | BSL |
| EUSA | SVOC | 218-01-9 | CHRYSENE | 0.02(J) | 0.12(J) | MG/KG | MPSB0080 | 5/8 | 0.18-0.2 | 0.12 | 22 | 16 | EPA RSL (c) | 0 | No | BSL |
| EUSA | SVOC | 53-70-3 | DIBENZO(A,H)ANTHRACENE | 0.021 | 0.021 | MG/KG | MPSB0063 | 1/8 | 0.0039-0.19 | 0.021 | 4.3 | 0.016 | EPA RSL (c) | 1 | Yes | ASL |
| EUSA | SVOC | 84-74-2 | DI-N-BUTYLPHTHALATE | 0.025(J) | 0.025(J) | MG/KG | MPSB0062 | 1/8 | 0.18-0.2 | 0.025 | 0.041 | 630 | EPA RSL (n) | 0 | No | BSL |
| EUSA | SVOC | 206-44-0 | FLUORANTHENE | 0.025(J) | 0.13(J) | MG/KG | MPSB0063, MPSB0080 | 6/8 | 0.18-0.2 | 0.13 | 44 | 240 | EPA RSL (n) | 0 | No | BSL |
| EUSA | SVOC | 86-73-7 | FLUORENE | 0.038(J) | 0.038(J) | MG/KG | MPSB0081 | 1/8 | 0.18-0.2 | 0.038 | 3.3 | 240 | EPA RSL (n) | 0 | No | BSL |
| EUSA | SVOC | 193-39-5 | INDENO(1,2,3-CD)PYRENE | 0.045(J) | 0.06(J) | MG/KG | MPSB0063 | 4/8 | 0.18-0.2 | 0.06 | 12 | 0.16 | EPA RSL (c) | 0 | No | BSL |
| EUSA | SVOC | 91-20-3 | NAPHTHALENE | 0.024(J) | 0.024(J) | MG/KG | MPSB0080 | 1/8 | 0.18-0.2 | 0.024 | 1.7 | 3.8 | EPA RSL (c) | 0 | No | BSL |
| EUSA | SVOC | 85-01-8 | PHENANTHRENE | 0.023(J) | 0.26 | MG/KG | MPSB0080 | 6/8 | 0.18-0.2 | 0.26 | 32 | 1800 | EPA RSL (n, Anthracene) | 0 | No | BSL |
| EUSA | SVOC | 129-00-0 | PYRENE | 0.028(J) | 0.23 | MG/KG | MPSB0080 | 6/8 | 0.18-0.2 | 0.23 | 45 | 180 | EPA RSL (n) | 0 | No | BSL |
| EUSA | VOC | 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | 0.0034(J) | 0.0034(J) | MG/KG | MPSB0081 | 1/8 | 0.0047-0.3 | 0.0034 | | 0.6 | EPA RSL (c) | 0 | No | BSL |
| EUSA | VOC | 67-64-1 | ACETONE | 0.051 | 0.051 | MG/KG | MPSB0061 | 1/8 | 0.0094-0.6 | 0.051 | 1.2 | 6100 | EPA RSL (n) | 0 | No | BSL |

**Table 2.5**

**Occurrence, Distribution, and Selection of Chemicals of Potential Concern**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Medium: | Soil (0-2 ft bgs) |
| Exposure Medium: | Soil from East of United States Avenue (EUSA) |

| Exposure Point | Chemical Group | CAS Number | Chemical | Minimum Detected Concentration (Qualifier) (1) | Maximum Detected Concentration (Qualifier) (1) | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening (2) | Background Value (3) | Screening Criteria (4) | Criteria Basis (4) | Exceeds Crit | COPC Flag (Y/N) | Rationale for Selection or Deletion (5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EUSA | VOC | 74-83-9 | BROMOMETHANE | 0.0017(J) | 0.0017(J) | MG/KG | MPSB0079 | 1/8 | 0.0047-0.3 | 0.0017 | | 0.68 | EPA RSL (n) | 0 | No | BSL |
| EUSA | VOC | 67-66-3 | CHLOROFORM | 0.0087 | 0.0088 | MG/KG | MPSB0062 | 2/8 | 0.0047-0.3 | 0.0088 | | 0.32 | EPA RSL (c) | 0 | No | BSL |
| EUSA | VOC | 110-82-7 | CYCLOHEXANE | 0.011 | 0.011 | MG/KG | MPSB0061 | 1/8 | 0.0047-0.3 | 0.011 | | 650 | EPA RSL (n) | 0 | No | BSL |
| EUSA | VOC | 98-82-8 | ISOPROPYLBENZENE | 0.0043(J) | 0.0043(J) | MG/KG | MPSB0061 | 1/8 | 0.0047-0.3 | 0.0043 | | 190 | EPA RSL (n) | 0 | No | BSL |
| EUSA | VOC | 78-93-3 | METHYL ETHYL KETONE | 0.02 | 0.02 | MG/KG | MPSB0061 | 1/8 | 0.0094-0.6 | 0.02 | 0.14 | 2700 | EPA RSL (n) | 0 | No | BSL |
| EUSA | VOC | 108-87-2 | METHYLCYCLOHEXANE | 0.04 | 0.12(J) | MG/KG | MPSB0082 | 2/8 | 0.0047-0.3 | 0.12 | | 650 | EPA RSL (n, Cyclohexane) | 0 | No | BSL |

Notes:

Only analytes detected in at least one sample are presented.

(1) B – Analyte was detected in an associated blank sample; J – Estimated.

(2) The maximum detected concentration was used for the screening.

(3) Maximum detected concentrations from site-specific background locations (BKSB0001-BKSB0007, BKSB0011-BKSB0013, BSBESB01-BSBESB10).

(4) All compounds were screened against the lower of the EPA (2016b) Regional Screening Level (RSL) for residential soil (THQ = 0.1; Target Cancer Risk = $10^{-6}$) and New Jersey Residential Direct Contact Soil Remediation Standards (NJ RDCSRS) (NJDEP, 2011a).

n – Non-cancer.

c – Cancer.

L – Based on blood lead modeling.

Surrogate/form – Surrogate/chemical form used in the absence of chemical-specific screening value.

(5) Rationale codes:

Selection reason: ASL – Above screening level.

Deletion reason: BSL – Below screening level.

EN – Essential human nutrient.

**Table 2.6**

**Occurrence, Distribution, and Selection of Chemicals of Potential Concern**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Medium: | Soil (0-2 ft bgs) |
| Exposure Medium: | Soil from North of Foster Avenue (NFA) |

| Exposure Point | Chemical Group | CAS Number | Chemical | Minimum Detected Concentration (Qualifier) (1) | Maximum Detected Concentration (Qualifier) (1) | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening (2) | Background Value (3) | Screening Criteria (4) | Criteria Basis (4) | Exceeds Crit | COPC Flag (Y/N) | Rationale for Selection or Deletion (5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NFA | EPH | | C10-C12 AROMATICS | 7.45(J) | 7.45(J+) | MG/KG | MPSB0192 | 1/16 | 2.1-2.5 | 7.45 | | | EPH | | No | EPH |
| NFA | EPH | | C12-C16 ALIPHATICS | 5.55(J) | 5.55(J+) | MG/KG | MPSB0192 | 1/16 | 2.1-2.5 | 5.55 | | | EPH | | No | EPH |
| NFA | EPH | | C12-C16 AROMATICS | 4.95(J) | 4.95(J+) | MG/KG | MPSB0192 | 1/16 | 2.1-2.5 | 4.95 | | | EPH | | No | EPH |
| NFA | EPH | | C16-C21 ALIPHATICS | 6.5(J) | 6.5(J+) | MG/KG | MPSB0192 | 1/16 | 2.1-2.5 | 6.5 | | | EPH | | No | EPH |
| NFA | EPH | | C16-C21 AROMATICS | 4.45(J) | 4.45(J+) | MG/KG | MPSB0192 | 1/16 | 2.1-2.5 | 4.45 | | | EPH | | No | EPH |
| NFA | EPH | | C21-C36 AROMATICS | 52.5(J) | 52.5(J+) | MG/KG | MPSB0192 | 1/16 | 2.1-2.5 | 52.5 | | | EPH | | No | EPH |
| NFA | EPH | | C21-C40 ALIPHATICS | 125(J) | 125(J+) | MG/KG | MPSB0192 | 1/16 | 2.1-2.5 | 125 | | | EPH | | No | EPH |
| NFA | EPH | | C9-C12 ALIPHATICS | 14.5(J) | 14.5(J+) | MG/KG | MPSB0192 | 1/16 | 2.1-2.5 | 14.5 | | | EPH | | No | EPH |
| NFA | HERBICIDES | 94-75-7 | 2,4-D | 0.051(J) | 0.051(J) | MG/KG | MPSB0035 | 1/1 | 0.043 | 0.051 | | 70 | EPA RSL (n) | 0 | No | BSL |
| NFA | HERBICIDES | 1918-00-9 | DICAMBA | 0.0044(J) | 0.0044(J) | MG/KG | MPSB0035 | 1/1 | 0.0043 | 0.0044 | | 190 | EPA RSL (n) | 0 | No | BSL |
| NFA | METALS | 7429-90-5 | ALUMINUM | 648 | 21400 | MG/KG | MPSB0140 | 122/122 | 1.1-28.4 | 21400 | 15300 | 7700 | EPA RSL (n) | 4 | Yes | ASL |
| NFA | METALS | 7440-36-0 | ANTIMONY | 0.21(J) | 7.5 | MG/KG | MPSB0196 | 26/123 | 0.21-8.5 | 7.5 | 3.4 | 3.1 | EPA RSL (n, Antimony (metallic)) | 5 | Yes | ASL |
| NFA | METALS | 7440-38-2 | ARSENIC | 0.97 | 696.5(+) | MG/KG | MPSB0192 | 122/123 | 0.26-7.5 | 696.5 | 194 | 0.68 | EPA RSL (c) | 122 | Yes | ASL |
| NFA | METALS | 7440-39-3 | BARIUM | 2.2 | 2960 | MG/KG | ERTSB-017 | 122/131 | 0.02-176 | 2960 | 287 | 1500 | EPA RSL (n) | 3 | Yes | ASL |
| NFA | METALS | 7440-41-7 | BERYLLIUM | 0.031(J) | 0.87 | MG/KG | MPSB0033 | 54/123 | 0.02-3.1 | 0.87 | 1.035 | 16 | EPA RSL (n) | 0 | No | BSL |
| NFA | METALS | 7440-43-9 | CADMIUM | 0.028(J) | 1.9 | MG/KG | MPSB0149 | 88/121 | 0.04-3.1 | 1.9 | 3.7 | 7.1 | EPA RSL (n, Cadmium (Diet)) | 0 | No | BSL |
| NFA | METALS | 7440-70-2 | CALCIUM | 61.1(J) | 200000 | MG/KG | MPSB0019 | 117/120 | 0.71-4380 | 200000 | 7600 | | EN | | No | EN |
| NFA | METALS | 7440-47-3 | CHROMIUM | 2.4 | 494 | MG/KG | MPSB0299 | 162/163 | 0.09-10 | 494 | 249 | 12000 | EPA RSL (n, Chromium(III), Insoluble Salts) | 0 | No | BSL |
| NFA | METALS | 18540-29-9 | CHROMIUM, HEXAVALENT | 0.38 | 40.7 | MG/KG | MPSB0299 | 18/32 | 0.41-0.48 | 40.7 | | 0.3 | EPA RSL (c) | 18 | Yes | ASL |
| NFA | METALS | 7440-48-4 | COBALT | 0.042(J) | 12.2 | MG/KG | MPSB0140 | 111/122 | 0.12-7.1 | 12.2 | 7.75 | 2.3 | EPA RSL (n) | 39 | Yes | ASL |
| NFA | METALS | 7440-50-8 | COPPER | 0.65(J) | 379.5(J+) | MG/KG | MPSB0192 | 123/123 | 0.09-6.1 | 379.5 | 72.5 | 310 | EPA RSL (n) | 1 | Yes | ASL |
| NFA | METALS | 57-12-5 | CYANIDE | 0.058(J) | 169(+) | MG/KG | MPSB0192 | 53/83 | 0.42-10 | 169 | 58.4 | 2.3 | EPA RSL (n, Cyanide (CN-)) | 17 | Yes | ASL |
| NFA | METALS | 7439-89-6 | IRON | 1640 | 47400(J) | MG/KG | MPSB0035 | 122/122 | 1.8-71.8 | 47400 | 50400 | 5500 | EPA RSL (n) | 65 | Yes | ASL |
| NFA | METALS | 7439-92-1 | LEAD | 1.5 | 2290(D) | MG/KG | MPSB0148 | 124/125 | 0.14-91.1 | 2290 | 178 | 400 | EPA RSL (L, Lead and Compounds) | 22 | Yes | ASL |
| NFA | METALS | 7439-95-4 | MAGNESIUM | 25.1(J) | 118000 | MG/KG | MPSB0019 | 114/122 | 0.85-4380 | 118000 | 926 | | EN | | No | EN |
| NFA | METALS | 7439-96-5 | MANGANESE | 3.3 | 750(J) | MG/KG | MPSB0140 | 122/122 | 0.03-28.5 | 750 | 316 | 180 | EPA RSL (n, Manganese (Non-diet)) | 12 | Yes | ASL |
| NFA | METALS | 7439-97-6 | MERCURY | 0.003(J) | 2.05(J+) | MG/KG | MPSB0192 | 82/119 | 0.02-0.16 | 2.05 | 0.45 | 2.3 | EPA RSL (n, Mercuric Chloride (and other Mercury salts)) | 0 | No | BSL |
| NFA | METALS | 7440-02-0 | NICKEL | 0.47(J) | 23 | MG/KG | MPSB0140 | 112/123 | 0.2-5.7 | 23 | 12.55 | 150 | EPA RSL (n, Nickel Soluble Salts) | 0 | No | BSL |
| NFA | METALS | 7440-09-7 | POTASSIUM | 42.7(J) | 5740(J) | MG/KG | MPSB0140 | 91/122 | 2.9-710 | 5740 | 467 | | EN | | No | EN |
| NFA | METALS | 7782-49-2 | SELENIUM | 0.18(J) | 1.2(J) | MG/KG | MPSB0020 | 28/123 | 0.29-480 | 1.2 | | 39 | EPA RSL (n) | 0 | No | BSL |
| NFA | METALS | 7440-22-4 | SILVER | 0.032(J) | 1.2(J) | MG/KG | MPSB0015 | 9/123 | 0.12-3.1 | 1.2 | 0.48 | 39 | EPA RSL (n) | 0 | No | BSL |
| NFA | METALS | 7440-23-5 | SODIUM | 8(J) | 9820(J) | MG/KG | MPSB0140 | 99/122 | 19.2-710 | 9820 | 257 | | EN | | No | EN |
| NFA | METALS | 7440-28-0 | THALLIUM | 0.11(J) | 0.88(J) | MG/KG | MPSB0019 | 11/123 | 0.28-4.4 | 0.88 | 1.2 | 0.078 | EPA RSL (n, Thallium (Soluble Salts)) | 11 | Yes | ASL |
| NFA | METALS | 7440-62-2 | VANADIUM | 3.6(J) | 54.6 | MG/KG | MPSB0020 | 120/122 | 0.1-15.3 | 54.6 | 39.6 | 39 | EPA RSL (n, Vanadium and Compounds) | 4 | Yes | ASL |
| NFA | METALS | 7440-66-6 | ZINC | 4.2(J) | 1220 | MG/KG | TB-62 | 120/123 | 0.03-271 | 1220 | 208 | 2300 | EPA RSL (n) | 0 | No | BSL |
| NFA | PEST/PCB | 72-54-8 | 4,4'-DDD | 0.00056(J) | 0.026 | MG/KG | MPSB0010 | 10/50 | 0.0033-0.018 | 0.026 | 0.0013 | 2.3 | EPA RSL (c) | 0 | No | BSL |
| NFA | PEST/PCB | 72-55-9 | 4,4'-DDE | 0.000096(J) | 0.094 | MG/KG | MPSB0010 | 21/50 | 0.0033-0.018 | 0.094 | 0.0061 | 2 | EPA RSL (c) | 0 | No | BSL |
| NFA | PEST/PCB | 50-29-3 | 4,4'-DDT | 0.000083(J) | 0.75(J) | MG/KG | MPSB0019 | 24/43 | 0.0033-0.018 | 0.75 | 0.0091 | 1.9 | EPA RSL (c) | 0 | No | BSL |
| NFA | PEST/PCB | 309-00-2 | ALDRIN | 0.001(J) | 0.025 | MG/KG | MPSB0033 | 2/51 | 0.0017-0.0092 | 0.025 | | 0.039 | EPA RSL (c) | 0 | No | BSL |
| NFA | PEST/PCB | 5103-71-9 | ALPHA-CHLORDANE | 0.000045(J) | 0.018 | MG/KG | MPSB0033 | 7/51 | 0.0017-0.0092 | 0.018 | | 0.2 | NJ RDCSRS (c) | 0 | No | BSL |
| NFA | PEST/PCB | 53469-21-9 | AROCLOR-1242 | 0.01(J) | 0.19(J) | MG/KG | MPSB0148 | 15/105 | 0.033-1.1 | 0.19 | | 0.2 | NJ RDCSRS (c) | 0 | No | BSL |
| NFA | PEST/PCB | 12672-29-6 | AROCLOR-1248 | 0.038(J) | 0.44 | MG/KG | MPSB0019 | 7/105 | 0.033-1.1 | 0.44 | | 0.2 | NJ RDCSRS (c) | 1 | Yes | ASL |
| NFA | PEST/PCB | 11097-69-1 | AROCLOR-1254 | 0.01(J) | 0.215(+) | MG/KG | MPSB0192 | 26/105 | 0.033-1.1 | 0.215 | | 0.12 | EPA RSL (n) | 4 | Yes | ASL |
| NFA | PEST/PCB | 11096-82-5 | AROCLOR-1260 | 0.003(J) | 52 | MG/KG | MPSB0144 | 50/105 | 0.033-11 | 52 | 0.022 | 0.2 | NJ RDCSRS (c) | 25 | Yes | ASL |
| NFA | PEST/PCB | 319-85-7 | BETA-BHC | 0.00032(J) | 0.0049(J) | MG/KG | MPSB0030 | 3/51 | 0.0017-0.0092 | 0.0049 | | 0.3 | EPA RSL (c) | 0 | No | BSL |
| NFA | PEST/PCB | 319-86-8 | DELTA-BHC | 0.0004715(J) | 0.001(J) | MG/KG | MPSB0011 | 2/50 | 0.0017-0.0092 | 0.001 | | 0.3 | EPA RSL (c, Hexachlorocyclohexane, Beta-) | 0 | No | BSL |
| NFA | PEST/PCB | 60-57-1 | DIELDRIN | 0.000096(J) | 0.27(J) | MG/KG | MPSB0020 | 10/49 | 0.0033-0.018 | 0.27 | | 0.034 | EPA RSL (c) | 3 | Yes | ASL |
| NFA | PEST/PCB | 959-98-8 | ENDOSULFAN I | 0.000047(J) | 0.00014(J) | MG/KG | MPSB0196 | 2/51 | 0.0017-0.0092 | 0.00014 | | 47 | EPA RSL (n) | 0 | No | BSL |
| NFA | PEST/PCB | 33213-65-9 | ENDOSULFAN II | 0.000041(J) | 0.000054(J) | MG/KG | MPSB0190 | 3/48 | 0.0033-0.018 | 0.000054 | | 47 | EPA RSL (n, Endosulfan) | 0 | No | BSL |
| NFA | PEST/PCB | 72-20-8 | ENDRIN | 0.003(J) | 0.28 | MG/KG | MPSB0024 | 4/47 | 0.0033-0.035 | 0.28 | | 1.9 | EPA RSL (n) | 0 | No | BSL |
| NFA | PEST/PCB | 7421-93-4 | ENDRIN ALDEHYDE | 0.00005(J) | 0.15(J) | MG/KG | MPSB0024 | 8/47 | 0.0033-0.0053 | 0.15 | 0.00082 | 1.9 | EPA RSL (n, Endrin) | 0 | No | BSL |

**Table 2.6**

**Occurrence, Distribution, and Selection of Chemicals of Potential Concern**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Medium: | Soil (0-2 ft bgs) |
| Exposure Medium: | Soil from North of Foster Avenue (NFA) |

| Exposure Point | Chemical Group | CAS Number | Chemical | Minimum Detected Concentration (Qualifier) (1) | Maximum Detected Concentration (Qualifier) (1) | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening (2) | Background Value (3) | Screening Criteria (4) | Criteria Basis (4) | Exceeds Crit | COPC Flag (Y/N) | Rationale for Selection or Deletion (5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NFA | PEST/PCB | 53494-70-5 | ENDRIN KETONE | 0.00077(J) | 0.6(J) | MG/KG | MPSB0019 | 9/48 | 0.0033-0.018 | 0.6 | 0.013 | 1.9 | EPA RSL (n, Endrin) | 0 | No | BSL |
| NFA | PEST/PCB | 5103-74-2 | GAMMA-CHLORDANE | 0.0016(J) | 0.021 | MG/KG | MPSB0033 | 5/49 | 0.0017-0.0092 | 0.021 | 0.000395 | 0.2 | NJ RDCSRS (c) | 0 | No | BSL |
| NFA | PEST/PCB | 76-44-8 | HEPTACHLOR | 0.000053(J) | 0.000094(J) | MG/KG | MPSB0190 | 2/50 | 0.0017-0.0092 | 0.000094 | | 0.1 | NJ RDCSRS (c) | 0 | No | BSL |
| NFA | PEST/PCB | 1024-57-3 | HEPTACHLOR EPOXIDE | 0.000039(J) | 0.0023(J) | MG/KG | MPSB0022 | 4/44 | 0.0017-0.0027 | 0.0023 | | 0.07 | EPA RSL (c) | 0 | No | BSL |
| NFA | PEST/PCB | 72-43-5 | METHOXYCHLOR | 0.000052(J) | 0.043(J) | MG/KG | MPSB0022 | 2/51 | 0.017-0.092 | 0.043 | | 32 | EPA RSL (n) | 0 | No | BSL |
| NFA | SVOC | 92-52-4 | 1,1'-BIPHENYL | 0.0023(J) | 1.1 | MG/KG | ERTSB-011 | 35/112 | 0.18-5.9 | 1.1 | 0.21 | 4.7 | EPA RSL (n) | 0 | No | BSL |
| NFA | SVOC | 95-94-3 | 1,2,4,5-TETRACHLOROBENZENE | 0.011(J) | 0.04(J+) | MG/KG | ERTSB-012 | 3/112 | 0.18-5.9 | 0.04 | | 2.3 | EPA RSL (n) | 0 | No | BSL |
| NFA | SVOC | 58-90-2 | 2,3,4,6-TETRACHLOROPHENOL | 0.029(J) | 0.56(J) | MG/KG | ERTSB-002 | 2/112 | 0.18-5.9 | 0.56 | | 190 | EPA RSL (n) | 0 | No | BSL |
| NFA | SVOC | 105-67-9 | 2,4-DIMETHYLPHENOL | 0.66 | 0.66 | MG/KG | TB-02 | 1/121 | 0.18-9.3 | 0.66 | | 130 | EPA RSL (n) | 0 | No | BSL |
| NFA | SVOC | 91-57-6 | 2-METHYLNAPHTHALENE | 0.0051(J) | 4.7 | MG/KG | TP-64 | 55/121 | 0.18-9.3 | 4.7 | 0.86 | 24 | EPA RSL (n) | 0 | No | BSL |
| NFA | SVOC | 99-09-2 | 3-NITROANILINE | 9.1 | 9.1 | MG/KG | ERTSB-007 | 1/121 | 0.34-46 | 9.1 | | 25 | EPA RSL (n, 4-Nitroaniline) | 0 | No | BSL |
| NFA | SVOC | 106-44-5 | 4-METHYLPHENOL | 0.0057(J) | 5.3(J) | MG/KG | ERTSB-007 | 2/121 | 0.18-9.3 | 5.3 | | 31 | NJ RDCSRS (n) | 0 | No | BSL |
| NFA | SVOC | 100-01-6 | 4-NITROANILINE | 9.3 | 9.3 | MG/KG | ERTSB-007 | 1/121 | 0.34-46 | 9.3 | | 25 | EPA RSL (n) | 0 | No | BSL |
| NFA | SVOC | 83-32-9 | ACENAPHTHENE | 0.0037(J) | 7.8 | MG/KG | MPSB0151 | 64/121 | 0.18-9.3 | 7.8 | 4.6 | 360 | EPA RSL (n) | 0 | No | BSL |
| NFA | SVOC | 208-96-8 | ACENAPHTHYLENE | 0.0022(J) | 3.8 | MG/KG | ERTSB-007 | 26/121 | 0.18-9.3 | 3.8 | 0.0066 | 360 | EPA RSL (n, Acenaphthene) | 0 | No | BSL |
| NFA | SVOC | 98-86-2 | ACETOPHENONE | 0.011(J) | 0.11(J) | MG/KG | MPSB0085 | 18/112 | 0.18-5.9 | 0.11 | 0.18 | 2 | NJ RDCSRS (n) | 0 | No | BSL |
| NFA | SVOC | 120-12-7 | ANTHRACENE | 0.0063(J) | 18 | MG/KG | MPSB0151 | 73/121 | 0.18-9.3 | 18 | 6.6 | 1800 | EPA RSL (n) | 0 | No | BSL |
| NFA | SVOC | 100-52-7 | BENZALDEHYDE | 0.014(J) | 0.81 | MG/KG | MPSB0015 | 12/112 | 0.18-5.9 | 0.81 | 0.44 | 170 | EPA RSL (c) | 0 | No | BSL |
| NFA | SVOC | 56-55-3 | BENZO(A)ANTHRACENE | 0.0061(J) | 34 | MG/KG | MPSB0151 | 98/121 | 0.18-9.3 | 34 | 21 | 0.16 | EPA RSL (c) | 46 | Yes | ASL |
| NFA | SVOC | 50-32-8 | BENZO(A)PYRENE | 0.0023(J) | 31 | MG/KG | MPSB0151 | 104/121 | 0.0035-9.3 | 31 | 17 | 0.016 | EPA RSL (c) | 98 | Yes | ASL |
| NFA | SVOC | 205-99-2 | BENZO(B)FLUORANTHENE | 0.0094(J) | 33 | MG/KG | MPSB0151 | 98/121 | 0.059-9.3 | 33 | 18 | 0.16 | EPA RSL (c) | 54 | Yes | ASL |
| NFA | SVOC | 191-24-2 | BENZO(G,H,I)PERYLENE | 0.018(J) | 15 | MG/KG | MPSB0151 | 90/120 | 0.18-9.3 | 15 | 12 | 180 | EPA RSL (n, Pyrene) | 0 | No | BSL |
| NFA | SVOC | 207-08-9 | BENZO(K)FLUORANTHENE | 0.0097(J) | 26 | MG/KG | MPSB0151 | 96/121 | 0.059-9.3 | 26 | 17 | 1.6 | EPA RSL (c) | 7 | Yes | ASL |
| NFA | SVOC | 85-68-7 | BENZYL BUTYL PHTHALATE | 0.011(J) | 0.058(J) | MG/KG | TB-02 | 14/120 | 0.18-9.3 | 0.058 | | 290 | EPA RSL (c) | 0 | No | BSL |
| NFA | SVOC | 117-81-7 | BIS(2-ETHYLHEXYL) PHTHALATE | 0.018(J) | 6.5 | MG/KG | MPSB0156 | 28/121 | 0.18-9.3 | 6.5 | | 35 | NJ RDCSRS (c) | 0 | No | BSL |
| NFA | SVOC | 105-60-2 | CAPROLACTAM | 0.0185(J) | 0.042(J) | MG/KG | MPSB0029 | 6/112 | 0.18-5.9 | 0.042 | | 3100 | EPA RSL (n) | 0 | No | BSL |
| NFA | SVOC | 86-74-8 | CARBAZOLE | 0.0044(J) | 3.8(J) | MG/KG | MPSB0151 | 62/121 | 0.18-9.3 | 3.8 | 4.4 | 24 | NJ RDCSRS (c) | 0 | No | BSL |
| NFA | SVOC | 218-01-9 | CHRYSENE | 0.0057(J) | 35 | MG/KG | MPSB0151 | 100/121 | 0.18-9.3 | 35 | 22 | 16 | EPA RSL (c) | 1 | Yes | ASL |
| NFA | SVOC | 53-70-3 | DIBENZO(A,H)ANTHRACENE | 0.00015(J) | 8.4 | MG/KG | MPSB0151 | 81/120 | 0.0035-9.3 | 8.4 | 4.3 | 0.016 | EPA RSL (c) | 66 | Yes | ASL |
| NFA | SVOC | 132-64-9 | DIBENZOFURAN | 0.0045(J) | 4.7(J) | MG/KG | MPSB0151 | 58/121 | 0.18-9.3 | 4.7 | 2.4 | 7.3 | EPA RSL (n) | 0 | No | BSL |
| NFA | SVOC | 84-66-2 | DIETHYLPHTHALATE | 0.002(J) | 0.0674(J+) | MG/KG | MPSB0157 | 8/121 | 0.18-9.3 | 0.0674 | | 5100 | EPA RSL (n) | 0 | No | BSL |
| NFA | SVOC | 131-11-3 | DIMETHYLPHTHALATE | 0.073(J) | 0.073(J) | MG/KG | MPSB0131 | 1/121 | 0.18-9.3 | 0.073 | | 5100 | EPA RSL (n, Diethyl Phthalate) | 0 | No | BSL |
| NFA | SVOC | 84-74-2 | DI-N-BUTYLPHTHALATE | 0.0057(J) | 0.62 | MG/KG | MPSB0151 | 24/121 | 0.18-9.3 | 0.62 | 0.041 | 630 | EPA RSL (n) | 0 | No | BSL |
| NFA | SVOC | 117-84-0 | DI-N-OCTYLPHTHALATE | 0.0076(J) | 0.21(J) | MG/KG | MPSB0025 | 3/110 | 0.18-9.3 | 0.21 | | 63 | EPA RSL (n) | 0 | No | BSL |
| NFA | SVOC | 206-44-0 | FLUORANTHENE | 0.0032(J) | 62 | MG/KG | MPSB0151 | 108/121 | 0.18-9.3 | 62 | 44 | 240 | EPA RSL (n) | 0 | No | BSL |
| NFA | SVOC | 86-73-7 | FLUORENE | 0.0047(J) | 8.4 | MG/KG | MPSB0151 | 57/121 | 0.18-9.3 | 8.4 | 3.3 | 240 | EPA RSL (n) | 0 | No | BSL |
| NFA | SVOC | 193-39-5 | INDENO(1,2,3-CD)PYRENE | 0.018(J) | 15 | MG/KG | MPSB0151 | 95/121 | 0.059-9.3 | 15 | 12 | 0.16 | EPA RSL (c) | 35 | Yes | ASL |
| NFA | SVOC | 91-20-3 | NAPHTHALENE | 0.0032(J) | 9.8 | MG/KG | TP-64 | 65/121 | 0.18-9.3 | 9.8 | 1.7 | 3.8 | EPA RSL (c) | 4 | Yes | ASL |
| NFA | SVOC | 87-86-5 | PENTACHLOROPHENOL | 0.055(J) | 0.36 | MG/KG | ERTSB-008 | 4/121 | 0.072-46 | 0.36 | | 1 | EPA RSL (c) | 0 | No | BSL |
| NFA | SVOC | 85-01-8 | PHENANTHRENE | 0.0021(J) | 58 | MG/KG | MPSB0151 | 103/121 | 0.18-9.3 | 58 | 32 | 1800 | EPA RSL (n, Anthracene) | 0 | No | BSL |
| NFA | SVOC | 108-95-2 | PHENOL | 0.014(J) | 0.075(J) | MG/KG | MPSB0139 | 2/121 | 0.18-9.3 | 0.075 | | 1900 | EPA RSL (n) | 0 | No | BSL |
| NFA | SVOC | 129-00-0 | PYRENE | 0.0029(J) | 47 | MG/KG | MPSB0151 | 108/121 | 0.18-9.3 | 47 | 45 | 180 | EPA RSL (n) | 0 | No | BSL |
| NFA | VOC | 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | 0.05 | 0.05 | MG/KG | TB-06 | 1/63 | 0.0044-59 | 0.05 | | 0.6 | EPA RSL (c) | 0 | No | BSL |
| NFA | VOC | 79-00-5 | 1,1,2-TRICHLOROETHANE | 0.014 | 0.014 | MG/KG | TB-28 | 1/63 | 0.0044-59 | 0.014 | | 0.15 | EPA RSL (n) | 0 | No | BSL |
| NFA | VOC | 120-82-1 | 1,2,4-TRICHLOROBENZENE | 0.15(J) | 0.15(J) | MG/KG | MPSB0023 | 1/47 | 0.0044-59 | 0.15 | | 5.8 | EPA RSL (n) | 0 | No | BSL |
| NFA | VOC | 106-46-7 | 1,4-DICHLOROBENZENE | 0.46 | 0.46 | MG/KG | MPSB0023 | 1/47 | 0.0044-59 | 0.46 | | 2.6 | EPA RSL (c) | 0 | No | BSL |
| NFA | VOC | 591-78-6 | 2-HEXANONE | 860 | 860 | MG/KG | MPSB0151 | 1/63 | 0.0088-120 | 860 | | 20 | EPA RSL (n) | 1 | No | LDF |
| NFA | VOC | 108-10-1 | 4-METHYL-2-PENTANONE | 0.00027(J) | 0.00027(J) | MG/KG | MPSB0191 | 1/63 | 0.0088-120 | 0.00027 | | 3300 | EPA RSL (n) | 0 | No | BSL |
| NFA | VOC | 67-64-1 | ACETONE | 0.0012(J) | 0.85(B) | MG/KG | TB-02 | 24/63 | 0.0088-120 | 0.85 | 1.2 | 6100 | EPA RSL (n) | 0 | No | BSL |
| NFA | VOC | 71-43-2 | BENZENE | 0.0013(J) | 4.2 | MG/KG | TP-64 | 8/64 | 0.0044-59 | 4.2 | | 1.2 | EPA RSL (c) | 1 | Yes | ASL |
| NFA | VOC | 75-15-0 | CARBON DISULFIDE | 0.0033(J) | 0.0033(J) | MG/KG | MPSB0085, MPSB0210 | 2/63 | 0.0044-59 | 0.0033 | | 77 | EPA RSL (n) | 0 | No | BSL |
| NFA | VOC | 156-59-2 | CIS-1,2-DICHLOROETHENE | 0.0022(J) | 0.17(J) | MG/KG | MPSB0024 | 3/51 | 0.0044-59 | 0.17 | | 16 | EPA RSL (n) | 0 | No | BSL |
| NFA | VOC | 110-82-7 | CYCLOHEXANE | 0.005(J) | 280 | MG/KG | MPSB0086 | 12/50 | 0.0044-59 | 280 | | 650 | EPA RSL (n) | 0 | No | BSL |
| NFA | VOC | 75-09-2 | DICHLOROMETHANE | 0.003(JB) | 1.9(B) | MG/KG | MW-11 | 6/63 | 0.0044-59 | 1.9 | 0.001 | 34 | NJ RDCSRS (c) | 0 | No | BSL |
| NFA | VOC | 100-41-4 | ETHYLBENZENE | 0.000094(J) | 180 | MG/KG | MPSB0086 | 21/64 | 0.0044-59 | 180 | | 5.8 | EPA RSL (c) | 5 | Yes | ASL |

**Table 2.6**

**Occurrence, Distribution, and Selection of Chemicals of Potential Concern**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Medium: | Soil (0-2 ft bgs) |
| Exposure Medium: | Soil from North of Foster Avenue (NFA) |

| Exposure Point | Chemical Group | CAS Number | Chemical | Minimum Detected Concentration (Qualifier) (1) | Maximum Detected Concentration (Qualifier) (1) | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening (2) | Background Value (3) | Screening Criteria (4) | Criteria Basis (4) | Exceeds Crit | COPC Flag (Y/N) | Rationale for Selection or Deletion (5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NFA | VOC | 98-82-8 | ISOPROPYLBENZENE | 0.0041(J) | 130 | MG/KG | MPSB0086 | 11/50 | 0.0044-59 | 130 | | 190 | EPA RSL (n) | 0 | No | BSL |
| NFA | VOC | 79-20-9 | METHYL ACETATE | 0.089(J) | 0.18(J) | MG/KG | MPSB0084 | 3/50 | 0.0044-59 | 0.18 | 0.021 | 7800 | EPA RSL (n) | 0 | No | BSL |
| NFA | VOC | 78-93-3 | METHYL ETHYL KETONE | 0.0053(J) | 0.014 | MG/KG | MPSB0013 | 5/63 | 0.0088-120 | 0.014 | 0.14 | 2700 | EPA RSL (n) | 0 | No | BSL |
| NFA | VOC | 108-87-2 | METHYLCYCLOHEXANE | 0.0042(J) | 2900 | MG/KG | MPSB0086 | 19/50 | 0.0044-150 | 2900 | | 650 | EPA RSL (n, Cyclohexane) | 1 | Yes | ASL |
| NFA | VOC | 100-42-5 | STYRENE | 0.001(J) | 0.001(J) | MG/KG | TB-28 | 1/63 | 0.0044-59 | 0.001 | | 90 | NJ RDCSRS (n) | 0 | No | BSL |
| NFA | VOC | 127-18-4 | TETRACHLOROETHENE | 0.00063(J) | 0.2(J) | MG/KG | MPSB0024 | 4/63 | 0.0044-59 | 0.2 | | 2 | NJ RDCSRS (c) | 0 | No | BSL |
| NFA | VOC | 108-88-3 | TOLUENE | 0.0017(J) | 0.55 | MG/KG | MPSB0023 | 5/64 | 0.0044-59 | 0.55 | | 490 | EPA RSL (n) | 0 | No | BSL |
| NFA | VOC | 540-59-0 | TOTAL-1,2-DICHLOROETHENE | 0.003(J) | 0.019(+) | MG/KG | TB-06 | 2/12 | 0.005-5.8 | 0.019 | | 16 | EPA RSL (n, Dichloroethylene, 1,2-cis-) | 0 | No | BSL |
| NFA | VOC | 79-01-6 | TRICHLOROETHYLENE (TCE) | 0.006(J) | 0.55 | MG/KG | TB-02 | 6/63 | 0.0044-59 | 0.55 | | 0.41 | EPA RSL (n) | 1 | Yes | ASL |
| NFA | VOC | 1330-20-7 | XYLENES (TOTAL) | 0.000044(J) | 42 | MG/KG | TP-64 | 26/64 | 0.0044-59 | 42 | | 58 | EPA RSL (n) | 0 | No | BSL |

Notes:

Only analytes detected in at least one sample are presented.

(1) B – Analyte was detected in an associated blank sample; J – Estimated; + – Value is the average of a parent sample and a field duplicate sample.

(2) The maximum detected concentration was used for the screening.

(3) Maximum detected concentrations from site-specific background locations (BKSB0001-BKSB0007, BKSB0011-BKSB0013, BSBESB01-BSBESB10).

(4) All compounds except EPH were screened against the lower of the EPA (2016b) Regional Screening Level (RSL) for residential soil (THQ = 0.1; Target Cancer Risk = 10-6) and New Jersey Residential Direct Contact Soil Remediation Standards (NJ RDCSRS) (NJDEP, 2011a). EPH compounds were screened on a sample-specific basis in accordance with the New Jersey Protocol for Addressing Extractable Petroleum Hydrocarbons (NJDEP, 2010a).

n – Non-cancer.
c – Cancer.
L – Based on blood lead modeling.
Surrogate/form – Surrogate/chemical form used in the absence of chemical-specific screening value.

(5) Rationale codes:

Selection reason: ASL – Above screening level.
Deletion reason: BSL – Below screening level.
EN – Essential human nutrient.
EPH – Petroleum hydrocarbon fractions were screened on a sample-specific basis; see text.
LDF – Low detection frequency (<5%).

**Table 2.7**

**Occurrence, Distribution, and Selection of Chemicals of Potential Concern**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Medium: | Soil (0-2 ft bgs) |
| Exposure Medium: | Soil from South of Foster Avenue (SFA) |

| Exposure Point | Chemical Group | CAS Number | Chemical | Minimum Detected Concentration (Qualifier) (1) | Maximum Detected Concentration (Qualifier) (1) | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening (2) | Background Value (3) | Screening Criteria (4) | Criteria Basis (4) | Exceeds Crit | COPC Flag (Y/N) | Rationale for Selection or Deletion (5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SFA | EPH | | C10-C12 AROMATICS | 15 | 19 | MG/KG | MPSB0208 | 2/3 | 2.2-2.4 | 19 | | | EPH | | No | EPH |
| SFA | EPH | | C12-C16 ALIPHATICS | 2.9 | 5.8 | MG/KG | MPSB0208 | 2/3 | 2.2-2.4 | 5.8 | | | EPH | | No | EPH |
| SFA | EPH | | C12-C16 AROMATICS | 6 | 9.4 | MG/KG | MPSB0208 | 2/3 | 2.2-2.4 | 9.4 | | | EPH | | No | EPH |
| SFA | EPH | | C16-C21 ALIPHATICS | 4.7 | 12 | MG/KG | MPSB0207 | 2/3 | 2.2-2.4 | 12 | | | EPH | | No | EPH |
| SFA | EPH | | C16-C21 AROMATICS | 11 | 17 | MG/KG | MPSB0207 | 2/3 | 2.2-2.4 | 17 | | | EPH | | No | EPH |
| SFA | EPH | | C21-C36 AROMATICS | 12 | 88 | MG/KG | MPSB0207 | 2/3 | 2.2-2.4 | 88 | | | EPH | | No | EPH |
| SFA | EPH | | C21-C40 ALIPHATICS | 21 | 140 | MG/KG | MPSB0207 | 2/3 | 2.2-2.4 | 140 | | | EPH | | No | EPH |
| SFA | EPH | | C9-C12 ALIPHATICS | 8 | 16 | MG/KG | MPSB0208 | 2/3 | 2.2-2.4 | 16 | | | EPH | | No | EPH |
| SFA | METALS | 7429-90-5 | ALUMINUM | 516 | 10100 | MG/KG | MPSB0026 | 54/54 | 1.2-53.4 | 10100 | 15300 | 7700 | EPA RSL (n) | 1 | Yes | ASL |
| SFA | METALS | 7440-36-0 | ANTIMONY | 0.3(J) | 1090(J) | MG/KG | HCSB0183/195 | 33/54 | 0.23-16 | 1090 | 3.4 | 3.1 | EPA RSL (n, Antimony (metallic)) | 13 | Yes | ASL |
| SFA | METALS | 7440-38-2 | ARSENIC | 0.7(J) | 142 | MG/KG | HCSB0297 | 44/45 | 0.28-2.7 | 142 | 194 | 0.68 | EPA RSL (c) | 44 | Yes | ASL |
| SFA | METALS | 7440-39-3 | BARIUM | 3.3(J) | 3980(J) | MG/KG | MPSB0041 | 60/61 | 0.02-53.4 | 3980 | 287 | 1500 | EPA RSL (n) | 3 | Yes | ASL |
| SFA | METALS | 7440-41-7 | BERYLLIUM | 0.02(J) | 0.89 | MG/KG | MPSB0048 | 37/54 | 0.016-1.3 | 0.89 | 1.035 | 16 | EPA RSL (n) | 0 | No | BSL |
| SFA | METALS | 7440-43-9 | CADMIUM | 0.034(J) | 401 | MG/KG | MW-14 | 45/51 | 0.04-1.3 | 401 | 3.7 | 7.1 | EPA RSL (n, Cadmium (Diet)) | 1 | Yes | ASL |
| SFA | METALS | 7440-70-2 | CALCIUM | 113(J) | 128000 | MG/KG | MPSB0051 | 53/54 | 0.77-4290 | 128000 | 7600 | | EN | | No | EN |
| SFA | METALS | 7440-47-3 | CHROMIUM | 1.7 | 1070 | MG/KG | MW-14 | 79/82 | 0.1-10 | 1070 | 249 | 12000 | EPA RSL (n, Chromium(III), Insoluble Salts) | 0 | No | BSL |
| SFA | METALS | 18540-29-9 | CHROMIUM, HEXAVALENT | 0.43 | 6.2 | MG/KG | MPSB0301 | 12/20 | 0.42-0.56 | 6.2 | | 0.3 | EPA RSL (c) | 12 | Yes | ASL |
| SFA | METALS | 7440-48-4 | COBALT | 0.069(J) | 6.9(J) | MG/KG | MPSB0048 | 49/54 | 0.13-13.3 | 6.9 | 7.75 | 2.3 | EPA RSL (n) | 14 | Yes | ASL |
| SFA | METALS | 7440-50-8 | COPPER | 1.5(J) | 119 | MG/KG | MPSB0041 | 52/54 | 0.1-6.7 | 119 | 72.5 | 310 | EPA RSL (n) | 0 | No | BSL |
| SFA | METALS | 57-12-5 | CYANIDE | 0.057(J) | 32.8(J) | MG/KG | MPSB0039 | 39/59 | 0.08-30.7 | 32.8 | 58.4 | 2.3 | EPA RSL (n, Cyanide (CN-)) | 26 | Yes | ASL |
| SFA | METALS | 7439-89-6 | IRON | 915 | 28100 | MG/KG | MW-14 | 50/50 | 2-22.6 | 28100 | 50400 | 5500 | EPA RSL (n) | 21 | Yes | ASL |
| SFA | METALS | 7439-92-1 | LEAD | 1.7 | 103000 | MG/KG | MW-14 | 68/68 | 0.21-115 | 103000 | 178 | 400 | EPA RSL (L, Lead and Compounds) | 20 | Yes | ASL |
| SFA | METALS | 7439-95-4 | MAGNESIUM | 74.6(J) | 75600 | MG/KG | MPSB0051 | 53/54 | 0.93-4290 | 75600 | 926 | | EN | | No | EN |
| SFA | METALS | 7439-96-5 | MANGANESE | 6.7 | 524(J) | MG/KG | MPSB0048 | 50/50 | 0.03-11.8 | 524 | 316 | 180 | EPA RSL (n, Manganese (Non-diet)) | 5 | Yes | ASL |
| SFA | METALS | 7439-97-6 | MERCURY | 0.03(J) | 2.1 | MG/KG | HCSB0184/196 | 46/54 | 0.02-0.16 | 2.1 | 0.45 | 2.3 | EPA RSL (n, Mercuric Chloride (and other Mercury salts)) | 0 | No | BSL |
| SFA | METALS | 7440-02-0 | NICKEL | 0.18(J) | 12.5 | MG/KG | MPSB0026 | 53/54 | 0.22-10.7 | 12.5 | 12.55 | 150 | EPA RSL (n, Nickel Soluble Salts) | 0 | No | BSL |
| SFA | METALS | 7440-09-7 | POTASSIUM | 40.9(J) | 3050(J) | MG/KG | MPSB0048 | 48/54 | 3.1-1330 | 3050 | 467 | | EN | | No | EN |
| SFA | METALS | 7782-49-2 | SELENIUM | 0.4(J) | 1.1(J) | MG/KG | HCSB0181 | 17/54 | 0.22-5.3 | 1.1 | | 39 | EPA RSL (n) | 0 | No | BSL |
| SFA | METALS | 7440-22-4 | SILVER | 0.061 | 28.1 | MG/KG | MW-14 | 8/54 | 0.052-2.7 | 28.1 | 0.48 | 39 | EPA RSL (n) | 0 | No | BSL |
| SFA | METALS | 7440-23-5 | SODIUM | 13.5(B) | 3430 | MG/KG | MPSB0026 | 36/54 | 6.3-1330 | 3430 | 257 | | EN | | No | EN |
| SFA | METALS | 7440-28-0 | THALLIUM | 0.44(J) | 0.66(J) | MG/KG | HCSB0184/196 | 8/54 | 0.22-3.8 | 0.66 | 1.2 | 0.078 | EPA RSL (n, Thallium (Soluble Salts)) | 8 | Yes | ASL |
| SFA | METALS | 7440-62-2 | VANADIUM | 2.5(J) | 45.4 | MG/KG | MPSB0041 | 54/54 | 0.11-13.3 | 45.4 | 39.6 | 39 | EPA RSL (n, Vanadium and Compounds) | 1 | Yes | ASL |
| SFA | METALS | 7440-66-6 | ZINC | 3.8(J) | 12300 | MG/KG | MW-14 | 53/54 | 0.03-47.1 | 12300 | 208 | 2300 | EPA RSL (n) | 1 | Yes | ASL |
| SFA | PEST/PCB | 72-54-8 | 4,4'-DDD | 0.0019(J) | 0.018(J) | MG/KG | HCSB0181 | 7/21 | 0.0034-0.0044 | 0.018 | 0.0013 | 2.3 | EPA RSL (c) | 0 | No | BSL |
| SFA | PEST/PCB | 72-55-9 | 4,4'-DDE | 0.0028(J) | 0.018 | MG/KG | MPSB0026 | 11/21 | 0.0034-0.0044 | 0.018 | 0.0061 | 2 | EPA RSL (c) | 0 | No | BSL |
| SFA | PEST/PCB | 50-29-3 | 4,4'-DDT | 0.0034(J) | 0.053 | MG/KG | MPSB0039 | 12/20 | 0.0034-0.0044 | 0.053 | 0.0091 | 1.9 | EPA RSL (c) | 0 | No | BSL |
| SFA | PEST/PCB | 309-00-2 | ALDRIN | 0.0044(J) | 0.0044(J) | MG/KG | HCSB0183/195 | 1/21 | 0.0018-0.0023 | 0.0044 | | 0.039 | EPA RSL (c) | 0 | No | BSL |
| SFA | PEST/PCB | 5103-71-9 | ALPHA-CHLORDANE | 0.00089(J) | 0.0046 | MG/KG | HCSB0183/195 | 6/22 | 0.0018-0.0023 | 0.0046 | | 0.2 | NJ RDCSRS (c) | 0 | No | BSL |
| SFA | PEST/PCB | 11097-69-1 | AROCLOR-1254 | 0.011(J) | 0.49 | MG/KG | MPSB0129 | 16/37 | 0.017-0.07 | 0.49 | | 0.12 | EPA RSL (n) | 2 | Yes | ASL |
| SFA | PEST/PCB | 11096-82-5 | AROCLOR-1260 | 0.005(J) | 0.15 | MG/KG | HCSB0183/195 | 22/37 | 0.017-0.07 | 0.15 | 0.022 | 0.2 | NJ RDCSRS (c) | 0 | No | BSL |
| SFA | PEST/PCB | 319-85-7 | BETA-BHC | 0.0016(J) | 0.0081(J) | MG/KG | MPSB0039 | 2/22 | 0.0018-0.0023 | 0.0081 | | 0.3 | EPA RSL (c) | 0 | No | BSL |
| SFA | PEST/PCB | 60-57-1 | DIELDRIN | 0.0027(J) | 0.006(J) | MG/KG | HCSB0183/195 | 5/22 | 0.0034-0.0044 | 0.006 | | 0.034 | EPA RSL (c) | 0 | No | BSL |
| SFA | PEST/PCB | 33213-65-9 | ENDOSULFAN II | 0.0046 | 0.015(J) | MG/KG | HCSB0184/196 | 7/22 | 0.0034-0.0044 | 0.015 | | 47 | EPA RSL (n, Endosulfan) | 0 | No | BSL |
| SFA | PEST/PCB | 72-20-8 | ENDRIN | 0.004(J) | 0.0072(J) | MG/KG | HCSB0181 | 4/21 | 0.0034-0.0044 | 0.0072 | | 1.9 | EPA RSL (n) | 0 | No | BSL |
| SFA | PEST/PCB | 7421-93-4 | ENDRIN ALDEHYDE | 0.0025(J) | 0.018 | MG/KG | HCSB0184/196 | 4/22 | 0.0034-0.0044 | 0.018 | 0.00082 | 1.9 | EPA RSL (n, Endrin) | 0 | No | BSL |
| SFA | PEST/PCB | 53494-70-5 | ENDRIN KETONE | 0.0022(J) | 0.0023(J) | MG/KG | MPSB0038 | 2/22 | 0.0034-0.0044 | 0.0023 | 0.013 | 1.9 | EPA RSL (n, Endrin) | 0 | No | BSL |
| SFA | PEST/PCB | 5103-74-2 | GAMMA-CHLORDANE | 0.0011(J) | 0.0046(J) | MG/KG | HCSB0184/196 | 5/20 | 0.0018-0.0023 | 0.0046 | 0.000395 | 0.2 | NJ RDCSRS (c) | 0 | No | BSL |
| SFA | SVOC | 92-52-4 | 1,1'-BIPHENYL | 0.0044(J) | 0.022(J) | MG/KG | MPSB0026 | 3/41 | 0.17-5.5 | 0.022 | 0.21 | 4.7 | EPA RSL (n) | 0 | No | BSL |
| SFA | SVOC | 58-90-2 | 2,3,4,6-TETRACHLOROPHENOL | 0.04(J) | 0.044(J) | MG/KG | MPSB0207 | 2/31 | 0.17-5.5 | 0.044 | | 190 | EPA RSL (n) | 0 | No | BSL |
| SFA | SVOC | 95-95-4 | 2,4,5-TRICHLOROPHENOL | 0.011(J) | 0.011(J) | MG/KG | MPSB0220 | 1/49 | 0.17-18 | 0.011 | | 630 | EPA RSL (n) | 0 | No | BSL |
| SFA | SVOC | 105-67-9 | 2,4-DIMETHYLPHENOL | 4.1 | 4.1 | MG/KG | MW-13 | 1/49 | 0.17-5.5 | 4.1 | | 130 | EPA RSL (n) | 0 | No | BSL |
| SFA | SVOC | 91-57-6 | 2-METHYLNAPHTHALENE | 0.007(J) | 13 | MG/KG | MPSB0041 | 18/49 | 0.17-5.5 | 13 | 0.86 | 24 | EPA RSL (n) | 0 | No | BSL |
| SFA | SVOC | 83-32-9 | ACENAPHTHENE | 0.017(J) | 1.7(J) | MG/KG | MPSB0219 | 35/59 | 0.17-15 | 1.7 | 4.6 | 360 | EPA RSL (n) | 0 | No | BSL |
| SFA | SVOC | 208-96-8 | ACENAPHTHYLENE | 0.015(J) | 0.295(J+) | MG/KG | HCSB0292 | 8/59 | 0.17-15 | 0.295 | 0.0066 | 360 | EPA RSL (n, Acenaphthene) | 0 | No | BSL |
| SFA | SVOC | 98-86-2 | ACETOPHENONE | 0.17(J) | 0.17(J) | MG/KG | MPSB0026 | 1/41 | 0.17-5.5 | 0.17 | 0.18 | 2 | NJ RDCSRS (n) | 0 | No | BSL |

**Table 2.7**

**Occurrence, Distribution, and Selection of Chemicals of Potential Concern**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Medium: | Soil (0-2 ft bgs) |
| Exposure Medium: | Soil from South of Foster Avenue (SFA) |

| Exposure Point | Chemical Group | CAS Number | Chemical | Minimum Detected Concentration (Qualifier) (1) | Maximum Detected Concentration (Qualifier) (1) | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening (2) | Background Value (3) | Screening Criteria (4) | Criteria Basis (4) | Exceeds Crit | COPC Flag (Y/N) | Rationale for Selection or Deletion (5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SFA | SVOC | 120-12-7 | ANTHRACENE | 0.0033(J) | 3.5(J) | MG/KG | HCSB0297, MPSB0219 | 45/59 | 0.17-15 | 3.5 | 6.6 | 1800 | EPA RSL (n) | 0 | No | BSL |
| SFA | SVOC | 100-52-7 | BENZALDEHYDE | 0.011(J) | 0.011(J) | MG/KG | MPSB0206 | 1/41 | 0.17-5.5 | 0.011 | 0.44 | 170 | EPA RSL (c) | 0 | No | BSL |
| SFA | SVOC | 56-55-3 | BENZO(A)ANTHRACENE | 0.014(J) | 32 | MG/KG | HCSB0297 | 50/59 | 0.17-15 | 32 | 21 | 0.16 | EPA RSL (c) | 40 | Yes | ASL |
| SFA | SVOC | 50-32-8 | BENZO(A)PYRENE | 0.012(J) | 37 | MG/KG | HCSB0297 | 50/59 | 0.004-15 | 37 | 17 | 0.016 | EPA RSL (c) | 49 | Yes | ASL |
| SFA | SVOC | 205-99-2 | BENZO(B)FLUORANTHENE | 0.016(J) | 44 | MG/KG | HCSB0297 | 50/59 | 0.17-15 | 44 | 18 | 0.16 | EPA RSL (c) | 43 | Yes | ASL |
| SFA | SVOC | 191-24-2 | BENZO(G,H,I)PERYLENE | 0.033(J) | 44 | MG/KG | HCSB0297 | 46/58 | 0.17-15 | 44 | 12 | 180 | EPA RSL (n, Pyrene) | 0 | No | BSL |
| SFA | SVOC | 207-08-9 | BENZO(K)FLUORANTHENE | 0.0087(J) | 41 | MG/KG | HCSB0297 | 50/59 | 0.17-15 | 41 | 17 | 1.6 | EPA RSL (c) | 15 | Yes | ASL |
| SFA | SVOC | 85-68-7 | BENZYL BUTYL PHTHALATE | 0.019(J) | 0.034(J) | MG/KG | MPSB0026 | 2/48 | 0.17-5.5 | 0.034 | | 290 | EPA RSL (c) | 0 | No | BSL |
| SFA | SVOC | 117-81-7 | BIS(2-ETHYLHEXYL) PHTHALATE | 0.02(J) | 11 | MG/KG | TB-08 | 20/48 | 0.17-5.5 | 11 | | 35 | NJ RDCSRS (c) | 0 | No | BSL |
| SFA | SVOC | 105-60-2 | CAPROLACTAM | 0.02(J) | 0.053(J) | MG/KG | MPSB0129 | 4/41 | 0.17-5.5 | 0.053 | | 3100 | EPA RSL (n) | 0 | No | BSL |
| SFA | SVOC | 86-74-8 | CARBAZOLE | 0.015(J) | 3.5(J) | MG/KG | MPSB0219 | 27/49 | 0.17-5.5 | 3.5 | 4.4 | 24 | NJ RDCSRS (c) | 0 | No | BSL |
| SFA | SVOC | 218-01-9 | CHRYSENE | 0.019(J) | 55 | MG/KG | HCSB0297 | 50/59 | 0.17-15 | 55 | 22 | 16 | EPA RSL (c) | 6 | Yes | ASL |
| SFA | SVOC | 53-70-3 | DIBENZO(A,H)ANTHRACENE | 0.0046 | 14(J) | MG/KG | HCSB0297 | 42/59 | 0.0034-15 | 14 | 4.3 | 0.016 | EPA RSL (c) | 40 | Yes | ASL |
| SFA | SVOC | 132-64-9 | DIBENZOFURAN | 0.0065(J) | 0.68(J) | MG/KG | MPSB0219 | 19/49 | 0.17-5.5 | 0.68 | 2.4 | 7.3 | EPA RSL (n) | 0 | No | BSL |
| SFA | SVOC | 84-66-2 | DIETHYLPHTHALATE | 0.0072(J) | 0.013(J) | MG/KG | MPSB0215 | 2/49 | 0.17-5.5 | 0.013 | | 5100 | EPA RSL (n) | 0 | No | BSL |
| SFA | SVOC | 84-74-2 | DI-N-BUTYLPHTHALATE | 0.0096(J) | 0.82 | MG/KG | TB-69 | 12/49 | 0.17-5.5 | 0.82 | 0.041 | 630 | EPA RSL (n) | 0 | No | BSL |
| SFA | SVOC | 117-84-0 | DI-N-OCTYLPHTHALATE | 0.0069(J) | 0.0069(J) | MG/KG | MPSB0213 | 1/46 | 0.17-5.5 | 0.0069 | | 63 | EPA RSL (n) | 0 | No | BSL |
| SFA | SVOC | 206-44-0 | FLUORANTHENE | 0.028(J) | 120 | MG/KG | HCSB0297 | 50/59 | 0.17-15 | 120 | 44 | 240 | EPA RSL (n) | 0 | No | BSL |
| SFA | SVOC | 86-73-7 | FLUORENE | 0.0059(J) | 1.7(J) | MG/KG | MPSB0219 | 36/59 | 0.17-15 | 1.7 | 3.3 | 240 | EPA RSL (n) | 0 | No | BSL |
| SFA | SVOC | 193-39-5 | INDENO(1,2,3-CD)PYRENE | 0.037(J) | 37 | MG/KG | HCSB0297 | 46/58 | 0.17-15 | 37 | 12 | 0.16 | EPA RSL (c) | 35 | Yes | ASL |
| SFA | SVOC | 91-20-3 | NAPHTHALENE | 0.007(J) | 31 | MG/KG | MPSB0047 | 20/59 | 0.17-15 | 31 | 1.7 | 3.8 | EPA RSL (c) | 4 | Yes | ASL |
| SFA | SVOC | 87-86-5 | PENTACHLOROPHENOL | 0.13(J) | 0.49(J) | MG/KG | MPSB0220 | 4/49 | 0.34-18 | 0.49 | | 1 | EPA RSL (c) | 0 | No | BSL |
| SFA | SVOC | 85-01-8 | PHENANTHRENE | 0.0095(J) | 39 | MG/KG | HCSB0297 | 50/59 | 0.17-15 | 39 | 32 | 1800 | EPA RSL (n, Anthracene) | 0 | No | BSL |
| SFA | SVOC | 129-00-0 | PYRENE | 0.029(J) | 120 | MG/KG | HCSB0297 | 50/59 | 0.17-15 | 120 | 45 | 180 | EPA RSL (n) | 0 | No | BSL |
| SFA | VOC | 71-55-6 | 1,1,1-TRICHLOROETHANE | 0.006 | 0.006 | MG/KG | MW-16 | 1/30 | 0.0045-11 | 0.006 | | 290 | NJ RDCSRS (n) | 0 | No | BSL |
| SFA | VOC | 67-64-1 | ACETONE | 0.0035(J) | 2.3(JB) | MG/KG | MW-13 | 16/30 | 0.006-22 | 2.3 | 1.2 | 6100 | EPA RSL (n) | 0 | No | BSL |
| SFA | VOC | 71-43-2 | BENZENE | 0.0039(J) | 2.1(J) | MG/KG | MPSB0047 | 4/30 | 0.0045-11 | 2.1 | | 1.2 | EPA RSL (c) | 1 | Yes | ASL |
| SFA | VOC | 67-66-3 | CHLOROFORM | 0.003(J) | 0.02 | MG/KG | MW-16 | 3/30 | 0.0045-11 | 0.02 | | 0.32 | EPA RSL (c) | 0 | No | BSL |
| SFA | VOC | 110-82-7 | CYCLOHEXANE | 0.0012(J) | 8.2 | MG/KG | MPSB0041 | 4/20 | 0.0045-11 | 8.2 | | 650 | EPA RSL (n) | 0 | No | BSL |
| SFA | VOC | 75-09-2 | DICHLOROMETHANE | 0.005(JB) | 1.2(B) | MG/KG | MW-13 | 7/30 | 0.0045-11 | 1.2 | 0.001 | 34 | NJ RDCSRS (c) | 0 | No | BSL |
| SFA | VOC | 100-41-4 | ETHYLBENZENE | 0.003(J) | 29 | MG/KG | MPSB0047 | 8/30 | 0.0045-11 | 29 | | 5.8 | EPA RSL (c) | 3 | Yes | ASL |
| SFA | VOC | 98-82-8 | ISOPROPYLBENZENE | 1.9(J) | 19 | MG/KG | MPSB0041, MPSB0047 | 3/20 | 0.0045-11 | 19 | | 190 | EPA RSL (n) | 0 | No | BSL |
| SFA | VOC | 79-20-9 | METHYL ACETATE | 0.12(J) | 0.12(J) | MG/KG | MPSB0039 | 1/20 | 0.0045-11 | 0.12 | 0.021 | 7800 | EPA RSL (n) | 0 | No | BSL |
| SFA | VOC | 78-93-3 | METHYL ETHYL KETONE | 0.0022(J) | 0.17 | MG/KG | TB-91 | 8/30 | 0.006-22 | 0.17 | 0.14 | 2700 | EPA RSL (n) | 0 | No | BSL |
| SFA | VOC | 108-87-2 | METHYLCYCLOHEXANE | 0.012 | 73 | MG/KG | MPSB0041 | 6/20 | 0.0045-11 | 73 | | 650 | EPA RSL (n, Cyclohexane) | 0 | No | BSL |
| SFA | VOC | 91-20-3 | NAPHTHALENE | 0.003(J) | 0.003(J) | MG/KG | TB-50 | 1/1 | 0.006 | 0.003 | | 3.8 | EPA RSL (c) | 0 | No | BSL |
| SFA | VOC | 108-88-3 | TOLUENE | 0.00042(J) | 63 | MG/KG | TB-67 | 12/30 | 0.0045-19 | 63 | | 490 | EPA RSL (n) | 0 | No | BSL |
| SFA | VOC | 79-01-6 | TRICHLOROETHYLENE (TCE) | 0.01 | 0.069 | MG/KG | MW-16 | 2/30 | 0.0045-11 | 0.069 | | 0.41 | EPA RSL (n) | 0 | No | BSL |
| SFA | VOC | 1330-20-7 | XYLENES (TOTAL) | 0.34 | 370 | MG/KG | TB-67 | 6/30 | 0.0045-19 | 370 | | 58 | EPA RSL (n) | 1 | Yes | ASL |

Notes:

Only analytes detected in at least one sample are presented.

(1) B – Analyte was detected in an associated blank sample; J – Estimated; + – Value is the average of a parent sample and a field duplicate sample.

(2) The maximum detected concentration was used for the screening.

(3) Maximum detected concentrations from site-specific background locations (BKSB0001-BKSB0007, BKSB0011-BKSB0013, BSBESB01-BSBESB10).

(4) All compounds except EPH were screened against the lower of the EPA (2016b) Regional Screening Level (RSL) for residential soil (THQ = 0.1; Target Cancer Risk = 10-6) and New Jersey Residential Direct Contact Soil Remediation Standards (NJ RDCSRS) (NJDEP, 2011a). EPH compounds were screened on a sample-specific basis in accordance with the New Jersey Protocol for Addressing Extractable Petroleum Hydrocarbons (NJDEP, 2010a).

n – Non-cancer.

c – Cancer.

L – Based on blood lead modeling.

Surrogate/form – Surrogate/chemical form used in the absence of chemical-specific screening value.

(5) Rationale codes:

Selection reason: ASL – Above screening level.

Deletion reason: BSL – Below screening level.

EN – Essential human nutrient.

EPH – Petroleum hydrocarbon fractions were screened on a sample-specific basis; see text.

**Table 2.8**
**Occurrence, Distribution, and Selection of Chemicals of Potential Concern**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Medium: | Soil (0-2 ft bgs) |
| Exposure Medium: | Soil from Undeveloped Area (UNDV) |

| Exposure Point | Chemical Group | CAS Number | Chemical | Minimum Detected Concentration (Qualifier) (1) | Maximum Detected Concentration (Qualifier) (1) | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening (2) | Background Value (3) | Screening Criteria (4) | Criteria Basis (4) | Exceeds Crit | COPC Flag (Y/N) | Rationale for Selection or Deletion (5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UNDV | EPH | | C10-C12 AROMATICS | 17 | 450(J) | MG/KG | HCSB0498 | 14/17 | 2.1-28 | 450 | | | EPH | | No | EPH |
| UNDV | EPH | | C12-C16 ALIPHATICS | 6.2 | 200(J) | MG/KG | HCSB0498 | 14/17 | 2.1-56 | 200 | | | EPH | | No | EPH |
| UNDV | EPH | | C12-C16 AROMATICS | 9.7 | 84(J) | MG/KG | HCSB0498 | 14/17 | 2.1-28 | 84 | | | EPH | | No | EPH |
| UNDV | EPH | | C16-C21 ALIPHATICS | 15 | 140(J) | MG/KG | HCSB0498 | 14/17 | 2.1-56 | 140 | | | EPH | | No | EPH |
| UNDV | EPH | | C16-C21 AROMATICS | 24 | 240 | MG/KG | MPSB0333 | 14/17 | 2.1-28 | 240 | | | EPH | | No | EPH |
| UNDV | EPH | | C21-C36 AROMATICS | 102.5(J) | 690(J) | MG/KG | HCSB0500 | 14/17 | 2.1-28 | 690 | | | EPH | | No | EPH |
| UNDV | EPH | | C21-C40 ALIPHATICS | 140 | 1800(J) | MG/KG | HCSB0500 | 14/17 | 2.1-56 | 1800 | | | EPH | | No | EPH |
| UNDV | EPH | | C9-C12 ALIPHATICS | 8.25 | 1900(J) | MG/KG | HCSB0498 | 14/17 | 2.1-56 | 1900 | | | EPH | | No | EPH |
| UNDV | METALS | 7429-90-5 | ALUMINUM | 95 | 12100(J) | MG/KG | HCSB0152/125 | 170/170 | 2.3-123 | 12100 | 15300 | 7700 | EPA RSL (n) | 11 | Yes | ASL |
| UNDV | METALS | 7440-36-0 | ANTIMONY | 0.27(J) | 515(J) | MG/KG | HCSB0115/142 | 98/170 | 0.26-36.8 | 515 | 3.4 | 3.1 | EPA RSL (n, Antimony (metallic)) | 64 | Yes | ASL |
| UNDV | METALS | 7440-38-2 | ARSENIC | 0.37(J) | 1125(+) | MG/KG | HCSB0156/129 | 150/158 | 0.19-6.1 | 1125 | 194 | 0.68 | EPA RSL (c) | 144 | Yes | ASL |
| UNDV | METALS | 7440-39-3 | BARIUM | 2.9(J) | 14500 | MG/KG | TB-73 | 156/169 | 0.01-123 | 14500 | 287 | 1500 | EPA RSL (n) | 13 | Yes | ASL |
| UNDV | METALS | 7440-41-7 | BERYLLIUM | 0.013(J) | 0.81(J) | MG/KG | HCSB0152/125 | 128/170 | 0.02-3.1 | 0.81 | 1.035 | 16 | EPA RSL (n) | 0 | No | BSL |
| UNDV | METALS | 7440-43-9 | CADMIUM | 0.039(J) | 36.6(JD) | MG/KG | RSSB0165 | 129/170 | 0.02-10.1 | 36.6 | 3.7 | 7.1 | EPA RSL (n, Cadmium (Diet)) | 4 | Yes | ASL |
| UNDV | METALS | 7440-70-2 | CALCIUM | 17.5(J) | 53400 | MG/KG | WPH1 | 161/170 | 0.01-9600 | 53400 | 7600 | | EN | | No | EN |
| UNDV | METALS | 7440-47-3 | CHROMIUM | 0.92 | 1880(J) | MG/KG | HCSB0113/140 | 193/193 | 0.05-20.7 | 1880 | 249 | 12000 | EPA RSL (n, Chromium(III), Insoluble Salts) | 0 | No | BSL |
| UNDV | METALS | 18540-29-9 | CHROMIUM, HEXAVALENT | 0.3625 | 2.8(J) | MG/KG | MPSB0325 | 12/29 | 0.43-2.9 | 2.8 | | 0.3 | EPA RSL (c) | 12 | Yes | ASL |
| UNDV | METALS | 7440-48-4 | COBALT | 0.11(J) | 82.4 | MG/KG | WPH1 | 156/170 | 0.03-30.7 | 82.4 | 7.75 | 2.3 | EPA RSL (n) | 76 | Yes | ASL |
| UNDV | METALS | 7440-50-8 | COPPER | 0.1(J) | 1360 | MG/KG | WPH1 | 158/168 | 0.07-50.5 | 1360 | 72.5 | 310 | EPA RSL (n) | 3 | Yes | ASL |
| UNDV | METALS | 57-12-5 | CYANIDE | 0.07(J) | 353(J) | MG/KG | HCSB0113/140 | 106/159 | 0.04-7.5 | 353 | 58.4 | 2.3 | EPA RSL (n, Cyanide (CN-)) | 69 | Yes | ASL |
| UNDV | METALS | 7439-89-6 | IRON | 88.6 | 49200(J) | MG/KG | HCSB0115/142 | 170/170 | 1.1-209 | 49200 | 50400 | 5500 | EPA RSL (n) | 92 | Yes | ASL |
| UNDV | METALS | 7439-92-1 | LEAD | 1 | 15200(J) | MG/KG | HCSB0152/125 | 210/223 | 0.15-114 | 15200 | 178 | 400 | EPA RSL (L, Lead and Compounds) | 77 | Yes | ASL |
| UNDV | METALS | 7439-95-4 | MAGNESIUM | 11.1(J) | 9980(J) | MG/KG | MPSB0049 | 161/170 | 0.44-3070 | 9980 | 926 | | EN | | No | EN |
| UNDV | METALS | 7439-96-5 | MANGANESE | 2 | 1420(J) | MG/KG | HCSB0117/144 | 168/168 | 0.02-31.4 | 1420 | 316 | 180 | EPA RSL (n, Manganese (Non-diet)) | 29 | Yes | ASL |
| UNDV | METALS | 7439-97-6 | MERCURY | 0.025(J) | 25.2 | MG/KG | TB-73 | 132/162 | 0.01-1.2 | 25.2 | 0.45 | 2.3 | EPA RSL (n, Mercuric Chloride (and other Mercury salts)) | 18 | Yes | ASL |
| UNDV | METALS | 7440-02-0 | NICKEL | 0.15(J) | 67.1 | MG/KG | WPH2 | 160/170 | 0.07-24.5 | 67.1 | 12.55 | 150 | EPA RSL (n, Nickel Soluble Salts) | 0 | No | BSL |
| UNDV | METALS | 7440-09-7 | POTASSIUM | 19.6(J) | 1660(J) | MG/KG | HCSB0298 | 149/170 | 2.1-3070 | 1660 | 467 | | EN | | No | EN |
| UNDV | METALS | 7782-49-2 | SELENIUM | 0.47(J) | 4.7(J) | MG/KG | MPSB0232 | 67/170 | 0.24-7.3 | 4.7 | | 39 | EPA RSL (n) | 0 | No | BSL |
| UNDV | METALS | 7440-22-4 | SILVER | 0.07(J) | 1.8(J) | MG/KG | HCSB0107/134 | 63/170 | 0.057-6.1 | 1.8 | 0.48 | 39 | EPA RSL (n) | 0 | No | BSL |
| UNDV | METALS | 7440-23-5 | SODIUM | 2.7(J) | 1870(J) | MG/KG | MPSB0230 | 103/170 | 22-3070 | 1870 | 257 | | EN | | No | EN |
| UNDV | METALS | 7440-28-0 | THALLIUM | 0.21(J) | 3.8(J) | MG/KG | HCSB0116/143 | 12/170 | 0.3-5.4 | 3.8 | 1.2 | 0.078 | EPA RSL (n, Thallium (Soluble Salts)) | 12 | Yes | ASL |
| UNDV | METALS | 7440-62-2 | VANADIUM | 0.66(J) | 87.8(J) | MG/KG | HCSB0152/125 | 163/164 | 0.06-30.7 | 87.8 | 39.6 | 39 | EPA RSL (n, Vanadium and Compounds) | 13 | Yes | ASL |
| UNDV | METALS | 7440-66-6 | ZINC | 1.4(J) | 5270 | MG/KG | WPH2 | 160/170 | 0.03-124 | 5270 | 208 | 2300 | EPA RSL (n) | 7 | Yes | ASL |
| UNDV | PEST/PCB | 72-54-8 | 4,4'-DDD | 0.0021(J) | 1.9(J) | MG/KG | HCSB0118/145 | 33/92 | 0.0034-0.15 | 1.9 | 0.0013 | 2.3 | EPA RSL (c) | 0 | No | BSL |
| UNDV | PEST/PCB | 72-55-9 | 4,4'-DDE | 0.0023(J) | 0.42(J) | MG/KG | HCSB0118/145 | 34/97 | 0.0034-0.15 | 0.42 | 0.0061 | 2 | EPA RSL (c) | 0 | No | BSL |
| UNDV | PEST/PCB | 50-29-3 | 4,4'-DDT | 0.0023(J) | 0.22(J) | MG/KG | HCSB0115/142, HCSB0119/146 | 33/86 | 0.0034-0.097 | 0.22 | 0.0091 | 1.9 | EPA RSL (c) | 0 | No | BSL |
| UNDV | PEST/PCB | 309-00-2 | ALDRIN | 0.0018(J) | 0.0018(J) | MG/KG | MPSB0056 | 1/98 | 0.0017-0.05 | 0.0018 | | 0.039 | EPA RSL (c) | 0 | No | BSL |
| UNDV | PEST/PCB | 319-84-6 | ALPHA-BHC | 0.0011(J) | 0.0011(J) | MG/KG | MPSB0069 | 1/99 | 0.0017-0.05 | 0.0011 | | 0.086 | EPA RSL (c) | 0 | No | BSL |
| UNDV | PEST/PCB | 5103-71-9 | ALPHA-CHLORDANE | 0.0019(J) | 0.02 | MG/KG | HCSB0177/190 | 17/95 | 0.0017-0.05 | 0.02 | | 0.2 | NJ RDCSRS (c) | 0 | No | BSL |
| UNDV | PEST/PCB | 11097-69-1 | AROCLOR-1254 | 0.021 | 1.4(J) | MG/KG | HCSB0152/125 | 9/117 | 0.018-0.97 | 1.4 | | 0.12 | EPA RSL (n) | 6 | Yes | ASL |
| UNDV | PEST/PCB | 11096-82-5 | AROCLOR-1260 | 0.022(J) | 3.1(J) | MG/KG | HCSB0112/139 | 44/117 | 0.018-0.97 | 3.1 | 0.022 | 0.2 | NJ RDCSRS (c) | 32 | Yes | ASL |
| UNDV | PEST/PCB | 319-85-7 | BETA-BHC | 0.0019(J) | 0.023 | MG/KG | HCSB0121/148 | 6/90 | 0.0017-0.05 | 0.023 | | 0.3 | EPA RSL (c) | 0 | No | BSL |
| UNDV | PEST/PCB | 319-86-8 | DELTA-BHC | 0.0018(J) | 0.0018(J) | MG/KG | MPSB0058 | 1/98 | 0.0017-0.05 | 0.0018 | | 0.3 | EPA RSL (c, Hexachlorocyclohexane, Beta-) | 0 | No | BSL |
| UNDV | PEST/PCB | 60-57-1 | DIELDRIN | 0.00043(J) | 0.077(J) | MG/KG | HCSB0122/149; HCSB0153/126 | 26/91 | 0.0034-0.097 | 0.077 | | 0.034 | EPA RSL (c) | 4 | Yes | ASL |
| UNDV | PEST/PCB | 959-98-8 | ENDOSULFAN I | 0.0011(J) | 0.0011(J) | MG/KG | MPSB0056 | 1/98 | 0.0017-0.05 | 0.0011 | | 47 | EPA RSL (n) | 0 | No | BSL |
| UNDV | PEST/PCB | 33213-65-9 | ENDOSULFAN II | 0.0039(J) | 0.032 | MG/KG | HCSB0177/190 | 7/98 | 0.0034-0.097 | 0.032 | | 47 | EPA RSL (n, Endosulfan) | 0 | No | BSL |
| UNDV | PEST/PCB | 1031-07-8 | ENDOSULFAN SULFATE | 0.0034(J) | 0.021(J) | MG/KG | HCSB0116/143 | 5/93 | 0.0034-0.097 | 0.021 | | 47 | EPA RSL (n, Endosulfan) | 0 | No | BSL |
| UNDV | PEST/PCB | 72-20-8 | ENDRIN | 0.0072(J) | 0.051 | MG/KG | HCSB0177/190 | 2/97 | 0.0034-0.097 | 0.051 | | 1.9 | EPA RSL (n) | 0 | No | BSL |
| UNDV | PEST/PCB | 7421-93-4 | ENDRIN ALDEHYDE | 0.0021(J) | 0.085(J) | MG/KG | HCSB0122/149 | 22/95 | 0.0035-0.097 | 0.085 | 0.00082 | 1.9 | EPA RSL (n, Endrin) | 0 | No | BSL |

**Table 2.8**

**Occurrence, Distribution, and Selection of Chemicals of Potential Concern**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Medium: | Soil (0-2 ft bgs) |
| Exposure Medium: | Soil from Undeveloped Area (UNDV) |

| Exposure Point | Chemical Group | CAS Number | Chemical | Minimum Detected Concentration (Qualifier) (1) | Maximum Detected Concentration (Qualifier) (1) | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening (2) | Background Value (3) | Screening Criteria (4) | Criteria Basis (4) | Exceeds Crit | COPC Flag (Y/N) | Rationale for Selection or Deletion (5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UNDV | PEST/PCB | 53494-70-5 | ENDRIN KETONE | 0.0027(J) | 0.055(J) | MG/KG | MPSB0058 | 8/97 | 0.0034-0.097 | 0.055 | 0.013 | 1.9 | EPA RSL (n, Endrin) | 0 | No | BSL |
| UNDV | PEST/PCB | 58-89-9 | GAMMA-BHC (LINDANE) | 0.00565(J) | 0.018(J) | MG/KG | HCSB0120/147 | 2/97 | 0.0017-0.05 | 0.018 | | 0.4 | NJ RDCSRS (c) | 0 | No | BSL |
| UNDV | PEST/PCB | 5103-74-2 | GAMMA-CHLORDANE | 0.0018(J) | 0.047(J) | MG/KG | HCSB0107/134 | 13/97 | 0.0017-0.05 | 0.047 | 0.000395 | 0.2 | NJ RDCSRS (c) | 0 | No | BSL |
| UNDV | PEST/PCB | 1024-57-3 | HEPTACHLOR EPOXIDE | 0.0027 | 0.022(J) | MG/KG | HCSB0115/142 | 7/98 | 0.0017-0.05 | 0.022 | | 0.07 | EPA RSL (c) | 0 | No | BSL |
| UNDV | PEST/PCB | 72-43-5 | METHOXYCHLOR | 0.033(J) | 0.05(J) | MG/KG | HCSB0114/141 | 4/98 | 0.017-0.5 | 0.05 | | 32 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 92-52-4 | 1,1'-BIPHENYL | 0.014(J) | 0.26(J) | MG/KG | HCSB0498 | 8/132 | 0.18-42 | 0.26 | 0.21 | 4.7 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 58-90-2 | 2,3,4,6-TETRACHLOROPHENOL | 0.087(J) | 0.14(J) | MG/KG | MPSB0056 | 2/60 | 0.18-8.2 | 0.14 | | 190 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 105-67-9 | 2,4-DIMETHYLPHENOL | 0.825(J) | 0.825(J+) | MG/KG | HCSB0501 | 1/132 | 0.18-42 | 0.825 | | 130 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 91-57-6 | 2-METHYLNAPHTHALENE | 0.0045(J) | 1.386(J+) | MG/KG | HCSB0119/146 | 50/141 | 0.18-42 | 1.386 | 0.86 | 24 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 106-44-5 | 4-METHYLPHENOL | 0.018(J) | 2.4(J) | MG/KG | HCSB0153/126 | 5/132 | 0.18-42 | 2.4 | | 31 | NJ RDCSRS (n) | 0 | No | BSL |
| UNDV | SVOC | 83-32-9 | ACENAPHTHENE | 0.0059(J) | 5.2(J) | MG/KG | HCSB0117/144 | 91/156 | 0.18-42 | 5.2 | 4.6 | 360 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 208-96-8 | ACENAPHTHYLENE | 0.003(J) | 1.42(J+) | MG/KG | HCSB0119/146 | 46/156 | 0.18-42 | 1.42 | 0.0066 | 360 | EPA RSL (n, Acenaphthene) | 0 | No | BSL |
| UNDV | SVOC | 98-86-2 | ACETOPHENONE | 0.0091(J) | 0.084(J+) | MG/KG | MPSB0222 | 13/132 | 0.18-42 | 0.084 | 0.18 | 2 | NJ RDCSRS (n) | 0 | No | BSL |
| UNDV | SVOC | 120-12-7 | ANTHRACENE | 0.0049(J) | 6(J) | MG/KG | HCSB0117/144 | 109/156 | 0.18-42 | 6 | 6.6 | 1800 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 100-52-7 | BENZALDEHYDE | 0.021(J) | 0.535(J+) | MG/KG | HCSB0150/123 | 16/132 | 0.18-42 | 0.535 | 0.44 | 170 | EPA RSL (c) | 0 | No | BSL |
| UNDV | SVOC | 56-55-3 | BENZO(A)ANTHRACENE | 0.0077(J) | 29 | MG/KG | MPSB0222 | 129/156 | 0.18-42 | 29 | 21 | 0.16 | EPA RSL (c) | 98 | Yes | ASL |
| UNDV | SVOC | 50-32-8 | BENZO(A)PYRENE | 0.0019(J) | 37(J) | MG/KG | MPSB0222 | 138/156 | 0.0037-42 | 37 | 17 | 0.016 | EPA RSL (c) | 133 | Yes | ASL |
| UNDV | SVOC | 205-99-2 | BENZO(B)FLUORANTHENE | 0.0057(J) | 76(J) | MG/KG | MPSB0222 | 130/156 | 0.18-42 | 76 | 18 | 0.16 | EPA RSL (c) | 104 | Yes | ASL |
| UNDV | SVOC | 191-24-2 | BENZO(G,H,I)PERYLENE | 0.015(J) | 21(J) | MG/KG | MPSB0222 | 120/155 | 0.18-42 | 21 | 12 | 180 | EPA RSL (n, Pyrene) | 0 | No | BSL |
| UNDV | SVOC | 207-08-9 | BENZO(K)FLUORANTHENE | 0.0043(J) | 37(J) | MG/KG | MPSB0222 | 128/156 | 0.18-42 | 37 | 17 | 1.6 | EPA RSL (c) | 58 | Yes | ASL |
| UNDV | SVOC | 85-68-7 | BENZYL BUTYL PHTHALATE | 0.011(J) | 0.51 | MG/KG | MPSB0226 | 20/132 | 0.18-42 | 0.51 | | 290 | EPA RSL (c) | 0 | No | BSL |
| UNDV | SVOC | 117-81-7 | BIS(2-ETHYLHEXYL) PHTHALATE | 0.021(J) | 11 | MG/KG | MPSB0218 | 49/132 | 0.18-42 | 11 | | 35 | NJ RDCSRS (c) | 0 | No | BSL |
| UNDV | SVOC | 105-60-2 | CAPROLACTAM | 0.02(J) | 0.15(J) | MG/KG | HCSB0176/189 | 13/132 | 0.18-42 | 0.15 | | 3100 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 86-74-8 | CARBAZOLE | 0.007(J) | 3.2(J) | MG/KG | HCSB0117/144, MPSB0222 | 83/132 | 0.18-42 | 3.2 | 4.4 | 24 | NJ RDCSRS (c) | 0 | No | BSL |
| UNDV | SVOC | 218-01-9 | CHRYSENE | 0.004(J) | 45 | MG/KG | MPSB0222 | 136/156 | 0.18-42 | 45 | 22 | 16 | EPA RSL (c) | 4 | Yes | ASL |
| UNDV | SVOC | 53-70-3 | DIBENZO(A,H)ANTHRACENE | 0.00024(J) | 4.9(J) | MG/KG | HCSB0296; MPSB0222 | 122/156 | 0.0039-42 | 4.9 | 4.3 | 0.016 | EPA RSL (c) | 109 | Yes | ASL |
| UNDV | SVOC | 132-64-9 | DIBENZOFURAN | 0.015(J) | 1.7 | MG/KG | MPSB0044 | 58/132 | 0.18-42 | 1.7 | 2.4 | 7.3 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 84-66-2 | DIETHYLPHTHALATE | 0.021(J) | 0.023(J) | MG/KG | MPSB0224 | 2/132 | 0.18-42 | 0.023 | | 5100 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 131-11-3 | DIMETHYLPHTHALATE | 0.0765(J) | 0.0765(J+) | MG/KG | MPSB0067 | 1/132 | 0.18-42 | 0.0765 | | 5100 | EPA RSL (n, Diethyl Phthalate) | 0 | No | BSL |
| UNDV | SVOC | 84-74-2 | DI-N-BUTYLPHTHALATE | 0.0062(J) | 0.24(J) | MG/KG | MPSB0218 | 24/132 | 0.18-42 | 0.24 | 0.041 | 630 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 117-84-0 | DI-N-OCTYLPHTHALATE | 0.014(J) | 0.42(J+) | MG/KG | HCSB0175/188 | 2/130 | 0.18-42 | 0.42 | | 63 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 206-44-0 | FLUORANTHENE | 0.006(J) | 87 | MG/KG | MPSB0222 | 140/156 | 0.18-42 | 87 | 44 | 240 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 86-73-7 | FLUORENE | 0.012(J) | 2.6(J) | MG/KG | HCSB0117/144 | 88/156 | 0.18-42 | 2.6 | 3.3 | 240 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 193-39-5 | INDENO(1,2,3-CD)PYRENE | 0.009(J) | 20(J) | MG/KG | MPSB0222 | 122/155 | 0.18-42 | 20 | 12 | 0.16 | EPA RSL (c) | 89 | Yes | ASL |
| UNDV | SVOC | 91-20-3 | NAPHTHALENE | 0.005(J) | 1.4(J) | MG/KG | HCSB0117/144 | 55/156 | 0.18-42 | 1.4 | 1.7 | 3.8 | EPA RSL (c) | 0 | No | BSL |
| UNDV | SVOC | 87-86-5 | PENTACHLOROPHENOL | 0.014(J) | 8.7 | MG/KG | MPSB0056 | 51/140 | 0.34-100 | 8.7 | | 1 | EPA RSL (c) | 8 | Yes | ASL |
| UNDV | SVOC | 85-01-8 | PHENANTHRENE | 0.0038(J) | 25 | MG/KG | MPSB0222 | 129/156 | 0.18-42 | 25 | 32 | 1800 | EPA RSL (n, Anthracene) | 0 | No | BSL |
| UNDV | SVOC | 108-95-2 | PHENOL | 0.025(J) | 0.69(J+) | MG/KG | HCSB0150/123 | 2/132 | 0.18-42 | 0.69 | | 1900 | EPA RSL (n) | 0 | No | BSL |
| UNDV | SVOC | 129-00-0 | PYRENE | 0.006(J) | 88 | MG/KG | MPSB0222 | 137/156 | 0.18-42 | 88 | 45 | 180 | EPA RSL (n) | 0 | No | BSL |
| UNDV | VOC | 67-64-1 | ACETONE | 0.0033(J) | 1.2(J) | MG/KG | HCSB0500 | 26/67 | 0.009-15 | 1.2 | 1.2 | 6100 | EPA RSL (n) | 0 | No | BSL |
| UNDV | VOC | 71-43-2 | BENZENE | 0.0013(J) | 1.2(J+) | MG/KG | HCSB0119/146 | 8/67 | 0.0045-15 | 1.2 | | 1.2 | EPA RSL (c) | 0 | No | BSL |
| UNDV | VOC | 75-15-0 | CARBON DISULFIDE | 0.0038(J) | 0.04(J) | MG/KG | HCSB0500 | 2/67 | 0.0045-15 | 0.04 | | 77 | EPA RSL (n) | 0 | No | BSL |
| UNDV | VOC | 67-66-3 | CHLOROFORM | 0.0075 | 0.26(J) | MG/KG | HCSB0117/144 | 4/67 | 0.0045-15 | 0.26 | | 0.32 | EPA RSL (c) | 0 | No | BSL |
| UNDV | VOC | 156-59-2 | CIS-1,2-DICHLOROETHENE | 0.0071(J) | 1.31(J+) | MG/KG | HCSB0119/146 | 8/67 | 0.0045-15 | 1.31 | | 16 | EPA RSL (n) | 0 | No | BSL |
| UNDV | VOC | 100-41-4 | ETHYLBENZENE | 0.0022(J) | 1.27(J+) | MG/KG | HCSB0119/146 | 5/67 | 0.0045-15 | 1.27 | | 5.8 | EPA RSL (c) | 0 | No | BSL |
| UNDV | VOC | 98-82-8 | ISOPROPYLBENZENE | 0.0031(J) | 0.114(J+) | MG/KG | HCSB0501 | 3/67 | 0.0045-15 | 0.114 | | 190 | EPA RSL (n) | 0 | No | BSL |
| UNDV | VOC | 79-20-9 | METHYL ACETATE | 5.85(J) | 16 | MG/KG | HCSB0117/144 | 2/67 | 0.0045-15 | 16 | 0.021 | 7800 | EPA RSL (n) | 0 | No | BSL |
| UNDV | VOC | 78-93-3 | METHYL ETHYL KETONE | 0.0061(J) | 0.29(J) | MG/KG | HCSB0500 | 9/67 | 0.009-15 | 0.29 | 0.14 | 2700 | EPA RSL (n) | 0 | No | BSL |
| UNDV | VOC | 108-87-2 | METHYLCYCLOHEXANE | 0.0049(J) | 33(J) | MG/KG | HCSB0112/139 | 11/67 | 0.0045-15 | 33 | | 650 | EPA RSL (n, Cyclohexane) | 0 | No | BSL |
| UNDV | VOC | 127-18-4 | TETRACHLOROETHENE | 0.014 | 0.13(J) | MG/KG | HCSB0498 | 2/67 | 0.0045-15 | 0.13 | | 2 | NJ RDCSRS (c) | 0 | No | BSL |
| UNDV | VOC | 108-88-3 | TOLUENE | 0.0014(J) | 1.35(J+) | MG/KG | HCSB0119/146 | 12/67 | 0.0045-15 | 1.35 | | 490 | EPA RSL (n) | 0 | No | BSL |
| UNDV | VOC | 156-60-5 | TRANS-1,2-DICHLOROETHENE | 0.1(J) | 0.11(J) | MG/KG | HCSB0117/144 | 2/67 | 0.0045-15 | 0.11 | | 160 | EPA RSL (n) | 0 | No | BSL |

**Table 2.8**
**Occurrence, Distribution, and Selection of Chemicals of Potential Concern**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Medium: | Soil (0-2 ft bgs) |
| Exposure Medium: | Soil from Undeveloped Area (UNDV) |

| Exposure Point | Chemical Group | CAS Number | Chemical | Minimum Detected Concentration (Qualifier) (1) | Maximum Detected Concentration (Qualifier) (1) | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening (2) | Background Value (3) | Screening Criteria (4) | Criteria Basis (4) | Exceeds Crit | COPC Flag (Y/N) | Rationale for Selection or Deletion (5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UNDV | VOC | 79-01-6 | TRICHLOROETHYLENE (TCE) | 0.13(J) | 0.13(J) | MG/KG | HCSB0498 | 1/67 | 0.0045-15 | 0.13 | | 0.41 | EPA RSL (n) | 0 | No | BSL |
| UNDV | VOC | 1330-20-7 | XYLENES (TOTAL) | 0.0021(J) | 2.1(J+) | MG/KG | HCSB0119/146 | 12/67 | 0.0045-15 | 2.1 | | 58 | EPA RSL (n) | 0 | No | BSL |

Notes:

Only analytes detected in at least one sample are presented.

(1) B – Analyte was detected in an associated blank sample; J – Estimated; + – Value is the average of a parent sample and a field duplicate sample.

(2) The maximum detected concentration was used for the screening.

(3) Maximum detected concentrations from site-specific background locations (BKSB0001-BKSB0007, BKSB0011-BKSB0013, BSBESB01-BSBESB10).

(4) All compounds except EPH were screened against the lower of the EPA (2016b) Regional Screening Level (RSL) for residential soil (THQ = 0.1; Target Cancer Risk = 10-6) and New Jersey Residential Direct Contact Soil Remediation Standards (NJ RDCSRS) (NJDEP, 2011a). EPH compounds were screened on a sample-specific basis in accordance with the New Jersey Protocol for Addressing Extractable Petroleum Hydrocarbons (NJDEP, 2010a).

n – Non-cancer.

c – Cancer.

L – Based on blood lead modeling.

Surrogate/form – Surrogate/chemical form used in the absence of chemical-specific screening value.

(5) Rationale codes:

Selection reason: ASL – Above screening level.

Deletion reason: BSL – Below screening level.

EN – Essential human nutrient.

EPH – Petroleum hydrocarbon fractions were screened on a sample-specific basis; see text.

**Table 2.9**

**Occurrence, Distribution, and Selection of Chemicals of Potential Concern**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Medium: | Soil (0-0.5 ft bgs) |
| Exposure Medium: | Soil from Undeveloped Area (UNDV), North of Foster Ave. (NFA), South of Foster Ave. (SFA), and East of US Ave. (EUSA) |

| Exposure Point | Chemical Group | CAS Number | Chemical | Minimum Detected Concentration (Qualifier) (1) | Maximum Detected Concentration (Qualifier) (1) | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening (2) | Background Value (3) | Screening Criteria (4) | Criteria Basis (4) | Exceeds Crit | COPC Flag (Y/N) | Rationale for Selection or Deletion (5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UNDV | METALS | 7439-92-1 | LEAD | 2.55 | 3050(J) | MG/KG | HCSB0158/131 | 94/94 | 0.22-98.3 | 3050 | 178 | 400 | EPA RSL (L, Lead and Compounds) | 26 | Yes | ASL |
| EUSA | METALS | 7439-92-1 | LEAD | 4.7 | 217 | MG/KG | MPSB0063 | 7/7 | 0.84-1 | 217 | 178 | 400 | EPA RSL (L, Lead and Compounds) | 0 | No | BSL |
| NFA | METALS | 7439-92-1 | LEAD | 6.4 | 2020(D) | MG/KG | MPSB0151 | 52/52 | 0.72-87.9 | 2020 | 178 | 400 | EPA RSL (L, Lead and Compounds) | 5 | Yes | ASL |
| SFA | METALS | 7439-92-1 | LEAD | 7.9 | 103000 | MG/KG | MW-14 | 38/38 | 0.3-92.6 | 103000 | 178 | 400 | EPA RSL (L, Lead and Compounds) | 9 | Yes | ASL |

Notes:

Only analytes detected in at least one sample are presented.

(1) D– Dilution; J – Estimated.

(2) The maximum detected concentration was used for the screening.

(3) Maximum detected concentrations from site-specific background locations (BSBESB01-BSBESB10).

(4) Screened against the lower of the EPA (2016b) Regional Screening Level (RSL) for residential soil (THQ = 0.1; Target Cancer Risk = 10-6) and New Jersey Residential Direct Contact Soil Remediation Standards (NJ RDCSRS) (NJDEP, 2011a).

L – Based on blood lead modeling.

(5) Rationale codes:

Selection reason: ASL – Above screening level.

Deletion reason: BSL – Below screening level.

**Table 2.10**
**Occurrence, Distribution, and Selection of Chemicals of Potential Concern**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Sediment (0-0.5) |
| Exposure Medium: | Sediment from Upper Hilliards Creek (UHC) |

| Exposure Point | Chemical Group | CAS Number | Chemical | Minimum Detected Concentration (Qualifier) (1) | Maximum Detected Concentration (Qualifier) (1) | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening (2) | Background Value (3) | Screening Criteria (4) | Criteria Basis (4) | Exceeds Crit | COPC Flag (Y/N) | Rationale for Selection or Deletion (5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UHC | METALS | 7429-90-5 | ALUMINUM | 523 | 8210(J) | MG/KG | HCDD0035 | 13/13 | 1.4-22 | 8210 | 23100 | 7700 | EPA RSL (n) | 1 | Yes | ASL |
| UHC | METALS | 7440-36-0 | ANTIMONY | 4(J) | 41.9(J) | MG/KG | HCDD0035 | 7/13 | 0.29-5.7 | 41.9 | | 3.1 | EPA RSL (n, Antimony (metallic)) | 7 | Yes | ASL |
| UHC | METALS | 7440-38-2 | ARSENIC | 1.3(J) | 1720(J) | MG/KG | HCDD0035 | 12/12 | 0.35-1.9 | 1720 | 13.5 | 0.68 | EPA RSL (c) | 12 | Yes | ASL |
| UHC | METALS | 7440-39-3 | BARIUM | 20.5(J) | 4030 | MG/KG | HCDD0037 | 14/15 | 0.03-19 | 4030 | 182.5 | 1500 | EPA RSL (n) | 2 | Yes | ASL |
| UHC | METALS | 7440-41-7 | BERYLLIUM | 0.04 | 0.36(J) | MG/KG | HCDD0035 | 8/13 | 0.02-0.47 | 0.36 | 1.15 | 16 | EPA RSL (n) | 0 | No | BSL |
| UHC | METALS | 7440-43-9 | CADMIUM | 0.14(J) | 4.2 | MG/KG | HCDD0036 | 10/13 | 0.05-0.47 | 4.2 | 2.15 | 7.1 | EPA RSL (n, Cadmium (Diet)) | 0 | No | BSL |
| UHC | METALS | 7440-70-2 | CALCIUM | 161(J) | 4720 | MG/KG | MPDD0001 | 13/13 | 0.95-475 | 4720 | 3920 | | EN | | No | EN |
| UHC | METALS | 7440-47-3 | CHROMIUM | 4.2 | 2070(J) | MG/KG | HCDD0035 | 14/14 | 0.12-0.64 | 2070 | 31.6 | 0.3 | EPA RSL (c, Chromium(VI)) | 14 | Yes | ASL |
| UHC | METALS | 7440-48-4 | COBALT | 0.52(J) | 11.8(J) | MG/KG | HCDD0035 | 12/13 | 0.16-4.8 | 11.8 | 3.55 | 2.3 | EPA RSL (n) | 3 | Yes | ASL |
| UHC | METALS | 7440-50-8 | COPPER | 0.85(J) | 330(J) | MG/KG | HCDD0035 | 13/13 | 0.12-2.4 | 330 | 57.7 | 310 | EPA RSL (n) | 1 | Yes | ASL |
| UHC | METALS | 57-12-5 | CYANIDE | 0.17(J) | 651(J) | MG/KG | HCDD0035 | 7/8 | 0.5-73 | 651 | | 2.3 | EPA RSL (n, Cyanide (CN-)) | 6 | Yes | ASL |
| UHC | METALS | 7439-89-6 | IRON | 2300 | 13500(J) | MG/KG | HCDD0035 | 13/13 | 2.4-19.1 | 13500 | 19500 | 5500 | EPA RSL (n) | 6 | Yes | ASL |
| UHC | METALS | 7439-92-1 | LEAD | 15.5 | 10900(J) | MG/KG | HCDD0035 | 15/15 | 0.26-12.5 | 10900 | 157 | 400 | EPA RSL (L, Lead and Compounds) | 4 | Yes | ASL |
| UHC | METALS | 7439-95-4 | MAGNESIUM | 157(J) | 2630 | MG/KG | MPDD0001 | 12/13 | 1.1-475 | 2630 | 580 | | EN | | No | EN |
| UHC | METALS | 7439-96-5 | MANGANESE | 6.7(J) | 96.3(J) | MG/KG | HCDD0035 | 13/13 | 0.04-1.4 | 96.3 | 107 | 180 | EPA RSL (n, Manganese (Non-diet)) | 0 | No | BSL |
| UHC | METALS | 7439-97-6 | MERCURY | 0.059(J) | 1.6(J) | MG/KG | HCDD0045 | 10/13 | 0.02-0.14 | 1.6 | 72.9 | 2.3 | EPA RSL (n, Mercuric Chloride (and other Mercury salts)) | 0 | No | BSL |
| UHC | METALS | 7440-02-0 | NICKEL | 0.91(J) | 8.6(J) | MG/KG | HCDD0035 | 12/13 | 0.27-3.8 | 8.6 | 8.15 | 150 | EPA RSL (n, Nickel Soluble Salts) | 0 | No | BSL |
| UHC | METALS | 7440-09-7 | POTASSIUM | 140(J) | 679(J) | MG/KG | HCDD0073 | 7/13 | 3.8-475 | 679 | 104 | | EN | | No | EN |
| UHC | METALS | 7782-49-2 | SELENIUM | 0.49 | 0.49 | MG/KG | SED-09 | 1/13 | 0.39-3.3 | 0.49 | 4.1 | 39 | EPA RSL (n) | 0 | No | BSL |
| UHC | METALS | 7440-22-4 | SILVER | 1.3(J) | 1.3(J) | MG/KG | HCDD0035 | 1/13 | 0.16-1 | 1.3 | 0.54 | 39 | EPA RSL (n) | 0 | No | BSL |
| UHC | METALS | 7440-23-5 | SODIUM | 71 | 392(J) | MG/KG | HCDD0073 | 4/13 | 25.8-475 | 392 | 487.25 | | EN | | No | EN |
| UHC | METALS | 7440-28-0 | THALLIUM | 0.88 | 5.5(J) | MG/KG | HCDD0035 | 3/13 | 0.38-4.1 | 5.5 | | 0.078 | EPA RSL (n, Thallium (Soluble Salts)) | 3 | Yes | ASL |
| UHC | METALS | 7440-62-2 | VANADIUM | 2.3(J) | 26.7(J) | MG/KG | HCDD0035 | 13/13 | 0.13-4.8 | 26.7 | 53.3 | 39 | EPA RSL (n, Vanadium and Compounds) | 0 | No | BSL |
| UHC | METALS | 7440-66-6 | ZINC | 6.6 | 1230(J) | MG/KG | HCDD0035 | 13/13 | 0.04-5.7 | 1230 | 83.35 | 2300 | EPA RSL (n) | 0 | No | BSL |
| UHC | PEST/PCB | 72-54-8 | 4,4'-DDD | 0.0025(J) | 0.087(J) | MG/KG | HCDD0035 | 5/9 | 0.0037-0.0097 | 0.087 | 0.022 | 2.3 | EPA RSL (c) | 0 | No | BSL |
| UHC | PEST/PCB | 72-55-9 | 4,4'-DDE | 0.0044(J) | 0.02(J) | MG/KG | HCDD0035 | 3/9 | 0.0037-0.0097 | 0.02 | 0.0205 | 2 | EPA RSL (c) | 0 | No | BSL |
| UHC | PEST/PCB | 50-29-3 | 4,4'-DDT | 0.0074(J) | 0.0091(J) | MG/KG | HCDD0044 | 2/9 | 0.0037-0.0097 | 0.0091 | 0.001955 | 1.9 | EPA RSL (c) | 0 | No | BSL |
| UHC | PEST/PCB | 5103-71-9 | ALPHA-CHLORDANE | 0.0016(J) | 0.0038(J) | MG/KG | HCDD0045 | 2/8 | 0.0019-0.005 | 0.0038 | | 0.2 | NJ RDCSRS (c) | 0 | No | BSL |
| UHC | PEST/PCB | 11097-69-1 | AROCLOR-1254 | 0.1 | 0.48(+) | MG/KG | HCDD0099 | 6/12 | 0.02-0.097 | 0.48 | | 0.12 | EPA RSL (n) | 5 | Yes | ASL |
| UHC | PEST/PCB | 11096-82-5 | AROCLOR-1260 | 0.021(J) | 0.34(J+) | MG/KG | HCDD0099 | 8/12 | 0.02-0.097 | 0.34 | 0.031 | 0.2 | NJ RDCSRS (c) | 2 | Yes | ASL |
| UHC | PEST/PCB | 60-57-1 | DIELDRIN | 0.007(J) | 0.007(J) | MG/KG | HCDD0039 | 1/9 | 0.0037-0.0097 | 0.007 | | 0.034 | EPA RSL (c) | 0 | No | BSL |
| UHC | PEST/PCB | 72-20-8 | ENDRIN | 0.0033(J) | 0.0057(J) | MG/KG | HCDD0039 | 2/9 | 0.0037-0.0097 | 0.0057 | | 1.9 | EPA RSL (n) | 0 | No | BSL |
| UHC | PEST/PCB | 7421-93-4 | ENDRIN ALDEHYDE | 0.0031(J) | 0.0051(J) | MG/KG | HCDD0035 | 4/9 | 0.0037-0.0097 | 0.0051 | 0.00056 | 1.9 | EPA RSL (n, Endrin) | 0 | No | BSL |
| UHC | PEST/PCB | 53494-70-5 | ENDRIN KETONE | 0.0021(J) | 0.0058 | MG/KG | HCDD0039 | 3/9 | 0.0037-0.0097 | 0.0058 | 0.00114 | 1.9 | EPA RSL (n, Endrin) | 0 | No | BSL |
| UHC | PEST/PCB | 5103-74-2 | GAMMA-CHLORDANE | 0.0012(J) | 0.0071 | MG/KG | HCDD0045 | 4/8 | 0.0019-0.005 | 0.0071 | 0.000097 | 0.2 | NJ RDCSRS (c) | 0 | No | BSL |
| UHC | PEST/PCB | 1024-57-3 | HEPTACHLOR EPOXIDE | 0.0013(J) | 0.0046(J) | MG/KG | HCDD0035 | 4/9 | 0.0019-0.005 | 0.0046 | | 0.07 | EPA RSL (c) | 0 | No | BSL |
| UHC | PEST/PCB | 72-43-5 | METHOXYCHLOR | 0.02(J) | 0.02(J) | MG/KG | HCDD0073 | 1/9 | 0.019-0.05 | 0.02 | | 32 | EPA RSL (n) | 0 | No | BSL |
| UHC | SVOC | 92-52-4 | 1,1'-BIPHENYL | 0.024(J) | 0.083(J) | MG/KG | HCDD0039 | 4/9 | 0.2-3.8 | 0.083 | 0.012 | 4.7 | EPA RSL (n) | 0 | No | BSL |
| UHC | SVOC | 91-57-6 | 2-METHYLNAPHTHALENE | 0.026(J) | 0.505(J+) | MG/KG | SSW-1 | 7/12 | 0.2-3.8 | 0.505 | 0.036 | 24 | EPA RSL (n) | 0 | No | BSL |
| UHC | SVOC | 83-32-9 | ACENAPHTHENE | 0.054(J) | 4.5 | MG/KG | SED-09 | 14/15 | 0.2-6.95 | 4.5 | 0.21 | 360 | EPA RSL (n) | 0 | No | BSL |
| UHC | SVOC | 208-96-8 | ACENAPHTHYLENE | 0.022(J) | 0.054(J) | MG/KG | HCDD0035 | 2/15 | 0.2-6.95 | 0.054 | 0.000705 | 360 | EPA RSL (n, Acenaphthene) | 0 | No | BSL |
| UHC | SVOC | 120-12-7 | ANTHRACENE | 0.13(J) | 6.1 | MG/KG | SED-09 | 14/15 | 0.2-6.95 | 6.1 | 0.37 | 1800 | EPA RSL (n) | 0 | No | BSL |
| UHC | SVOC | 56-55-3 | BENZO(A)ANTHRACENE | 0.028(J) | 15(J+) | MG/KG | HCDD0099 | 15/15 | 0.2-6.95 | 15 | 0.81 | 0.16 | EPA RSL (c) | 14 | Yes | ASL |
| UHC | SVOC | 50-32-8 | BENZO(A)PYRENE | 0.62(J) | 14.5(J+) | MG/KG | HCDD0099 | 14/15 | 0.2-6.95 | 14.5 | 0.65 | 0.016 | EPA RSL (c) | 14 | Yes | ASL |
| UHC | SVOC | 205-99-2 | BENZO(B)FLUORANTHENE | 0.024(J) | 14.5(J+) | MG/KG | HCDD0099 | 15/15 | 0.2-6.95 | 14.5 | 0.61 | 0.16 | EPA RSL (c) | 14 | Yes | ASL |
| UHC | SVOC | 191-24-2 | BENZO(G,H,I)PERYLENE | 0.28(J) | 7.9(J+) | MG/KG | HCDD0099 | 14/15 | 0.2-6.95 | 7.9 | 0.3345 | 180 | EPA RSL (n, Pyrene) | 0 | No | BSL |
| UHC | SVOC | 207-08-9 | BENZO(K)FLUORANTHENE | 0.025(J) | 19(J+) | MG/KG | HCDD0099 | 15/15 | 0.2-6.95 | 19 | 0.68 | 1.6 | EPA RSL (c) | 8 | Yes | ASL |
| UHC | SVOC | 85-68-7 | BENZYL BUTYL PHTHALATE | 0.435(J) | 0.435(J+) | MG/KG | SSW-1 | 1/10 | 0.2-3.8 | 0.435 | | 290 | EPA RSL (c) | 0 | No | BSL |
| UHC | SVOC | 117-81-7 | BIS(2-ETHYLHEXYL) PHTHALATE | 0.15(J) | 13.4(J+) | MG/KG | SSW-1 | 7/12 | 0.2-3.8 | 13.4 | 0.3695 | 35 | NJ RDCSRS (c) | 0 | No | BSL |
| UHC | SVOC | 86-74-8 | CARBAZOLE | 0.066(J) | 2.4 | MG/KG | SED-09 | 9/12 | 0.2-3.8 | 2.4 | 0.22 | 24 | NJ RDCSRS (c) | 0 | No | BSL |
| UHC | SVOC | 218-01-9 | CHRYSENE | 0.03(J) | 18.5(J+) | MG/KG | HCDD0099 | 15/15 | 0.2-6.95 | 18.5 | 0.81 | 16 | EPA RSL (c) | 1 | Yes | ASL |
| UHC | SVOC | 53-70-3 | DIBENZO(A,H)ANTHRACENE | 0.11(J) | 2.95(J+) | MG/KG | HCDD0099 | 13/15 | 0.2-6.95 | 2.95 | 0.12 | 0.016 | EPA RSL (c) | 13 | Yes | ASL |

**Table 2.10**
**Occurrence, Distribution, and Selection of Chemicals of Potential Concern**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Sediment (0-0.5) |
| Exposure Medium: | Sediment from Upper Hilliards Creek (UHC) |

| Exposure Point | Chemical Group | CAS Number | Chemical | Minimum Detected Concentration (Qualifier) (1) | Maximum Detected Concentration (Qualifier) (1) | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening (2) | Background Value (3) | Screening Criteria (4) | Criteria Basis (4) | Exceeds Crit | COPC Flag (Y/N) | Rationale for Selection or Deletion (5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UHC | SVOC | 132-64-9 | DIBENZOFURAN | 0.027(J) | 1.5 | MG/KG | SED-09 | 10/12 | 0.2-3.8 | 1.5 | 0.029 | 7.3 | EPA RSL (n) | 0 | No | BSL |
| UHC | SVOC | 84-74-2 | DI-N-BUTYLPHTHALATE | 0.023(J) | 0.42(J+) | MG/KG | SSW-1 | 7/12 | 0.2-3.8 | 0.42 | | 630 | EPA RSL (n) | 0 | No | BSL |
| UHC | SVOC | 117-84-0 | DI-N-OCTYLPHTHALATE | 0.6 | 0.6 | MG/KG | SSW-2 | 1/10 | 0.2-3.8 | 0.6 | | 63 | EPA RSL (n) | 0 | No | BSL |
| UHC | SVOC | 206-44-0 | FLUORANTHENE | 0.047(J) | 39(J+) | MG/KG | HCDD0099 | 15/15 | 0.2-6.95 | 39 | 1.7 | 240 | EPA RSL (n) | 0 | No | BSL |
| UHC | SVOC | 86-73-7 | FLUORENE | 0.055(J) | 2.8 | MG/KG | SED-09 | 12/15 | 0.2-6.95 | 2.8 | 0.18 | 240 | EPA RSL (n) | 0 | No | BSL |
| UHC | SVOC | 193-39-5 | INDENO(1,2,3-CD)PYRENE | 0.28(J) | 8.05(J+) | MG/KG | HCDD0099 | 14/15 | 0.2-6.95 | 8.05 | 0.332 | 0.16 | EPA RSL (c) | 14 | Yes | ASL |
| UHC | SVOC | 91-20-3 | NAPHTHALENE | 0.022(J) | 2.175(J+) | MG/KG | HCDD0099 | 8/15 | 0.2-6.95 | 2.175 | 0.1 | 3.8 | EPA RSL (c) | 0 | No | BSL |
| UHC | SVOC | 85-01-8 | PHENANTHRENE | 0.53(J) | 23.5(J+) | MG/KG | HCDD0099 | 14/15 | 0.2-6.95 | 23.5 | 1.4 | 1800 | EPA RSL (n, Anthracene) | 0 | No | BSL |
| UHC | SVOC | 129-00-0 | PYRENE | 0.049(J) | 42(J+) | MG/KG | HCDD0099 | 15/15 | 0.2-6.95 | 42 | 1.6 | 180 | EPA RSL (n) | 0 | No | BSL |
| UHC | VOC | 67-64-1 | ACETONE | 0.0053(J) | 0.22(B) | MG/KG | SSW-2 | 6/12 | 0.01-0.9 | 0.22 | 0.22 | 6100 | EPA RSL (n) | 0 | No | BSL |
| UHC | VOC | 75-09-2 | DICHLOROMETHANE | 0.004(JB) | 0.039(B+) | MG/KG | SSW-1 | 3/12 | 0.006-0.9 | 0.039 | | 34 | NJ RDCSRS (c) | 0 | No | BSL |
| UHC | VOC | 98-82-8 | ISOPROPYLBENZENE | 0.002(J) | 0.11(J) | MG/KG | HCDD0045 | 2/9 | 0.0063-0.9 | 0.11 | | 190 | EPA RSL (n) | 0 | No | BSL |
| UHC | VOC | 79-20-9 | METHYL ACETATE | 0.001(J) | 0.005(J) | MG/KG | HCDD0035 | 2/9 | 0.0063-0.9 | 0.005 | 0.005 | 7800 | EPA RSL (n) | 0 | No | BSL |
| UHC | VOC | 78-93-3 | METHYL ETHYL KETONE | 0.0075(J) | 0.026 | MG/KG | HCDD0073 | 6/12 | 0.01-0.9 | 0.026 | 0.0815 | 2700 | EPA RSL (n) | 0 | No | BSL |
| UHC | VOC | 108-87-2 | METHYLCYCLOHEXANE | 0.001(J) | 3.9 | MG/KG | HCDD0045 | 3/9 | 0.0063-0.9 | 3.9 | | 650 | EPA RSL (n, Cyclohexane) | 0 | No | BSL |
| UHC | VOC | 108-88-3 | TOLUENE | 0.002(J) | 0.008(J) | MG/KG | HCDD0073 | 2/12 | 0.006-0.9 | 0.008 | 0.002 | 490 | EPA RSL (n) | 0 | No | BSL |

Notes:

Only analytes detected in at least one sample are presented.

(1) B – Analyte was detected in an associated blank sample; J – Estimated; + – Value is the average of a parent sample and a field duplicate sample.

(2) The maximum detected concentration was used for the screening.

(3) Maximum detected concentrations from project background locations.

(4) All compounds were screened against the lower of the EPA (2016b) Regional Screening Level (RSL) for residential soil (THQ = 0.1; Target Cancer Risk = 10-6) and New Jersey Residential Direct Contact Soil Remediation Standards (NJ RDCSRS) (NJDEP, 2011a).

n – Non-cancer.
c – Cancer.
L – Based on blood lead modeling.
Surrogate/form – Surrogate/chemical form used in the absence of chemical-specific screening value.
NC – No criterion available.

(5) Rationale codes:

Selection reason: ASL – Above screening level.
Deletion reason: BSL – Below screening level.
EN – Essential human nutrient.

**Table 2.11**
**Occurrence, Distribution, and Selection of Chemicals of Potential Concern**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Surface Water |
| Exposure Medium: | Surface Water from Upper Hillards Creek (UHC) |

| Exposure Point | Chemical Group | CAS Number | Chemical | Minimum Detected Concentration (Qualifier) (1) | Maximum Detected Concentration (Qualifier) (1) | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening (2) | Background Value (3) | Screening Criteria (4) | Criteria Basis (4) | Exceeds Crit | COPC Flag (Y/N) | Rationale for Selection or Deletion (5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UHC | METALS | 7429-90-5 | ALUMINUM | 0.0402 | 1.49 | MG/L | SSW-5 | 5/14 | 0.0111-0.0557 | 1.49 | 21.5 | 2 | EPA Tapwater (n) | 0 | No | BSL |
| UHC | METALS | 7440-36-0 | ANTIMONY | 0.0029(J) | 0.0029(J) | MG/L | HCDW0005 | 1/14 | 0.0011-0.0047 | 0.0029 | 0.0049 | 0.00078 | EPA Tapwater (n, Antimony (metallic)) | 1 | Yes | ASL |
| UHC | METALS | 7440-38-2 | ARSENIC | 0.0066(J) | 0.0982(J) | MG/L | HCDW0001 | 14/14 | 0.0018-0.018 | 0.0982 | 0.0619 | 0.000052 | EPA Tapwater (c) | 14 | Yes | ASL |
| UHC | METALS | 7440-39-3 | BARIUM | 0.042 | 0.389 | MG/L | HCDW0002 | 17/17 | 0.0000056-0.0025 | 0.389 | 0.596 | 0.38 | EPA Tapwater (n) | 2 | Yes | ASL |
| UHC | METALS | 7440-70-2 | CALCIUM | 16.3 | 46.6 | MG/L | HCDW0003 | 14/14 | 0.0073-0.037 | 46.6 | 30.5 | | EN | | No | EN |
| UHC | METALS | 7440-47-3 | CHROMIUM | 0.0016 | 0.0117 | MG/L | SSW-5 | 3/17 | 0.0008-0.0039 | 0.0117 | 0.0161 | 0.000035 | EPA Tapwater (c, Chromium(VI)) | 3 | Yes | ASL |
| UHC | METALS | 7440-50-8 | COPPER | 0.0038(J) | 0.0148 | MG/L | SSW-5 | 4/14 | 0.0009-0.0129 | 0.0148 | 0.0286 | 0.08 | EPA Tapwater (n) | 0 | No | BSL |
| UHC | METALS | 57-12-5 | CYANIDE | 0.000000012 | 0.0187 | MG/L | HCDW0002; HCDW0003 | 5/13 | 0.00001-0.0011 | 0.0187 | 0.0134 | 0.00015 | EPA Tapwater (n, Cyanide (CN-)) | 4 | Yes | ASL |
| UHC | METALS | 7439-89-6 | IRON | 1.01 | 17.9 | MG/L | SSW-5 | 14/14 | 0.016-0.033 | 17.9 | 95.7 | 1.4 | EPA Tapwater (n) | 12 | Yes | ASL |
| UHC | METALS | 7439-92-1 | LEAD | 0.0011 | 0.0655 | MG/L | SSW-5 | 7/17 | 0.0000009-0.004 | 0.0655 | 0.259 | 0.015 | EPA Tapwater (L, Lead and Compounds) | 4 | Yes | ASL |
| UHC | METALS | 7439-95-4 | MAGNESIUM | 3.51 | 6.71 | MG/L | HCDW0002 | 14/14 | 0.0088-0.051 | 6.71 | 6.16 | | EN | | No | EN |
| UHC | METALS | 7439-96-5 | MANGANESE | 0.0553 | 0.427 | MG/L | HCDW0003 | 14/14 | 0.0003-0.0008 | 0.427 | 0.611 | 0.043 | EPA Tapwater (n, Manganese (Non-diet)) | 14 | Yes | ASL |
| UHC | METALS | 7439-97-6 | MERCURY | 0.0001(J) | 0.0001(J) | MG/L | HCDW0003 | 1/14 | 0.0001-0.0002 | 0.0001 | 0.0262 | 0.00057 | EPA Tapwater (n, Mercuric Chloride (and other Mercury salts)) | 0 | No | BSL |
| UHC | METALS | 7440-02-0 | NICKEL | 0.0012(J) | 0.0019(J) | MG/L | HCDW0003 | 5/14 | 0.0009-0.0124 | 0.0019 | 0.0248 | 0.039 | EPA Tapwater (n, Nickel Soluble Salts) | 0 | No | BSL |
| UHC | METALS | 7440-09-7 | POTASSIUM | 3.24(J) | 5.49 | MG/L | HCDW0005 | 14/14 | 0.0295-0.838 | 5.49 | 17.5 | | EN | | No | EN |
| UHC | METALS | 7782-49-2 | SELENIUM | 0.0042(J) | 0.0042(J) | MG/L | HCDW0002 | 1/11 | 0.003-0.0042 | 0.0042 | 0.0053 | 0.01 | EPA Tapwater (n) | 0 | No | BSL |
| UHC | METALS | 7440-22-4 | SILVER | 0.0013(J) | 0.0013(J) | MG/L | HCDW0001 | 1/14 | 0.0007-0.0032 | 0.0013 | | 0.0094 | EPA Tapwater (n) | 0 | No | BSL |
| UHC | METALS | 7440-23-5 | SODIUM | 11.9 | 73.6 | MG/L | HCDW0002 | 14/14 | 0.0323-0.34 | 73.6 | 33.3 | | EN | | No | EN |
| UHC | METALS | 7440-28-0 | THALLIUM | 0.0044(J) | 0.0072 | MG/L | SSW-9 | 2/14 | 0.0017-0.0046 | 0.0072 | | 0.00002 | EPA Tapwater (n, Thallium (Soluble Salts)) | 2 | Yes | ASL |
| UHC | METALS | 7440-62-2 | VANADIUM | 0.00054(J) | 0.0089 | MG/L | SSW-5 | 5/14 | 0.0005-0.0031 | 0.0089 | 0.126 | 0.0086 | EPA Tapwater (n, Vanadium and Compounds) | 1 | Yes | ASL |
| UHC | METALS | 7440-66-6 | ZINC | 0.0063 | 0.11 | MG/L | SSW-5 | 14/14 | 0.0003-0.0034 | 0.11 | 0.161 | 0.6 | EPA Tapwater (n) | 0 | No | BSL |
| UHC | SVOC | 83-32-9 | ACENAPHTHENE | 0.0002(J) | 0.0006(J) | MG/L | HCDW0001 | 3/17 | 0.01-0.012 | 0.0006 | 0.0000032 | 0.053 | EPA Tapwater (n) | 0 | No | BSL |
| UHC | SVOC | 50-32-8 | BENZO(A)PYRENE | 0.001(J) | 0.001(J) | MG/L | SSW-6 | 1/17 | 0.01-0.012 | 0.001 | | 0.0000034 | EPA Tapwater (c) | 1 | Yes | ASL |
| UHC | SVOC | 205-99-2 | BENZO(B)FLUORANTHENE | 0.002(J) | 0.002(J) | MG/L | SSW-6 | 1/17 | 0.01-0.012 | 0.002 | 0.000011 | 0.000034 | EPA Tapwater (c) | 1 | Yes | ASL |
| UHC | SVOC | 117-81-7 | BIS(2-ETHYLHEXYL) PHTHALATE | 0.001(J) | 0.001(J) | MG/L | SSW-6 | 1/17 | 0.01-0.012 | 0.001 | | 0.0056 | EPA Tapwater (c) | 0 | No | BSL |
| UHC | SVOC | 218-01-9 | CHRYSENE | 0.001(J) | 0.001(J) | MG/L | SSW-6 | 1/17 | 0.01-0.012 | 0.001 | 0.000013 | 0.0034 | EPA Tapwater (c) | 0 | No | BSL |
| UHC | SVOC | 206-44-0 | FLUORANTHENE | 0.0002(J) | 0.003(J) | MG/L | SSW-6 | 2/17 | 0.01-0.012 | 0.003 | 0.00002575 | 0.08 | EPA Tapwater (n) | 0 | No | BSL |
| UHC | SVOC | 193-39-5 | INDENO(1,2,3-CD)PYRENE | 0.001(J) | 0.001(J) | MG/L | SSW-6 | 1/17 | 0.01-0.012 | 0.001 | 0.0000073 | 0.000034 | EPA Tapwater (c) | 1 | Yes | ASL |
| UHC | SVOC | 91-20-3 | NAPHTHALENE | 0.0004(J) | 0.0005(J) | MG/L | HCDW0001 | 2/17 | 0.01-0.012 | 0.0005 | 0.0000039 | 0.00017 | EPA Tapwater (c) | 2 | Yes | ASL |
| UHC | SVOC | 85-01-8 | PHENANTHRENE | 0.0003(J) | 0.002(J) | MG/L | SSW-6 | 3/17 | 0.01-0.012 | 0.002 | 0.000017 | 0.18 | EPA Tapwater (n, Anthracene) | 0 | No | BSL |
| UHC | SVOC | 129-00-0 | PYRENE | 0.002(J) | 0.002(J) | MG/L | SSW-6 | 1/17 | 0.01-0.012 | 0.002 | 0.000021 | 0.012 | EPA Tapwater (n) | 0 | No | BSL |
| UHC | VOC | 106-46-7 | 1,4-DICHLOROBENZENE | 0.0007(J) | 0.0007(J) | MG/L | HCDW0001 | 1/10 | 0.01 | 0.0007 | | 0.00048 | EPA Tapwater (c) | 1 | Yes | ASL |
| UHC | VOC | 67-64-1 | ACETONE | 0.004(JB) | 0.032(B) | MG/L | SSW-1 | 3/17 | 0.005-0.01 | 0.032 | | 1.4 | EPA Tapwater (n) | 0 | No | BSL |
| UHC | VOC | 71-43-2 | BENZENE | 0.002(J) | 0.006(J) | MG/L | SSW-9; HCDW0001 | 4/17 | 0.001-0.01 | 0.006 | | 0.00046 | EPA Tapwater (c) | 4 | Yes | ASL |
| UHC | VOC | 108-90-7 | CHLOROBENZENE | 0.001(J) | 0.004(J) | MG/L | HCDW0001 | 3/17 | 0.001-0.01 | 0.004 | | 0.0078 | EPA Tapwater (n) | 0 | No | BSL |
| UHC | VOC | 156-59-2 | CIS-1,2-DICHLOROETHENE | 0.001(J) | 0.001(J) | MG/L | HCDW0001 | 1/10 | 0.01 | 0.001 | | 0.0036 | EPA Tapwater (n) | 0 | No | BSL |
| UHC | VOC | 110-82-7 | CYCLOHEXANE | 0.001(J) | 0.002(J) | MG/L | HCDW0001 | 2/10 | 0.01 | 0.002 | | 1.3 | EPA Tapwater (n) | 0 | No | BSL |
| UHC | VOC | 75-09-2 | DICHLOROMETHANE | 0.001(JB) | 0.019(B) | MG/L | SSW-4 | 4/17 | 0.002-0.01 | 0.019 | | 0.011 | EPA Tapwater (n) | 3 | Yes | ASL |
| UHC | VOC | 100-41-4 | ETHYLBENZENE | 0.0006(J) | 0.0008(J) | MG/L | SSW-9 | 2/17 | 0.001-0.01 | 0.0008 | | 0.0015 | EPA Tapwater (c) | 0 | No | BSL |
| UHC | VOC | 98-82-8 | ISOPROPYLBENZENE | 0.0006(J) | 0.0009(J) | MG/L | HCDW0002 | 2/10 | 0.01 | 0.0009 | | 0.045 | EPA Tapwater (n) | 0 | No | BSL |
| UHC | VOC | 108-87-2 | METHYLCYCLOHEXANE | 0.001(J) | 0.003(J) | MG/L | HCDW0001 | 3/10 | 0.01 | 0.003 | | 1.3 | EPA Tapwater (n, Cyclohexane) | 0 | No | BSL |
| UHC | VOC | 108-88-3 | TOLUENE | 0.0003(J) | 0.0003(J) | MG/L | SSW-9 | 1/17 | 0.001-0.01 | 0.0003 | | 0.11 | EPA Tapwater (n) | 0 | No | BSL |
| UHC | VOC | 540-59-0 | TOTAL-1,2-DICHLOROETHENE | 0.0009(J) | 0.0009(J+) | MG/L | SSW-9 | 1/7 | 0.001-0.01 | 0.0009 | | 0.0036 | EPA Tapwater (n, Dichloroethylene, 1,2-cis-) | 0 | No | BSL |
| UHC | VOC | 75-01-4 | VINYL CHLORIDE | 0.001(J) | 0.001(J) | MG/L | HCDW0001 | 1/17 | 0.002-0.01 | 0.001 | | 0.000019 | EPA Tapwater (c) | 1 | Yes | ASL |
| UHC | VOC | 1330-20-7 | XYLENES (TOTAL) | 0.003 | 0.003 | MG/L | SSW-9 | 1/17 | 0.001-0.01 | 0.003 | | 0.019 | EPA Tapwater (n) | 0 | No | BSL |

Notes:
Only analytes detected in at least one sample are presented.
(1) B – Analyte was detected in an associated blank sample; J – Estimated; + – Value is the average of a parent sample and a field duplicate sample.
(2) The maximum detected concentration was used for the screening.
(3) Maximum detected concentrations from project background locations.
(4) All compounds were screened against the EPA (2016b) Regional Screening Level (RSL) for tap water (THQ = 0.1, Target Cancer Risk = 10-6).
n – Non-cancer. L – Based on blood lead modeling.
c – Cancer. Surrogate/form – Surrogate/chemical form used in the absence of chemical-specific screening value.
(5) Rationale codes:
Selection reason: ASL – Above screening level.
Deletion reason: BSL – Below screening level.
EN – Essential human nutrient.

**Table 3.1**
**Exposure Point Concentrations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Soil (0-10 ft bgs) |

| Exposure Point | Chemical Group | Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCLM | Maximum Concentration | Exposure Point Concentration | Statistic/Rationale |
|---|---|---|---|---|---|---|---|---|
| EUSA | METALS | ARSENIC | mg/kg | 1.9 | 2.4 | 3.2 | 2.4 | 95% KM (t) UCL |
| EUSA | METALS | CHROMIUM, HEXAVALENT | mg/kg | 0.47 | 0.73 | 1.4 | 0.73 | 95% KM Adjusted Gamma UCL |
| EUSA | METALS | COBALT | mg/kg | 1.2 | 3.1 | 3.1 | 3.1 | 95% KM Bootstrap t UCL |
| EUSA | METALS | IRON | mg/kg | 5433 | 6604 | 7570 | 6604 | 95% Student's-t UCL |
| EUSA | METALS | THALLIUM | mg/kg | 1.1 | NA | 0.33 | 0.33 | Maximum Concentration |
| EUSA | SVOC | BENZO(A)PYRENE | mg/kg | 0.098 | 0.073 | 0.073 | 0.073 | Maximum Concentration |
| EUSA | SVOC | DIBENZO(A,H)ANTHRACENE | mg/kg | 0.10 | NA | 0.021 | 0.021 | Maximum Concentration |
| NFA | METALS | ALUMINUM | mg/kg | 2808 | 3336 | 22000 | 3336 | 95% Chebyshev (Mean, Sd) UCL |
| NFA | METALS | ANTIMONY | mg/kg | 2.2 | 1.30 | 8.2 | 1.30 | 95% KM (Chebyshev) UCL |
| NFA | METALS | ARSENIC | mg/kg | 13 | 23 | 697 | 23 | 95% KM (Chebyshev) UCL |
| NFA | METALS | BARIUM | mg/kg | 246 | 380 | 4400 | 380 | 95% KM (Chebyshev) UCL |
| NFA | METALS | CADMIUM | mg/kg | 0.49 | 0.34 | 8.3 | 0.34 | KM H-UCL |
| NFA | METALS | CHROMIUM, HEXAVALENT | mg/kg | 7.7 | 35 | 293 | 35 | 95% KM (Chebyshev) UCL |
| NFA | METALS | COBALT | mg/kg | 1.6 | 1.8 | 13 | 1.8 | KM H-UCL |
| NFA | METALS | COPPER | mg/kg | 16 | 25 | 380 | 25 | 95% KM (Chebyshev) UCL |
| NFA | METALS | CYANIDE | mg/kg | 7.2 | 4.6 | 352 | 4.6 | KM H-UCL |
| NFA | METALS | IRON | mg/kg | 6066 | 7199 | 51400 | 7199 | 95% Chebyshev (Mean, Sd) UCL |
| NFA | METALS | LEAD | mg/kg | 296 | 540 | 15300 | 296 | Arithmetic Mean |
| NFA | METALS | MANGANESE | mg/kg | 66 | 106 | 2010 | 106 | 95% Chebyshev (Mean, Sd) UCL |
| NFA | METALS | THALLIUM | mg/kg | 0.98 | 0.29 | 3.7 | 0.29 | KM H-UCL |
| NFA | METALS | VANADIUM | mg/kg | 10 | 12 | 82 | 12 | 95% KM (Chebyshev) UCL |
| NFA | METALS | ZINC | mg/kg | 118 | 190 | 2930 | 190 | 95% KM (Chebyshev) UCL |
| NFA | PEST/PCB | ALDRIN | mg/kg | 0.0047 | 0.012 | 0.17 | 0.012 | 95% KM Approximate Gamma UCL |
| NFA | PEST/PCB | AROCLOR-1254 | mg/kg | 0.11 | 0.027 | 0.26 | 0.027 | 95% KM Approximate Gamma UCL |
| NFA | PEST/PCB | AROCLOR-1260 | mg/kg | 5.9 | 25 | 1200 | 25 | 95% KM (Chebyshev) UCL |
| NFA | PEST/PCB | DIELDRIN | mg/kg | 0.0083 | 0.017 | 0.27 | 0.017 | 95% KM Approximate Gamma UCL |
| NFA | SVOC | 1,1'-BIPHENYL | mg/kg | 0.32 | 0.62 | 25 | 0.62 | 95% KM (Chebyshev) UCL |
| NFA | SVOC | 2-METHYLNAPHTHALENE | mg/kg | 1.3 | 4.4 | 240 | 4.4 | 95% KM (Chebyshev) UCL |
| NFA | SVOC | BENZO(A)ANTHRACENE | mg/kg | 1.0 | 2.4 | 80 | 2.4 | 95% KM (Chebyshev) UCL |
| NFA | SVOC | BENZO(A)PYRENE | mg/kg | 0.95 | 2.1 | 69 | 2.1 | 95% KM (Chebyshev) UCL |
| NFA | SVOC | BENZO(B)FLUORANTHENE | mg/kg | 1.0 | 2.3 | 65 | 2.3 | 95% KM (Chebyshev) UCL |
| NFA | SVOC | BENZO(K)FLUORANTHENE | mg/kg | 0.76 | 1.6 | 59 | 1.6 | 95% KM (Chebyshev) UCL |
| NFA | SVOC | CARBAZOLE | mg/kg | 0.46 | 0.89 | 35 | 0.89 | 95% KM (Chebyshev) UCL |
| NFA | SVOC | CHRYSENE | mg/kg | 1.1 | 2.3 | 78 | 2.3 | 95% KM (Chebyshev) UCL |

**Table 3.1**
**Exposure Point Concentrations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Soil (0-10 ft bgs) |

| Exposure Point | Chemical Group | Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCLM | Maximum Concentration | Exposure Point Concentration | Statistic/Rationale |
|---|---|---|---|---|---|---|---|---|
| NFA | SVOC | DIBENZO(A,H)ANTHRACENE | mg/kg | 0.31 | 0.45 | 13 | 0.45 | 95% KM (Chebyshev) UCL |
| NFA | SVOC | DIBENZOFURAN | mg/kg | 0.45 | 0.79 | 26 | 0.79 | 95% KM (Chebyshev) UCL |
| NFA | SVOC | INDENO(1,2,3-CD)PYRENE | mg/kg | 0.58 | 1.2 | 37 | 1.2 | 95% KM (Chebyshev) UCL |
| NFA | SVOC | NAPHTHALENE | mg/kg | 3.5 | 11 | 580 | 11 | 95% KM (Chebyshev) UCL |
| NFA | VOC | BENZENE | mg/kg | 1.8 | 0.037 | 37 | 0.037 | KM H-UCL |
| NFA | VOC | ETHYLBENZENE | mg/kg | 14 | 25 | 770 | 25 | 95% KM Approximate Gamma UCL |
| NFA | VOC | METHYLCYCLOHEXANE | mg/kg | 53 | 5252 | 2900 | 2900 | Maximum Concentration |
| NFA | VOC | TRICHLOROETHYLENE (TCE) | mg/kg | 1.6 | 0.035 | 0.92 | 0.035 | 95% KM Approximate Gamma UCL |
| NFA | VOC | XYLENES (TOTAL) | mg/kg | 62 | 409 | 6600 | 409 | 99% KM (Chebyshev) UCL |
| NFA | TIC | 1,2,4-TRIMETHYLBENZENE | mg/kg | 110 | 156 | 300 | 156 | 95% Student's-t UCL |
| NFA | TIC | BENZENE, 1,2,3-TRIMETHYL- | mg/kg | 36 | 169 | 290 | 169 | 99% Chebyshev (Mean, Sd) UCL |
| NFA | TIC | BENZENE, 1,3,5-TRIMETHYL- | mg/kg | 137 | 370 | 510 | 370 | 95% Adjusted Gamma UCL |
| NFA | TIC | NAPHTHALENE, 1-METHYL- | mg/kg | 2.0 | 4.1 | 27 | 4.1 | 95% H-UCL |
| SFA | METALS | ALUMINUM | mg/kg | 2153 | 2728 | 10100 | 2728 | 95% Chebyshev (Mean, Sd) UCL |
| SFA | METALS | ANTIMONY | mg/kg | 14 | 51 | 1090 | 51 | 95% KM (Chebyshev) UCL |
| SFA | METALS | ARSENIC | mg/kg | 15 | 26 | 142 | 26 | 95% KM (Chebyshev) UCL |
| SFA | METALS | BARIUM | mg/kg | 266 | 474 | 4630 | 474 | KM H-UCL |
| SFA | METALS | CADMIUM | mg/kg | 3.6 | 0.47 | 401 | 0.47 | KM H-UCL |
| SFA | METALS | CHROMIUM, HEXAVALENT | mg/kg | 0.73 | 0.91 | 6.2 | 0.91 | KM H-UCL |
| SFA | METALS | COBALT | mg/kg | 1.8 | 1.8 | 7.2 | 1.8 | 95% KM Approximate Gamma UCL |
| SFA | METALS | CYANIDE | mg/kg | 5.6 | 6.9 | 62 | 6.9 | 95% KM Approximate Gamma UCL |
| SFA | METALS | IRON | mg/kg | 5582 | 6234 | 30500 | 6234 | 95% Approximate Gamma UCL |
| SFA | METALS | LEAD | mg/kg | 911 | 3733 | 103000 | 911 | Arithmetic Mean |
| SFA | METALS | MANGANESE | mg/kg | 43 | 47 | 524 | 47 | 95% H-UCL |
| SFA | METALS | MERCURY | mg/kg | 0.31 | 0.41 | 4.1 | 0.41 | 95% KM Approximate Gamma UCL |
| SFA | METALS | THALLIUM | mg/kg | 0.94 | 0.47 | 2.2 | 0.47 | 95% KM (t) UCL |
| SFA | METALS | VANADIUM | mg/kg | 8.8 | 11 | 45 | 11 | 95% KM (Chebyshev) UCL |
| SFA | METALS | ZINC | mg/kg | 250 | 471 | 12300 | 471 | KM H-UCL |
| SFA | PEST/PCB | AROCLOR-1254 | mg/kg | 0.042 | 0.042 | 0.49 | 0.042 | KM H-UCL |
| SFA | SVOC | 2-METHYLNAPHTHALENE | mg/kg | 1.3 | 2.9 | 38 | 2.9 | 95% KM (Chebyshev) UCL |
| SFA | SVOC | BENZO(A)ANTHRACENE | mg/kg | 1.7 | 3.2 | 32 | 3.2 | 95% KM (Chebyshev) UCL |
| SFA | SVOC | BENZO(A)PYRENE | mg/kg | 1.7 | 2.8 | 37 | 2.8 | KM H-UCL |
| SFA | SVOC | BENZO(B)FLUORANTHENE | mg/kg | 2.3 | 4.6 | 44 | 4.6 | 95% KM (Chebyshev) UCL |
| SFA | SVOC | BENZO(K)FLUORANTHENE | mg/kg | 1.5 | 3.0 | 41 | 3.0 | 95% KM (Chebyshev) UCL |

**Table 3.1**
**Exposure Point Concentrations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Soil (0-10 ft bgs) |

| Exposure Point | Chemical Group | Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCLM | Maximum Concentration | Exposure Point Concentration | Statistic/Rationale |
|---|---|---|---|---|---|---|---|---|
| SFA | SVOC | CHRYSENE | mg/kg | 2.2 | 4.4 | 55 | 4.4 | 95% KM (Chebyshev) UCL |
| SFA | SVOC | DIBENZO(A,H)ANTHRACENE | mg/kg | 0.60 | 1.4 | 14 | 1.4 | KM H-UCL |
| SFA | SVOC | INDENO(1,2,3-CD)PYRENE | mg/kg | 1.3 | 2.5 | 37 | 2.5 | 95% KM (Chebyshev) UCL |
| SFA | SVOC | NAPHTHALENE | mg/kg | 3.0 | 7.9 | 150 | 7.9 | 95% KM (Chebyshev) UCL |
| SFA | SVOC | PENTACHLOROPHENOL | mg/kg | 1.5 | 0.30 | 15 | 0.30 | KM H-UCL |
| SFA | VOC | BENZENE | mg/kg | 0.81 | 0.20 | 3.2 | 0.20 | 95% KM (t) UCL |
| SFA | VOC | ETHYLBENZENE | mg/kg | 2.2 | 3.9 | 61 | 3.9 | 95% KM Approximate Gamma UCL |
| SFA | VOC | XYLENES (TOTAL) | mg/kg | 8.3 | 35 | 370 | 35 | 97.5% KM (Chebyshev) UCL |
| SFA | TIC | 1,2,4-TRIMETHYLBENZENE | mg/kg | 102 | 1230 | 480 | 480 | Maximum Concentration |
| SFA | TIC | BENZENE, 1,2,3-TRIMETHYL- | mg/kg | 28 | 111 | 210 | 111 | 95% Adjusted Gamma UCL |
| SFA | TIC | BENZENE, 1,3,5-TRIMETHYL- | mg/kg | 45 | 304 | 180 | 180 | Maximum Concentration |
| UNDV | METALS | ALUMINUM | mg/kg | 2695 | 3326 | 12100 | 3326 | 95% Chebyshev (Mean, Sd) UCL |
| UNDV | METALS | ANTIMONY | mg/kg | 9.8 | 7.2 | 515 | 7.2 | KM H-UCL |
| UNDV | METALS | ARSENIC | mg/kg | 75 | 171 | 5270 | 171 | 95% KM (Chebyshev) UCL |
| UNDV | METALS | BARIUM | mg/kg | 529 | 835 | 14500 | 835 | KM H-UCL |
| UNDV | METALS | CADMIUM | mg/kg | 0.92 | 0.9 | 37 | 0.9 | KM H-UCL |
| UNDV | METALS | CHROMIUM, HEXAVALENT | mg/kg | 0.65 | 0.84 | 2.8 | 0.84 | 95% KM Adjusted Gamma UCL |
| UNDV | METALS | COBALT | mg/kg | 3.7 | 4.2 | 82 | 4.2 | KM H-UCL |
| UNDV | METALS | COPPER | mg/kg | 50 | 83 | 1360 | 83 | KM H-UCL |
| UNDV | METALS | CYANIDE | mg/kg | 22 | 47 | 953 | 47 | KM H-UCL |
| UNDV | METALS | IRON | mg/kg | 8594 | 11177 | 49200 | 11177 | 95% Chebyshev (Mean, Sd) UCL |
| UNDV | METALS | LEAD | mg/kg | 682 | 1217 | 25300 | 682 | Arithmetic Mean |
| UNDV | METALS | MANGANESE | mg/kg | 90 | 146 | 1420 | 146 | 95% Chebyshev (Mean, Sd) UCL |
| UNDV | METALS | MERCURY | mg/kg | 0.91 | 1.1 | 25 | 1.1 | KM H-UCL |
| UNDV | METALS | THALLIUM | mg/kg | 1.0 | 0.48 | 3.8 | 0.48 | 95% KM (t) UCL |
| UNDV | METALS | VANADIUM | mg/kg | 13 | 15 | 88 | 15 | KM H-UCL |
| UNDV | METALS | ZINC | mg/kg | 300 | 470 | 5270 | 470 | 95% KM (Chebyshev) UCL |
| UNDV | PEST/PCB | AROCLOR-1254 | mg/kg | 0.078 | 0.062 | 1.4 | 0.062 | 95% KM Approximate Gamma UCL |
| UNDV | PEST/PCB | AROCLOR-1260 | mg/kg | 0.20 | 0.27 | 3.1 | 0.27 | 95% KM Approximate Gamma UCL |
| UNDV | PEST/PCB | DIELDRIN | mg/kg | 0.0071 | 0.0064 | 0.077 | 0.0064 | KM H-UCL |
| UNDV | SVOC | BENZO(A)ANTHRACENE | mg/kg | 1.3 | 2.1 | 29 | 2.1 | 95% KM (Chebyshev) UCL |
| UNDV | SVOC | BENZO(A)PYRENE | mg/kg | 1.5 | 2.5 | 37 | 2.5 | 95% KM (Chebyshev) UCL |
| UNDV | SVOC | BENZO(B)FLUORANTHENE | mg/kg | 2.2 | 3.7 | 76 | 3.7 | 95% KM (Chebyshev) UCL |
| UNDV | SVOC | BENZO(K)FLUORANTHENE | mg/kg | 1.6 | 2.6 | 37 | 2.6 | 95% KM (Chebyshev) UCL |

**Table 3.1**
**Exposure Point Concentrations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Soil (0-10 ft bgs) |

| Exposure Point | Chemical Group | Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCLM | Maximum Concentration | Exposure Point Concentration | Statistic/Rationale |
|---|---|---|---|---|---|---|---|---|
| UNDV | SVOC | CHRYSENE | mg/kg | 1.8 | 2.9 | 45 | 2.9 | 95% KM (Chebyshev) UCL |
| UNDV | SVOC | DIBENZO(A,H)ANTHRACENE | mg/kg | 0.34 | 0.39 | 4.9 | 0.39 | 95% KM Approximate Gamma UCL |
| UNDV | SVOC | INDENO(1,2,3-CD)PYRENE | mg/kg | 0.99 | 1.6 | 20 | 1.6 | 95% KM (Chebyshev) UCL |
| UNDV | SVOC | PENTACHLOROPHENOL | mg/kg | 8.5 | 24 | 650 | 24 | 95% KM (Chebyshev) UCL |

Notes:

Only chemicals identified as COPCs presented.

NA – Could not calculate using ProUCL because only detected in one sample.

**Table 3.2**
**Exposure Point Concentrations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-2 ft bgs) |

| Exposure Point | Chemical Group | Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCLM | Maximum Concentration | Exposure Point Concentration | Statistic/Rationale |
|---|---|---|---|---|---|---|---|---|
| EUSA | METALS | ARSENIC | mg/kg | 1.9 | 2.5 | 3.2 | 2.5 | 95% KM (t) UCL |
| EUSA | METALS | CHROMIUM, HEXAVALENT | mg/kg | 0.45 | 0.61 | 0.77 | 0.61 | 95% KM (t) UCL |
| EUSA | METALS | COBALT | mg/kg | 1.1 | 3.1 | 3.1 | 3.1 | Maximum Concentration |
| EUSA | METALS | IRON | mg/kg | 5451 | 6803 | 7570 | 6803 | 95% Student's-t UCL |
| EUSA | METALS | THALLIUM | mg/kg | 1.0 | NA | 0.33 | 0.33 | Maximum Concentration |
| EUSA | SVOC | BENZO(A)PYRENE | mg/kg | 0.077 | 0.074 | 0.073 | 0.073 | Maximum Concentration |
| EUSA | SVOC | DIBENZO(A,H)ANTHRACENE | mg/kg | 0.083 | NA | 0.021 | 0.021 | Maximum Concentration |
| NFA | METALS | ALUMINUM | mg/kg | 3344 | 3646 | 21400 | 3646 | 95% H-UCL |
| NFA | METALS | ANTIMONY | mg/kg | 2.2 | 1.01 | 7.5 | 1.01 | KM H-UCL |
| NFA | METALS | ARSENIC | mg/kg | 18 | 43 | 697 | 43 | 95% KM (Chebyshev) UCL |
| NFA | METALS | BARIUM | mg/kg | 252 | 449 | 2960 | 449 | KM H-UCL |
| NFA | METALS | CHROMIUM, HEXAVALENT | mg/kg | 1.9 | 7.5 | 41 | 7.5 | 95% KM (Chebyshev) UCL |
| NFA | METALS | COBALT | mg/kg | 2.0 | 2.3 | 12 | 2.3 | 95% KM Approximate Gamma UCL |
| NFA | METALS | COPPER | mg/kg | 22 | 27 | 380 | 27 | 95% H-UCL |
| NFA | METALS | CYANIDE | mg/kg | 4.5 | 4.5 | 169 | 4.5 | KM H-UCL |
| NFA | METALS | IRON | mg/kg | 6896 | 7349 | 47400 | 7349 | 95% H-UCL |
| NFA | METALS | LEAD | mg/kg | 303 | 486 | 2290 | 303 | Arithmetic Mean |
| NFA | METALS | MANGANESE | mg/kg | 82 | 101 | 750 | 101 | 95% H-UCL |
| NFA | METALS | THALLIUM | mg/kg | 0.92 | 0.34 | 0.88 | 0.34 | 95% KM (t) UCL |
| NFA | METALS | VANADIUM | mg/kg | 11 | 15 | 55 | 15 | 95% KM (Chebyshev) UCL |
| NFA | PEST/PCB | AROCLOR-1248 | mg/kg | 0.036 | 0.048 | 0.44 | 0.048 | 95% KM Approximate Gamma UCL |
| NFA | PEST/PCB | AROCLOR-1254 | mg/kg | 0.042 | 0.040 | 0.22 | 0.040 | 95% KM Approximate Gamma UCL |
| NFA | PEST/PCB | AROCLOR-1260 | mg/kg | 2.0 | 3.2 | 52 | 3.2 | KM H-UCL |
| NFA | PEST/PCB | DIELDRIN | mg/kg | 0.012 | 0.036 | 0.27 | 0.036 | Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1) |
| NFA | SVOC | BENZO(A)ANTHRACENE | mg/kg | 0.82 | 2.1 | 34 | 2.1 | 95% KM (Chebyshev) UCL |
| NFA | SVOC | BENZO(A)PYRENE | mg/kg | 0.84 | 1.0 | 31 | 1.0 | KM H-UCL |
| NFA | SVOC | BENZO(B)FLUORANTHENE | mg/kg | 0.98 | 2.3 | 33 | 2.3 | 95% KM (Chebyshev) UCL |
| NFA | SVOC | BENZO(K)FLUORANTHENE | mg/kg | 0.80 | 1.9 | 26 | 1.9 | 95% KM (Chebyshev) UCL |
| NFA | SVOC | CHRYSENE | mg/kg | 0.90 | 0.76 | 35 | 0.76 | KM H-UCL |
| NFA | SVOC | DIBENZO(A,H)ANTHRACENE | mg/kg | 0.31 | 0.69 | 8.4 | 0.69 | 95% KM (Chebyshev) UCL |
| NFA | SVOC | INDENO(1,2,3-CD)PYRENE | mg/kg | 0.44 | 0.99 | 15 | 0.99 | 95% KM (Chebyshev) UCL |
| NFA | SVOC | NAPHTHALENE | mg/kg | 0.52 | 1.1 | 9.8 | 1.1 | 95% KM (Chebyshev) UCL |
| NFA | VOC | BENZENE | mg/kg | 1.0 | 0.42 | 4.2 | 0.42 | 95% KM Approximate Gamma UCL |

**Table 3.2**
**Exposure Point Concentrations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-2 ft bgs) |

| Exposure Point | Chemical Group | Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCLM | Maximum Concentration | Exposure Point Concentration | Statistic/Rationale |
|---|---|---|---|---|---|---|---|---|
| NFA | VOC | ETHYLBENZENE | mg/kg | 6.2 | 42 | 180 | 42 | 99% KM (Chebyshev) UCL |
| NFA | VOC | METHYLCYCLOHEXANE | mg/kg | 74 | 670 | 2900 | 670 | 99% KM (Chebyshev) UCL |
| NFA | VOC | TRICHLOROETHYLENE (TCE) | mg/kg | 1.0 | 0.051 | 0.55 | 0.051 | 95% KM Approximate Gamma UCL |
| NFA | TIC | 1,1-BIPHENYL, 2,3,4,4,5,5-HEXACHLOR | mg/kg | 1.2 | 2.1 | 2.9 | 2.1 | 95% Student's-t UCL |
| NFA | TIC | BENZO[J]FLUORANTHENE | mg/kg | 1.1 | 3.2 | 4.4 | 3.2 | 95% Adjusted Gamma UCL |
| SFA | METALS | ALUMINUM | mg/kg | 2414 | 2822 | 10100 | 2822 | 95% H-UCL |
| SFA | METALS | ANTIMONY | mg/kg | 30 | 119 | 1090 | 119 | 95% KM (Chebyshev) UCL |
| SFA | METALS | ARSENIC | mg/kg | 19 | 30 | 142 | 30 | Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1) |
| SFA | METALS | BARIUM | mg/kg | 363 | 625 | 3980 | 625 | KM H-UCL |
| SFA | METALS | CADMIUM | mg/kg | 8.2 | 1.2 | 401 | 1.2 | KM H-UCL |
| SFA | METALS | CHROMIUM, HEXAVALENT | mg/kg | 0.77 | 2.1 | 6.2 | 2.1 | 95% KM (Chebyshev) UCL |
| SFA | METALS | COBALT | mg/kg | 1.9 | 2.2 | 6.9 | 2.2 | 95% KM Approximate Gamma UCL |
| SFA | METALS | CYANIDE | mg/kg | 5.9 | 7.8 | 33 | 7.8 | 95% KM Approximate Gamma UCL |
| SFA | METALS | IRON | mg/kg | 6937 | 8483 | 28100 | 8483 | 95% H-UCL |
| SFA | METALS | LEAD | mg/kg | 1880 | 1318 | 103000 | 1880 | Arithmetic Mean |
| SFA | METALS | MANGANESE | mg/kg | 71 | 91 | 524 | 91 | 95% H-UCL |
| SFA | METALS | THALLIUM | mg/kg | 0.87 | 0.35 | 0.66 | 0.35 | 95% KM (t) UCL |
| SFA | METALS | VANADIUM | mg/kg | 11 | 13 | 45 | 13 | 95% H-UCL |
| SFA | METALS | ZINC | mg/kg | 382 | 445 | 12300 | 445 | KM H-UCL |
| SFA | PEST/PCB | AROCLOR-1254 | mg/kg | 0.047 | 0.054 | 0.49 | 0.054 | KM H-UCL |
| SFA | SVOC | BENZO(A)ANTHRACENE | mg/kg | 3.3 | 11 | 32 | 11 | KM H-UCL |
| SFA | SVOC | BENZO(A)PYRENE | mg/kg | 3.6 | 12 | 37 | 12 | KM H-UCL |
| SFA | SVOC | BENZO(B)FLUORANTHENE | mg/kg | 4.9 | 18 | 44 | 18 | KM H-UCL |
| SFA | SVOC | BENZO(K)FLUORANTHENE | mg/kg | 3.0 | 8.7 | 41 | 8.7 | KM H-UCL |
| SFA | SVOC | CHRYSENE | mg/kg | 4.5 | 15 | 55 | 15 | KM H-UCL |
| SFA | SVOC | DIBENZO(A,H)ANTHRACENE | mg/kg | 0.97 | 1.6 | 14 | 1.6 | KM H-UCL |
| SFA | SVOC | INDENO(1,2,3-CD)PYRENE | mg/kg | 2.6 | 5.6 | 37 | 5.6 | KM H-UCL |
| SFA | SVOC | NAPHTHALENE | mg/kg | 1.7 | 5.3 | 31 | 5.3 | 97.5% KM (Chebyshev) UCL |
| SFA | VOC | BENZENE | mg/kg | 0.38 | 0.28 | 2.1 | 0.28 | 95% KM (t) UCL |
| SFA | VOC | ETHYLBENZENE | mg/kg | 2.2 | 6.9 | 29 | 6.9 | Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1) |
| SFA | VOC | XYLENES (TOTAL) | mg/kg | 13 | 96 | 370 | 96 | 97.5% KM (Chebyshev) UCL |
| SFA | TIC | BENZO[J]FLUORANTHENE | mg/kg | 0.48 | NA | 0.70 | 0.70 | Maximum Concentration |

**Table 3.2**
**Exposure Point Concentrations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil |
| Exposure Medium: | Surface Soil (0-2 ft bgs) |

| Exposure Point | Chemical Group | Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCLM | Maximum Concentration | Exposure Point Concentration | Statistic/Rationale |
|---|---|---|---|---|---|---|---|---|
| UNDV | METALS | ALUMINUM | mg/kg | 3133 | 3481 | 12100 | 3481 | 95% Approximate Gamma UCL |
| UNDV | METALS | ANTIMONY | mg/kg | 14 | 12 | 515 | 12 | KM H-UCL |
| UNDV | METALS | ARSENIC | mg/kg | 74 | 124 | 1125 | 124 | 95% KM (Chebyshev) UCL |
| UNDV | METALS | BARIUM | mg/kg | 636 | 1289 | 14500 | 1289 | 95% KM (Chebyshev) UCL |
| UNDV | METALS | CADMIUM | mg/kg | 1.2 | 1.5 | 37 | 1.5 | KM H-UCL |
| UNDV | METALS | CHROMIUM, HEXAVALENT | mg/kg | 0.61 | 0.84 | 2.8 | 0.84 | 95% KM Adjusted Gamma UCL |
| UNDV | METALS | COBALT | mg/kg | 4.7 | 8.3 | 82 | 8.3 | 95% KM (Chebyshev) UCL |
| UNDV | METALS | COPPER | mg/kg | 65 | 129 | 1360 | 129 | KM H-UCL |
| UNDV | METALS | CYANIDE | mg/kg | 22 | 88 | 353 | 88 | KM H-UCL |
| UNDV | METALS | IRON | mg/kg | 11150 | 14897 | 49200 | 14897 | 95% Chebyshev (Mean, Sd) UCL |
| UNDV | METALS | LEAD | mg/kg | 665 | 1117 | 15200 | 665 | Arithmetic Mean |
| UNDV | METALS | MANGANESE | mg/kg | 134 | 184 | 1420 | 184 | 95% H-UCL |
| UNDV | METALS | MERCURY | mg/kg | 1.2 | 1.6 | 25 | 1.6 | KM H-UCL |
| UNDV | METALS | THALLIUM | mg/kg | 1.0 | 0.52 | 3.8 | 0.52 | 95% KM (t) UCL |
| UNDV | METALS | VANADIUM | mg/kg | 16 | 19 | 88 | 19 | KM H-UCL |
| UNDV | METALS | ZINC | mg/kg | 396 | 649 | 5270 | 649 | 95% KM (Chebyshev) UCL |
| UNDV | PEST/PCB | AROCLOR-1254 | mg/kg | 0.096 | 0.074 | 1.4 | 0.074 | 95% KM (t) UCL |
| UNDV | PEST/PCB | AROCLOR-1260 | mg/kg | 0.31 | 0.42 | 3.1 | 0.42 | 95% KM Approximate Gamma UCL |
| UNDV | PEST/PCB | DIELDRIN | mg/kg | 0.0092 | 0.0104 | 0.077 | 0.0104 | KM H-UCL |
| UNDV | SVOC | BENZO(A)ANTHRACENE | mg/kg | 1.9 | 3.1 | 29 | 3.1 | 95% KM (Chebyshev) UCL |
| UNDV | SVOC | BENZO(A)PYRENE | mg/kg | 2.3 | 3.8 | 37 | 3.8 | 95% KM (Chebyshev) UCL |
| UNDV | SVOC | BENZO(B)FLUORANTHENE | mg/kg | 3.3 | 4.5 | 76 | 4.5 | 95% KM Approximate Gamma UCL |
| UNDV | SVOC | BENZO(K)FLUORANTHENE | mg/kg | 2.3 | 3.1 | 37 | 3.1 | 95% KM Approximate Gamma UCL |
| UNDV | SVOC | CHRYSENE | mg/kg | 2.7 | 4.5 | 45 | 4.5 | 95% KM (Chebyshev) UCL |
| UNDV | SVOC | DIBENZO(A,H)ANTHRACENE | mg/kg | 0.47 | 0.59 | 4.9 | 0.59 | 95% KM Approximate Gamma UCL |
| UNDV | SVOC | INDENO(1,2,3-CD)PYRENE | mg/kg | 1.5 | 1.9 | 20 | 1.9 | 95% KM Approximate Gamma UCL |
| UNDV | SVOC | PENTACHLOROPHENOL | mg/kg | 2.2 | 0.53 | 8.7 | 0.53 | KM H-UCL |

Notes:

Only chemicals identified as COPCs presented.

NA – Could not calculate using ProUCL because only detected in one sample.

**Table 3.3**
**Exposure Point Concentrations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Medium: | Soil and Sediment |
| Exposure Medium: | Soil and Sediment for Lead Models |

| Exposure Area | Exposed Media | Receptor | Chemical of Potential Concern | Units | Soil Arithmetic Mean | Sediment Arithmetic Mean | EF Soil (d/yr) | EF Sediment (d/yr) | Exposure Point Concentration | Statistic |
|---|---|---|---|---|---|---|---|---|---|---|
| NFA | Soil (0-10 ft bgs) | Utility Worker | LEAD | mg/kg | 296 | NA | 25 | NA | 296 | Arithmetic mean |
| NFA | Soil (0-10 ft bgs) | Construction Worker | LEAD | mg/kg | 296 | NA | 250 | NA | 296 | Arithmetic mean |
| NFA | Soil (0-2 ft bgs) | Outdoor Worker | LEAD | mg/kg | 303 | NA | 225 | NA | 303 | Arithmetic mean |
| NFA | Soil (0-0.5 ft bgs) | Child Resident | LEAD | mg/kg | 230 | NA | 350 | NA | 230 | Arithmetic mean |
| SFA | Soil (0-10 ft bgs) | Utility Worker | LEAD | mg/kg | 911 | NA | 25 | NA | 911 | Arithmetic mean |
| SFA | Soil (0-10 ft bgs) | Construction Worker | LEAD | mg/kg | 911 | NA | 250 | NA | 911 | Arithmetic mean |
| SFA | Soil (0-2 ft bgs) | Outdoor Worker | LEAD | mg/kg | 1,880 | NA | 225 | NA | 1,880 | Arithmetic mean |
| SFA | Soil (0-0.5 ft bgs) | Child Resident | LEAD | mg/kg | 2,925 | NA | 350 | NA | 2,925 | Arithmetic mean |
| UNDV | Soil (0-10 ft bgs) | Utility Worker | LEAD | mg/kg | 682 | NA | 25 | NA | 682 | Arithmetic mean |
| UNDV | Soil (0-10 ft bgs) | Construction Worker | LEAD | mg/kg | 682 | NA | 250 | NA | 682 | Arithmetic mean |
| UNDV | Soil (0-2 ft bgs) | Outdoor Worker | LEAD | mg/kg | 665 | NA | 225 | NA | 665 | Arithmetic mean |
| UNDV | Soil (0-0.5 ft bgs) | Child Resident | LEAD | mg/kg | 339 | NA | 350 | NA | 339 | Arithmetic mean |
| UNDV+UHC | Soil (0-2 ft bgs)+Sediment (0-0.5 ft bgs) | Adult Recreator | LEAD | mg/kg | 665 | 1,788 | 150 | 44 | 1,189 | Weighted mean |
| UNDV+UHC | Soil (0-2 ft bgs)+Sediment (0-0.5 ft bgs) | Adolescent Recreator | LEAD | mg/kg | 665 | 1,788 | 150 | 44 | 1,189 | Weighted mean |
| UNDV+UHC | Soil (0-2 ft bgs)+Sediment (0-0.5 ft bgs) | Child Recreator | LEAD | mg/kg | 665 | 1,788 | 150 | 44 | 1,189 | Weighted mean |

Note:
NA – Sediment was not evaluated for this receptor in this exposure area.

**Table 3.4**
**Exposure Point Concentrations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Sediment |
| Exposure Medium: | Sediment (0-0.5 ft bgs) |

| Exposure Point | Chemical Group | Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCLM | Maximum Concentration | Exposure Point Concentration | Statistic/Rationale |
|---|---|---|---|---|---|---|---|---|
| UHC | METALS | ALUMINUM | mg/kg | 2176 | 3339 | 8210 | 3339 | 95% Adjusted Gamma UCL |
| UHC | METALS | ANTIMONY | mg/kg | 9.9 | 17 | 42 | 17 | 95% KM (t) UCL |
| UHC | METALS | ARSENIC | mg/kg | 225 | 1700 | 1720 | 1700 | 99% Chebyshev (Mean, Sd) UCL |
| UHC | METALS | BARIUM | mg/kg | 546 | 2382 | 4030 | 2382 | 975% KM (Chebyshev) UCL |
| UHC | METALS | CHROMIUM | mg/kg | 278 | 1826 | 2070 | 91 | 99% Chebyshev (Mean, Sd) UCL |
| UHC | METALS | COBALT | mg/kg | 2.5 | 5.4 | 12 | 5.4 | 95% KM Adjusted Gamma UCL |
| UHC | METALS | COPPER | mg/kg | 64 | 164 | 330 | 164 | 95% Adjusted Gamma UCL |
| UHC | METALS | CYANIDE | mg/kg | 125 | 3252 | 651 | 651 | Maximum Concentration |
| UHC | METALS | IRON | mg/kg | 5781 | 7329 | 13500 | 7329 | 95% Student's-t UCL |
| UHC | METALS | LEAD | mg/kg | 1788 | 10269 | 10900 | 1788 | Arithmetic Mean |
| UHC | METALS | THALLIUM | mg/kg | 1.4 | 2.4 | 5.5 | 2.4 | 95% KM (t) UCL |
| UHC | PEST/PCB | AROCLOR-1254 | mg/kg | 0.12 | 0.26 | 0.48 | 0.26 | 95% KM Adjusted Gamma UCL |
| UHC | PEST/PCB | AROCLOR-1260 | mg/kg | 0.095 | 0.15 | 0.34 | 0.15 | 95% KM (t) UCL |
| UHC | SVOC | BENZO(A)ANTHRACENE | mg/kg | 4.1 | 6.1 | 15 | 6.1 | 95% Student's-t UCL |
| UHC | SVOC | BENZO(A)PYRENE | mg/kg | 4.2 | 6.2 | 15 | 6.2 | 95% KM (t) UCL |
| UHC | SVOC | BENZO(B)FLUORANTHENE | mg/kg | 4.1 | 6.0 | 15 | 6.0 | 95% Student's-t UCL |
| UHC | SVOC | BENZO(K)FLUORANTHENE | mg/kg | 4.2 | 8.3 | 19 | 8.3 | 95% Adjusted Gamma UCL |
| UHC | SVOC | CHRYSENE | mg/kg | 5.1 | 9.9 | 19 | 9.9 | 95% Adjusted Gamma UCL |
| UHC | SVOC | DIBENZO(A,H)ANTHRACENE | mg/kg | 0.81 | 1.2 | 3.0 | 1.2 | 95% KM (t) UCL |
| UHC | SVOC | INDENO(1,2,3-CD)PYRENE | mg/kg | 2.1 | 4.2 | 8.1 | 4.2 | Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1) |
| UHC | TIC | BENZO[J]FLUORANTHENE | mg/kg | 0.8 | NA | 1.1 | 1.1 | Maximum Concentration |

Notes:
Only chemicals identified as COPCs presented.
NA - Could not calculate using ProUCL because only detected in one sample.
Chromium EPC is for Cr(VI). EPC was calculated as (5% * 95UCLM).

**Table 3.5**
**Exposure Point Concentrations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Surface Water |
| Exposure Medium: | Surface Water |

| Exposure Point | Chemical Group | Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCLM | Maximum Concentration | Exposure Point Concentration | Statistic/Rationale |
|---|---|---|---|---|---|---|---|---|
| UHC | METALS | ANTIMONY | mg/L | 0.0016 | NA | 0.0029 | 0.0029 | Maximum Concentration |
| UHC | METALS | ARSENIC | mg/L | 0.032 | 0.057 | 0.098 | 0.057 | 95% H-UCL |
| UHC | METALS | BARIUM | mg/L | 0.18 | 0.28 | 0.39 | 0.28 | 95% H-UCL |
| UHC | METALS | CHROMIUM | mg/L | 0.0021 | 0.0038 | 0.012 | 0.0038 | 95% KM (t) UCL |
| UHC | METALS | CYANIDE | mg/L | 0.0055 | 0.0097 | 0.019 | 0.0097 | 95% KM (t) UCL |
| UHC | METALS | IRON | mg/L | 3.9 | 6.2 | 18 | 6.2 | 95% Adjusted Gamma UCL |
| UHC | METALS | LEAD | mg/L | 0.0098 | 0.018 | 0.066 | 0.0098 | Arithmetic Mean |
| UHC | METALS | MANGANESE | mg/L | 0.18 | 0.29 | 0.43 | 0.29 | 95% H-UCL |
| UHC | METALS | THALLIUM | mg/L | 0.0025 | 0.0036 | 0.0072 | 0.0036 | 95% KM (t) UCL |
| UHC | METALS | VANADIUM | mg/L | 0.0015 | 0.0028 | 0.0089 | 0.0028 | 95% KM (t) UCL |
| UHC | SVOC | BENZO(A)PYRENE | mg/L | 0.0049 | NA | 0.0010 | 0.0010 | Maximum Concentration |
| UHC | SVOC | BENZO(B)FLUORANTHENE | mg/L | 0.0050 | NA | 0.0020 | 0.0020 | Maximum Concentration |
| UHC | SVOC | INDENO(1,2,3-CD)PYRENE | mg/L | 0.0049 | NA | 0.0010 | 0.0010 | Maximum Concentration |
| UHC | SVOC | NAPHTHALENE | mg/L | 0.0046 | 0.00054 | 0.00050 | 0.00050 | Maximum Concentration |
| UHC | VOC | 1,4-DICHLOROBENZENE | mg/L | 0.0046 | NA | 0.00070 | 0.00070 | Maximum Concentration |
| UHC | VOC | BENZENE | mg/L | 0.0044 | 0.0053 | 0.0060 | 0.0053 | 95% KM (t) UCL |
| UHC | VOC | DICHLOROMETHANE | mg/L | 0.0070 | 0.0071 | 0.019 | 0.0071 | 95% KM (t) UCL |
| UHC | VOC | VINYL CHLORIDE | mg/L | 0.0045 | NA | 0.0010 | 0.0010 | Maximum Concentration |

Notes:

Only chemicals identified as COPCs presented.

NA – Could not calculate using ProUCL because only detected in one sample.

**Table 3.6**
**Exposure Point Concentrations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil (0-10 ft bgs) |
| Exposure Medium: | Soil Particulates/Volatiles in Air |

| Exposure Point | Chemical Group | Chemical of Potential Concern | Soil Exposure Point Concentration ($EPC_{soil}$) (mg/kg) | Volatilization Factor (VF) ($m^3$/kg) | Modeled Air Concentration ($EPC_{air}$) (mg/$m^3$) |
|---|---|---|---|---|---|
| EUSA | METALS | ARSENIC | 2.4 | - | 7.5E-10 |
| EUSA | METALS | CHROMIUM, HEXAVALENT | 0.73 | - | 2.3E-10 |
| EUSA | METALS | COBALT | 3.1 | - | 9.5E-10 |
| EUSA | METALS | IRON | 6604 | - | 2.1E-06 |
| EUSA | METALS | THALLIUM | 0.33 | - | 1.0E-10 |
| EUSA | SVOC | BENZO(A)PYRENE | 0.073 | - | 2.3E-11 |
| EUSA | SVOC | DIBENZO(A,H)ANTHRACENE | 0.021 | - | 6.6E-12 |
| NFA | METALS | ALUMINUM | 3336 | - | 1.0E-06 |
| NFA | METALS | ANTIMONY | 1.30 | - | 4.1E-10 |
| NFA | METALS | ARSENIC | 23 | - | 7.3E-09 |
| NFA | METALS | BARIUM | 380 | - | 1.2E-07 |
| NFA | METALS | CADMIUM | 0.34 | - | 1.1E-10 |
| NFA | METALS | CHROMIUM, HEXAVALENT | 35 | - | 1.1E-08 |
| NFA | METALS | COBALT | 1.8 | - | 5.7E-10 |
| NFA | METALS | COPPER | 25 | - | 7.7E-09 |
| NFA | METALS | CYANIDE | 4.6 | 75,481 | 6.1E-05 |
| NFA | METALS | IRON | 7199 | - | 2.2E-06 |
| NFA | METALS | LEAD | 296 | - | 9.2E-08 |
| NFA | METALS | MANGANESE | 106 | - | 3.3E-08 |
| NFA | METALS | THALLIUM | 0.29 | - | 8.9E-11 |
| NFA | METALS | VANADIUM | 12 | - | 3.8E-09 |
| NFA | METALS | ZINC | 190 | - | 5.9E-08 |
| NFA | PEST/PCB | ALDRIN | 0.012 | 2,198,710 | 5.4E-09 |
| NFA | PEST/PCB | AROCLOR-1254 | 0.027 | 1,080,012 | 2.5E-08 |
| NFA | PEST/PCB | AROCLOR-1260 | 25 | 1,684,174 | 1.5E-05 |
| NFA | PEST/PCB | DIELDRIN | 0.017 | - | 5.4E-12 |
| NFA | SVOC | 1,1'-BIPHENYL | 0.62 | 146,027 | 4.3E-06 |
| NFA | SVOC | 2-METHYLNAPHTHALENE | 4.4 | 74,310 | 6.0E-05 |
| NFA | SVOC | BENZO(A)ANTHRACENE | 2.4 | 5,652,776 | 4.2E-07 |
| NFA | SVOC | BENZO(A)PYRENE | 2.1 | - | 6.7E-10 |
| NFA | SVOC | BENZO(B)FLUORANTHENE | 2.3 | - | 7.1E-10 |
| NFA | SVOC | BENZO(K)FLUORANTHENE | 1.6 | - | 5.0E-10 |
| NFA | SVOC | CARBAZOLE | 0.89 | - | 2.8E-10 |
| NFA | SVOC | CHRYSENE | 2.3 | - | 7.3E-10 |
| NFA | SVOC | DIBENZO(A,H)ANTHRACENE | 0.45 | - | 1.4E-10 |
| NFA | SVOC | DIBENZOFURAN | 0.79 | 250,968 | 3.1E-06 |
| NFA | SVOC | INDENO(1,2,3-CD)PYRENE | 1.2 | - | 3.6E-10 |
| NFA | SVOC | NAPHTHALENE | 11 | 59,369 | 1.9E-04 |
| NFA | VOC | BENZENE | 0.037 | 4,531 | 8.2E-06 |
| NFA | VOC | ETHYLBENZENE | 25 | 7,261 | 3.5E-03 |
| NFA | VOC | METHYLCYCLOHEXANE | 2900 | 1,336 | 2.2E+00 |
| NFA | VOC | TRICHLOROETHYLENE (TCE) | 0.035 | 2,830 | 1.2E-05 |
| NFA | VOC | XYLENES (TOTAL) | 409 | 7,351 | 5.6E-02 |

**Table 3.6**
**Exposure Point Concentrations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil (0-10 ft bgs) |
| Exposure Medium: | Soil Particulates/Volatiles in Air |

| Exposure Point | Chemical Group | Chemical of Potential Concern | Soil Exposure Point Concentration ($EPC_{soil}$) (mg/kg) | Volatilization Factor (VF) ($m^3$/kg) | Modeled Air Concentration ($EPC_{air}$) (mg/$m^3$) |
|---|---|---|---|---|---|
| NFA | TIC | 1,2,4-TRIMETHYLBENZENE | 156 | 10,140 | 1.5E-02 |
| NFA | TIC | BENZENE, 1,2,3-TRIMETHYL- | 169 | 12,092 | 1.4E-02 |
| NFA | TIC | BENZENE, 1,3,5-TRIMETHYL- | 370 | 8,471 | 4.4E-02 |
| NFA | TIC | NAPHTHALENE, 1-METHYL- | 4.1 | 75,099 | 5.4E-05 |
| SFA | METALS | ALUMINUM | 2728 | - | 8.5E-07 |
| SFA | METALS | ANTIMONY | 51 | - | 1.6E-08 |
| SFA | METALS | ARSENIC | 26 | - | 8.1E-09 |
| SFA | METALS | BARIUM | 474 | - | 1.5E-07 |
| SFA | METALS | CADMIUM | 0.47 | - | 1.5E-10 |
| SFA | METALS | CHROMIUM, HEXAVALENT | 0.91 | - | 2.9E-10 |
| SFA | METALS | COBALT | 1.8 | - | 5.8E-10 |
| SFA | METALS | CYANIDE | 6.9 | 75,481 | 9.1E-05 |
| SFA | METALS | IRON | 6234 | - | 1.9E-06 |
| SFA | METALS | LEAD | 911 | - | 2.8E-07 |
| SFA | METALS | MANGANESE | 47 | - | 1.5E-08 |
| SFA | METALS | MERCURY | 0.41 | - | 1.3E-10 |
| SFA | METALS | THALLIUM | 0.47 | - | 1.5E-10 |
| SFA | METALS | VANADIUM | 11 | - | 3.6E-09 |
| SFA | METALS | ZINC | 471 | - | 1.5E-07 |
| SFA | PEST/PCB | AROCLOR-1254 | 0.042 | 1,080,012 | 3.9E-08 |
| SFA | SVOC | 2-METHYLNAPHTHALENE | 2.9 | 74,310 | 3.9E-05 |
| SFA | SVOC | BENZO(A)ANTHRACENE | 3.2 | 5,652,776 | 5.6E-07 |
| SFA | SVOC | BENZO(A)PYRENE | 2.8 | - | 8.8E-10 |
| SFA | SVOC | BENZO(B)FLUORANTHENE | 4.6 | - | 1.4E-09 |
| SFA | SVOC | BENZO(K)FLUORANTHENE | 3.0 | - | 9.3E-10 |
| SFA | SVOC | CHRYSENE | 4.4 | - | 1.4E-09 |
| SFA | SVOC | DIBENZO(A,H)ANTHRACENE | 1.4 | - | 4.4E-10 |
| SFA | SVOC | INDENO(1,2,3-CD)PYRENE | 2.5 | - | 7.9E-10 |
| SFA | SVOC | NAPHTHALENE | 7.9 | 59,369 | 1.3E-04 |
| SFA | SVOC | PENTACHLOROPHENOL | 0.30 | - | 9.3E-11 |
| SFA | VOC | BENZENE | 0.20 | 4,531 | 4.4E-05 |
| SFA | VOC | ETHYLBENZENE | 3.9 | 7,261 | 5.4E-04 |
| SFA | VOC | XYLENES (TOTAL) | 35 | 7,351 | 4.8E-03 |
| SFA | TIC | 1,2,4-TRIMETHYLBENZENE | 480 | 10,140 | 4.7E-02 |
| SFA | TIC | BENZENE, 1,2,3-TRIMETHYL- | 111 | 12,092 | 9.2E-03 |
| SFA | TIC | BENZENE, 1,3,5-TRIMETHYL- | 180 | 8,471 | 2.1E-02 |
| UNDV | METALS | ALUMINUM | 3326 | - | 1.0E-06 |
| UNDV | METALS | ANTIMONY | 7.2 | - | 2.2E-09 |
| UNDV | METALS | ARSENIC | 171 | - | 5.4E-08 |
| UNDV | METALS | BARIUM | 835 | - | 2.6E-07 |
| UNDV | METALS | CADMIUM | 0.9 | - | 2.8E-10 |
| UNDV | METALS | CHROMIUM, HEXAVALENT | 0.84 | - | 2.6E-10 |
| UNDV | METALS | COBALT | 4.2 | - | 1.3E-09 |
| UNDV | METALS | COPPER | 83 | - | 2.6E-08 |

**Table 3.6**
**Exposure Point Concentrations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil (0-10 ft bgs) |
| Exposure Medium: | Soil Particulates/Volatiles in Air |

| Exposure Point | Chemical Group | Chemical of Potential Concern | Soil Exposure Point Concentration ($EPC_{soil}$) (mg/kg) | Volatilization Factor (VF) ($m^3$/kg) | Modeled Air Concentration ($EPC_{air}$) (mg/$m^3$) |
|---|---|---|---|---|---|
| UNDV | METALS | CYANIDE | 47 | 75,481 | 6.2E-04 |
| UNDV | METALS | IRON | 11177 | - | 3.5E-06 |
| UNDV | METALS | LEAD | 682 | - | 2.1E-07 |
| UNDV | METALS | MANGANESE | 146 | - | 4.5E-08 |
| UNDV | METALS | MERCURY | 1.1 | - | 3.5E-10 |
| UNDV | METALS | THALLIUM | 0.48 | - | 1.5E-10 |
| UNDV | METALS | VANADIUM | 15 | - | 4.6E-09 |
| UNDV | METALS | ZINC | 470 | - | 1.5E-07 |
| UNDV | PEST/PCB | AROCLOR-1254 | 0.062 | 1,080,012 | 5.7E-08 |
| UNDV | PEST/PCB | AROCLOR-1260 | 0.27 | 1,684,174 | 1.6E-07 |
| UNDV | PEST/PCB | DIELDRIN | 0.0064 | - | 2.0E-12 |
| UNDV | SVOC | BENZO(A)ANTHRACENE | 2.1 | 5,652,776 | 3.7E-07 |
| UNDV | SVOC | BENZO(A)PYRENE | 2.5 | - | 7.7E-10 |
| UNDV | SVOC | BENZO(B)FLUORANTHENE | 3.7 | - | 1.2E-09 |
| UNDV | SVOC | BENZO(K)FLUORANTHENE | 2.6 | - | 8.1E-10 |
| UNDV | SVOC | CHRYSENE | 2.9 | - | 9.2E-10 |
| UNDV | SVOC | DIBENZO(A,H)ANTHRACENE | 0.39 | - | 1.2E-10 |
| UNDV | SVOC | INDENO(1,2,3-CD)PYRENE | 1.6 | - | 5.0E-10 |
| UNDV | SVOC | PENTACHLOROPHENOL | 24 | - | 7.4E-09 |

Notes:
Only chemicals identified as COPCs in soil (0-10 ft) presented.

$EPC_{air} = EPC_{soil} \times (1/VF + 1/PEF)$

| | | |
|---|---|---|
| Volatilization Factor (VF) ($m^3$/kg) = | Chemical-specific | Based on values for Philadelphia (US EPA, 2017c). |
| Particulate Emissions Factor (PEF) ($m^3$/kg)= | 3.2E+09 | Default value for Philadelphia (US EPA, 1996, 2017c). |

**Table 3.7**
**Exposure Point Concentrations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil (0-2 ft bgs) |
| Exposure Medium: | Soil Particulates/Volatiles in Air |

| Exposure Point | Chemical Group | Chemical of Potential Concern | Soil Exposure Point Concentration ($EPC_{soil}$) (mg/kg) | Volatilization Factor (VF) ($m^3$/kg) | Modeled Air Concentration ($EPC_{air}$) (mg/$m^3$) |
|---|---|---|---|---|---|
| EUSA | METALS | ARSENIC | 2.5 | - | 7.7E-10 |
| EUSA | METALS | CHROMIUM, HEXAVALENT | 0.61 | - | 1.9E-10 |
| EUSA | METALS | COBALT | 3.1 | - | 9.7E-10 |
| EUSA | METALS | IRON | 6803 | - | 2.1E-06 |
| EUSA | METALS | THALLIUM | 0.33 | - | 1.0E-10 |
| EUSA | SVOC | BENZO(A)PYRENE | 0.073 | - | 2.3E-11 |
| EUSA | SVOC | DIBENZO(A,H)ANTHRACENE | 0.021 | - | 6.6E-12 |
| NFA | METALS | ALUMINUM | 3646 | - | 1.1E-06 |
| NFA | METALS | ANTIMONY | 1.01 | - | 3.2E-10 |
| NFA | METALS | ARSENIC | 43 | - | 1.3E-08 |
| NFA | METALS | BARIUM | 449 | - | 1.4E-07 |
| NFA | METALS | CHROMIUM, HEXAVALENT | 7.5 | - | 2.3E-09 |
| NFA | METALS | COBALT | 2.3 | - | 7.3E-10 |
| NFA | METALS | COPPER | 27 | - | 8.5E-09 |
| NFA | METALS | CYANIDE | 4.5 | 75,481 | 6.0E-05 |
| NFA | METALS | IRON | 7349 | - | 2.3E-06 |
| NFA | METALS | LEAD | 303 | - | 9.5E-08 |
| NFA | METALS | MANGANESE | 101 | - | 3.2E-08 |
| NFA | METALS | THALLIUM | 0.34 | - | 1.1E-10 |
| NFA | METALS | VANADIUM | 15 | - | 4.5E-09 |
| NFA | PEST/PCB | AROCLOR-1248 | 0.048 | 801,237 | 6.0E-08 |
| NFA | PEST/PCB | AROCLOR-1254 | 0.040 | 1,080,012 | 3.7E-08 |
| NFA | PEST/PCB | AROCLOR-1260 | 3.2 | 1,684,174 | 1.9E-06 |
| NFA | PEST/PCB | DIELDRIN | 0.036 | - | 1.1E-11 |
| NFA | SVOC | BENZO(A)ANTHRACENE | 2.1 | 5,652,776 | 3.7E-07 |
| NFA | SVOC | BENZO(A)PYRENE | 1.0 | - | 3.3E-10 |
| NFA | SVOC | BENZO(B)FLUORANTHENE | 2.3 | - | 7.2E-10 |
| NFA | SVOC | BENZO(K)FLUORANTHENE | 1.9 | - | 6.1E-10 |
| NFA | SVOC | CHRYSENE | 0.76 | - | 2.4E-10 |
| NFA | SVOC | DIBENZO(A,H)ANTHRACENE | 0.69 | - | 2.1E-10 |
| NFA | SVOC | INDENO(1,2,3-CD)PYRENE | 0.99 | - | 3.1E-10 |
| NFA | SVOC | NAPHTHALENE | 1.1 | 59,369 | 1.9E-05 |
| NFA | VOC | BENZENE | 0.42 | 4,531 | 9.3E-05 |
| NFA | VOC | ETHYLBENZENE | 42 | 7,261 | 5.8E-03 |
| NFA | VOC | METHYLCYCLOHEXANE | 670 | 1,336 | 5.0E-01 |
| NFA | VOC | TRICHLOROETHYLENE (TCE) | 0.051 | 2,830 | 1.8E-05 |
| NFA | TIC | 1,1-BIPHENYL, 2,3,4,4,5,5-HEXACHLORO | 2.1 | 2,818,138 | 7.6E-07 |
| NFA | TIC | BENZO[J]FLUORANTHENE | 3.2 | - | 9.9E-10 |
| SFA | METALS | ALUMINUM | 2822 | - | 8.8E-07 |
| SFA | METALS | ANTIMONY | 119 | - | 3.7E-08 |
| SFA | METALS | ARSENIC | 30 | - | 9.3E-09 |
| SFA | METALS | BARIUM | 625 | - | 2.0E-07 |
| SFA | METALS | CADMIUM | 1.2 | - | 3.9E-10 |
| SFA | METALS | CHROMIUM, HEXAVALENT | 2.1 | - | 6.5E-10 |

**Table 3.7**
**Exposure Point Concentrations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil (0-2 ft bgs) |
| Exposure Medium: | Soil Particulates/Volatiles in Air |

| Exposure Point | Chemical Group | Chemical of Potential Concern | Soil Exposure Point Concentration ($EPC_{soil}$) (mg/kg) | Volatilization Factor (VF) ($m^3$/kg) | Modeled Air Concentration ($EPC_{air}$) (mg/$m^3$) |
|---|---|---|---|---|---|
| SFA | METALS | COBALT | 2.2 | - | 7.0E-10 |
| SFA | METALS | CYANIDE | 7.8 | 75,481 | 1.0E-04 |
| SFA | METALS | IRON | 8483 | - | 2.7E-06 |
| SFA | METALS | LEAD | 1880 | - | 5.9E-07 |
| SFA | METALS | MANGANESE | 91 | - | 2.9E-08 |
| SFA | METALS | THALLIUM | 0.35 | - | 1.1E-10 |
| SFA | METALS | VANADIUM | 13 | - | 3.9E-09 |
| SFA | METALS | ZINC | 445 | - | 1.4E-07 |
| SFA | PEST/PCB | AROCLOR-1254 | 0.054 | 1,080,012 | 5.0E-08 |
| SFA | SVOC | BENZO(A)ANTHRACENE | 11 | 5,652,776 | 1.9E-06 |
| SFA | SVOC | BENZO(A)PYRENE | 12 | - | 3.8E-09 |
| SFA | SVOC | BENZO(B)FLUORANTHENE | 18 | - | 5.7E-09 |
| SFA | SVOC | BENZO(K)FLUORANTHENE | 8.7 | - | 2.7E-09 |
| SFA | SVOC | CHRYSENE | 15 | - | 4.7E-09 |
| SFA | SVOC | DIBENZO(A,H)ANTHRACENE | 1.6 | - | 5.0E-10 |
| SFA | SVOC | INDENO(1,2,3-CD)PYRENE | 5.6 | - | 1.7E-09 |
| SFA | SVOC | NAPHTHALENE | 5.3 | 59,369 | 8.9E-05 |
| SFA | VOC | BENZENE | 0.28 | 4,531 | 6.2E-05 |
| SFA | VOC | ETHYLBENZENE | 6.9 | 7,261 | 9.6E-04 |
| SFA | VOC | XYLENES (TOTAL) | 96 | 7,351 | 1.3E-02 |
| SFA | TIC | BENZO[J]FLUORANTHENE | 0.70 | - | 2.2E-10 |
| UNDV | METALS | ALUMINUM | 3481 | - | 1.1E-06 |
| UNDV | METALS | ANTIMONY | 12 | - | 3.7E-09 |
| UNDV | METALS | ARSENIC | 124 | - | 3.9E-08 |
| UNDV | METALS | BARIUM | 1289 | - | 4.0E-07 |
| UNDV | METALS | CADMIUM | 1.5 | - | 4.5E-10 |
| UNDV | METALS | CHROMIUM, HEXAVALENT | 0.84 | - | 2.6E-10 |
| UNDV | METALS | COBALT | 8.3 | - | 2.6E-09 |
| UNDV | METALS | COPPER | 129 | - | 4.0E-08 |
| UNDV | METALS | CYANIDE | 88 | 75,481 | 1.2E-03 |
| UNDV | METALS | IRON | 14897 | - | 4.7E-06 |
| UNDV | METALS | LEAD | 665 | - | 2.1E-07 |
| UNDV | METALS | MANGANESE | 184 | - | 5.7E-08 |
| UNDV | METALS | MERCURY | 1.6 | - | 5.1E-10 |
| UNDV | METALS | THALLIUM | 0.52 | - | 1.6E-10 |
| UNDV | METALS | VANADIUM | 19 | - | 6.0E-09 |
| UNDV | METALS | ZINC | 649 | - | 2.0E-07 |
| UNDV | PEST/PCB | AROCLOR-1254 | 0.074 | 1,080,012 | 6.8E-08 |
| UNDV | PEST/PCB | AROCLOR-1260 | 0.42 | 1,684,174 | 2.5E-07 |
| UNDV | PEST/PCB | DIELDRIN | 0.0104 | - | 3.3E-12 |
| UNDV | SVOC | BENZO(A)ANTHRACENE | 3.1 | 5,652,776 | 5.6E-07 |
| UNDV | SVOC | BENZO(A)PYRENE | 3.8 | - | 1.2E-09 |
| UNDV | SVOC | BENZO(B)FLUORANTHENE | 4.5 | - | 1.4E-09 |
| UNDV | SVOC | BENZO(K)FLUORANTHENE | 3.1 | - | 9.7E-10 |

**Table 3.7**
**Exposure Point Concentrations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Soil (0-2 ft bgs) |
| Exposure Medium: | Soil Particulates/Volatiles in Air |

| Exposure Point | Chemical Group | Chemical of Potential Concern | Soil Exposure Point Concentration ($EPC_{soil}$) (mg/kg) | Volatilization Factor (VF) ($m^3$/kg) | Modeled Air Concentration ($EPC_{air}$) (mg/$m^3$) |
|---|---|---|---|---|---|
| UNDV | SVOC | CHRYSENE | 4.5 | - | 1.4E-09 |
| UNDV | SVOC | DIBENZO(A,H)ANTHRACENE | 0.59 | - | 1.8E-10 |
| UNDV | SVOC | INDENO(1,2,3-CD)PYRENE | 1.9 | - | 5.9E-10 |
| UNDV | SVOC | PENTACHLOROPHENOL | 0.53 | - | 1.7E-10 |

Notes:

Only chemicals identified as COPCs in soil (0-2 ft) presented.

$EPC_{air} = EPC_{soil} \times (1/VF + 1/PEF)$

| | | |
|---|---|---|
| Volatilization Factor (VF) ($m^3$/kg) = | Chemical-specific | Based on values for Philadelphia (US EPA, 2017c). |
| Particulate Emissions Factor (PEF) ($m^3$/kg)= | 3.2E+09 | Default value for Philadelphia (US EPA, 1996, 2017c). |

**Table 4.1**
**Values Used for Daily Intake Calculations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current and/or Future |
| Medium: | Soil |
| Exposure Medium: | Soil |

| Exposure Route | Receptor Population | Receptor Age | Exposure Point | Parameter Code | Parameter Definition | Value | Units | Rationale/Reference | Intake Equation/Model Name |
|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Construction Worker | Adult | EUSA NFA SFA UNDV | CS | Chemical Concentration in Soil | C-S | mg/kg | See Table 3.1. | Chronic Daily Intake (CDI) = |
| | | | | IR_S | Ingestion Rate - Soil | 330 | mg/day | Recommended value for construction worker (US EPA, 2002). | (CS x IR-S x B x FS x EF x ED x CF) / (BW x AT) |
| | | | | B | Relative Bioavailability | C-S | unitless | Chemical-specific. | |
| | | | | FS | Fraction Ingested from Site | 1 | unitless | Professional judgment. | |
| | | | | EF_S | Exposure Frequency | 250 | days/year | US EPA, 2014. | |
| | | | | ED | Exposure Duration | 1 | years | Professional judgment. | |
| | | | | CF | Conversion Factor | 1.00E-06 | kg/mg | | |
| | | | | BW | Body Weight | 80 | kg | Weighted mean value (US EPA, 2014). | |
| | | | | AT-C | Averaging Time (Cancer) | 25,550 | days | 70-year lifetime * 365 days. | |
| | | | | AT-NC | Averaging Time (Non-Cancer) | 365 | days | Exposure Duration * 365 days. | |
| | Utility Worker | Adult | EUSA NFA SFA UNDV | CS | Chemical Concentration in Soil | C-S | mg/kg | See Table 3.1. | Chronic Daily Intake (CDI) = |
| | | | | IR_S | Ingestion Rate - Soil | 330 | mg/day | Recommended value for construction worker (US EPA, 2002). | (CS x IR-S x B x FS x EF x ED x CF) / (BW x AT) |
| | | | | B | Relative Bioavailability | C-S | unitless | Chemical-specific. | |
| | | | | FS | Fraction Ingested from Site | 1 | unitless | Professional judgment. | |
| | | | | EF_S | Exposure Frequency | 10 | days/year | Professional judgment. | |
| | | | | ED | Exposure Duration | 25 | years | US EPA, 2014. | |
| | | | | CF | Conversion Factor | 1E-06 | kg/mg | | |
| | | | | BW | Body Weight | 80 | kg | Weighted mean value (US EPA, 2014). | |
| | | | | AT-C | Averaging Time (Cancer) | 25,550 | days | 70-year lifetime * 365 days. | |
| | | | | AT-NC | Averaging Time (Non-Cancer) | 9,125 | days | Exposure Duration * 365 days. | |
| | Outdoor Worker | Adult | EUSA NFA SFA UNDV | CS | Chemical Concentration in Soil | C-S | mg/kg | See Table 3.2. | Chronic Daily Intake (CDI) = |
| | | | | IR_S | Ingestion Rate - Soil | 100 | mg/day | Recommended value for an outdoor worker (US EPA, 2014). | (CS x IR-S x B x FS x EF x ED x CF) / (BW x AT) |
| | | | | B | Relative Bioavailability | C-S | unitless | Chemical-specific. | |
| | | | | FS | Fraction Ingested from Site | 1 | unitless | Professional judgment. | |
| | | | | EF_S | Exposure Frequency | 225 | days/year | US EPA, 2014. | |
| | | | | ED | Exposure Duration | 25 | years | US EPA, 2014. | |
| | | | | CF | Conversion Factor | 1E-06 | kg/mg | | |
| | | | | BW | Body Weight | 80 | kg | Weighted mean value (US EPA, 2014). | |
| | | | | AT-C | Averaging Time (Cancer) | 25,550 | days | 70-year lifetime * 365 days. | |
| | | | | AT-NC | Averaging Time (Non-Cancer) | 9,125 | days | Exposure Duration * 365 days. | |

**Table 4.1**
**Values Used for Daily Intake Calculations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current and/or Future |
| Medium: | Soil |
| Exposure Medium: | Soil |

| Exposure Route | Receptor Population | Receptor Age | Exposure Point | Parameter Code | Parameter Definition | Value | Units | Rationale/Reference | Intake Equation/Model Name |
|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Recreator | Adult | UNDV | CS | Chemical Concentration in Soil | C-S | mg/kg | See Table 3.2. | Chronic Daily Intake (CDI) = |
| | | | | IR_S | Ingestion Rate - Soil | 100 | mg/day | Recommended value for adult resident (US EPA, 2014). | (CS x IR-S x B x FS x EF x ED x CF) / (BW x AT) |
| | | | | B | Relative Bioavailability | C-S | unitless | Chemical-specific. | |
| | | | | FS | Fraction Ingested from Site | 1 | unitless | Professional judgment. | |
| | | | | EF_S | Exposure Frequency | 150 | days/year | 3 days a week for a year, Professional judgment. | |
| | | | | ED | Exposure Duration | 26 | years | 90th percentile for time at one residence (US EPA, 2014). | |
| | | | | CF | Conversion Factor | 1E-06 | kg/mg | | |
| | | | | BW | Body Weight | 80 | kg | Weighted mean value (US EPA, 2014). | |
| | | | | AT-C | Averaging Time (Cancer) | 25,550 | days | 70-year lifetime * 365 days. | |
| | | | | AT-NC | Averaging Time (Non-Cancer) | 9,490 | days | Exposure Duration * 365 days. | |
| | | Adolescent (6-16 yr) | UNDV | CS | Chemical Concentration in Soil | C-S | mg/kg | See Table 3.2. | Chronic Daily Intake (CDI) = |
| | | | | IR_S | Ingestion Rate - Soil | 100 | mg/day | Recommended value for adult resident (US EPA, 2014). | (CS x IR-S x B x FS x EF x ED x CF) / (BW x AT) |
| | | | | B | Relative Bioavailability | C-S | unitless | Chemical-specific. | |
| | | | | FS | Fraction Ingested from Site | 1 | unitless | Professional judgment. | |
| | | | | EF_S | Exposure Frequency | 150 | days/year | 3 days a week for a year, Professional judgment. | *Mutagenic Compounds:* |
| | | | | ED | Exposure Duration | 10 | years | Age 6-16. | Chronic Daily Intake (CDI) = |
| | | | | CF | Conversion Factor | 1E-06 | kg/mg | | (CS x IR-S x B x FS x EF x ED x CF x TAF) / (BW x AT) |
| | | | | TAF | Toxicity Adjustment Factor | Age-specific | unitless | For mutagenic compounds only. | |
| | | | | BW | Body Weight | 44.3 | kg | Age-weighted mean body weight for adolescent ages 6-16 years (US EPA, 2011a). | |
| | | | | AT-C | Averaging Time (Cancer) | 25,550 | days | 70-year lifetime * 365 days. | |
| | | | | AT-NC | Averaging Time (Non-Cancer) | 3,650 | days | Exposure Duration * 365 days. | |
| | | Child (0-6 yr) | UNDV | CS | Chemical Concentration in Soil | C-S | mg/kg | See Table 3.2. | Chronic Daily Intake (CDI) = |
| | | | | IR_S | Ingestion Rate - Soil | 200 | mg/day | US EPA, 2014. | (CS x IR-S x B x FS x EF x ED x CF) / (BW x AT) |
| | | | | B | Relative Bioavailability | C-S | unitless | Chemical-specific. | |
| | | | | FS | Fraction Ingested from Site | 1 | unitless | Professional judgment. | |
| | | | | EF_S | Exposure Frequency | 150 | days/year | 3 days a week for a year, Professional judgment. | *Mutagenic Compounds:* |
| | | | | ED | Exposure Duration | 6 | years | Age 0-6. | Chronic Daily Intake (CDI) = |
| | | | | CF | Conversion Factor | 1E-06 | kg/mg | | (CS x IR-S x B x FS x EF x ED x CF x TAF) / (BW x AT) |
| | | | | TAF | Toxicity Adjustment Factor | Age-specific | unitless | For mutagenic compounds only. | |
| | | | | BW | Body Weight | 15 | kg | US EPA, 2014. | |
| | | | | AT-C | Averaging Time (Cancer) | 25,550 | days | 70-year lifetime * 365 days. | |
| | | | | AT-NC | Averaging Time (Non-Cancer) | 2,190 | days | Exposure Duration * 365 days. | |

**Table 4.1**
**Values Used for Daily Intake Calculations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current and/or Future |
| Medium: | Soil |
| Exposure Medium: | Soil |

| Exposure Route | Receptor Population | Receptor Age | Exposure Point | Parameter Code | Parameter Definition | Value | Units | Rationale/Reference | Intake Equation/Model Name |
|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Resident | Adult | EUSA | CS | Chemical Concentration in Soil | C-S | mg/kg | See Table 3.2. | Chronic Daily Intake (CDI) = |
| | | | NFA | IR_S | Ingestion Rate - Soil | 100 | mg/day | US EPA, 2014. | (CS x IR-S x B x FS x EF x ED x CF) / (BW x AT) |
| | | | SFA | B | Relative Bioavailability | C-S | unitless | Chemical-specific. | |
| | | | UNDV | FS | Fraction Ingested from Site | 1 | unitless | Professional judgment. | |
| | | | | EF_S | Exposure Frequency | 350 | days/year | US EPA, 2014. | |
| | | | | ED | Exposure Duration | 20 | years | US EPA, 2014. | |
| | | | | CF | Conversion Factor | 1E-06 | kg/mg | | |
| | | | | BW | Body Weight | 80 | kg | Weighted mean value (US EPA, 2014). | |
| | | | | AT-C | Averaging Time (Cancer) | 25,550 | days | 70-year lifetime * 365 days. | |
| | | | | AT-NC | Averaging Time (Non-Cancer) | 7,300 | days | Exposure Duration * 365 days. | |
| | Resident | Child | EUSA | CS | Chemical Concentration in Soil | C-S | mg/kg | See Table 3.2. | Chronic Daily Intake (CDI) = |
| | | | NFA | IR_S | Ingestion Rate - Soil | 200 | mg/day | US EPA, 2014. | (CS x IR-S x B x FS x EF x ED x CF) / (BW x AT) |
| | | | SFA | B | Relative Bioavailability | C-S | unitless | Chemical-specific. | |
| | | | UNDV | FS | Fraction Ingested from Site | 1 | unitless | Professional judgment. | |
| | | | | EF_S | Exposure Frequency | 350 | days/year | US EPA, 2014. | *Mutagenic Compounds:* |
| | | | | ED | Exposure Duration | 6 | years | US EPA, 2014. | Chronic Daily Intake (CDI) = |
| | | | | CF | Conversion Factor | 1E-06 | kg/mg | | (CS x IR-S x B x FS x EF x ED x CF x TAF) / (BW x AT) |
| | | | | BW | Body Weight | 15 | kg | US EPA, 2014. | |
| | | | | TAF | Toxicity Adjustment Factor | Age-specific | unitless | For mutagenic compounds only. | |
| | | | | AT-C | Averaging Time (Cancer) | 25,550 | days | 70-year lifetime * 365 days. | |
| | | | | AT-NC | Averaging Time (Non-Cancer) | 2,190 | days | Exposure Duration * 365 days. | |
| Dermal | Construction | Adult | EUSA | CS | Chemical Concentration in Soil | C-S | mg/kg | See Table 3.1. | Dermal Absorbed Dose= |
| | | | NFA | AF_S | Soil Adherence Factor | 0.3 | $mg/cm^2$ | Recommended value for construction worker (US EPA, 2002). | (CS x AF x SA x ABS x EF x ED x CF) / (BW x AT) |
| | | | SFA | | | | | | |
| | | | UNDV | SA_S | Surface Area | 3,527 | $cm^2$ | Recommended value for outdoor worker (US EPA, 2014). | |
| | | | | ABS | Dermal Absorption Fraction | C-S | unitless | Chemical-specific. | |
| | | | | EF_S | Exposure Frequency | 250 | days/year | US EPA, 2014. | |
| | | | | ED | Exposure Duration | 1 | years | Professional judgment. | |
| | | | | CF | Conversion Factor | 1E-06 | kg/mg | | |
| | | | | BW | Body Weight | 80 | kg | US EPA, 2014. | |
| | | | | AT-C | Averaging Time (Cancer) | 25,550 | days | 70-year lifetime * 365 days. | |
| | | | | AT-NC | Averaging Time (Non-Cancer) | 365 | days | Exposure Duration * 365 days. | |
| | Utility Worker | Adult | EUSA | CS | Chemical Concentration in Soil | C-S | mg/kg | See Table 3.1. | Dermal Absorbed Dose= |
| | | | NFA | AF_S | Soil Adherence Factor | 0.3 | $mg/cm^2$ | Recommended value for construction worker (US EPA, 2002). | (CS x AF x SA x ABS x EF x ED x CF) / (BW x AT) |
| | | | SFA | | | | | | |
| | | | UNDV | SA_S | Surface Area | 3,527 | $cm^2$ | Recommended value for outdoor worker (US EPA, 2014). | |
| | | | | ABS | Dermal Absorption Fraction | C-S | unitless | Chemical-specific. | |
| | | | | EF_S | Exposure Frequency | 10 | days/year | Professional judgment. | |
| | | | | ED | Exposure Duration | 25 | years | US EPA, 2014. | |
| | | | | CF | Conversion Factor | 1E-06 | kg/mg | | |
| | | | | BW | Body Weight | 80 | kg | US EPA, 2014. | |
| | | | | AT-C | Averaging Time (Cancer) | 25,550 | days | 70-year lifetime * 365 days. | |
| | | | | AT-NC | Averaging Time (Non-Cancer) | 9,125 | days | Exposure Duration * 365 days. | |

**Table 4.1**
**Values Used for Daily Intake Calculations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current and/or Future |
| Medium: | Soil |
| Exposure Medium: | Soil |

| Exposure Route | Receptor Population | Receptor Age | Exposure Point | Parameter Code | Parameter Definition | Value | Units | Rationale/Reference | Intake Equation/Model Name |
|---|---|---|---|---|---|---|---|---|---|
| Dermal | Outdoor Worker | Adult | EUSA<br>NFA<br>SFA<br>UNDV | CS | Chemical Concentration in Soil | C-S | mg/kg | See Table 3.1. | Dermal Absorbed Dose= |
| | | | | AF_S | Soil Adherence Factor | 0.12 | $mg/cm^2$ | Recommended value for outdoor worker (US EPA, 2014). | $\frac{(CS \times AF \times SA \times ABS \times EF \times ED \times CF)}{(BW \times AT)}$ |
| | | | | SA_S | Surface Area | 3,527 | $cm^2$ | Recommended value for outdoor worker (US EPA, 2014). | |
| | | | | ABS | Dermal Absorption Fraction | C-S | unitless | Chemical-specific. | |
| | | | | EF_S | Exposure Frequency | 225 | days/year | Recommended value for an outdoor worker (US EPA, 2014). | |
| | | | | ED | Exposure Duration | 25 | years | US EPA, 2014. | |
| | | | | CF | Conversion Factor | 1E-06 | kg/mg | | |
| | | | | BW | Body Weight | 80 | kg | US EPA, 2014. | |
| | | | | AT-C | Averaging Time (Cancer) | 25,550 | days | 70-year lifetime * 365 days. | |
| | | | | AT-NC | Averaging Time (Non-Cancer) | 9,125 | days | Exposure Duration * 365 days. | |
| | Recreator | Adult | UNDV | CS | Chemical Concentration in Soil | C-S | mg/kg | See Table 3.2. | Dermal Absorbed Dose= |
| | | | | AF_S | Soil Adherence Factor | 0.07 | $mg/cm^2$ | Recommended value for adult resident (US EPA, 2004a, 2014). | $\frac{(CS \times AF \times SA \times ABS \times EF \times ED \times CF)}{(BW \times AT)}$ |
| | | | | SA_S | Surface Area | 6,032 | $cm^2$ | Recommended value for adult resident (US EPA, 2014). | |
| | | | | ABS | Dermal Absorption Fraction | C-S | unitless | Chemical-specific. | |
| | | | | EF_S | Exposure Frequency | 150 | days/year | 3 days a week for a year, Professional judgment. | |
| | | | | ED | Exposure Duration | 26 | years | 90th percentile for current residence time (US EPA, 2011a, Table 16-108). | |
| | | | | CF | Conversion Factor | 1E-06 | kg/mg | | |
| | | | | BW | Body Weight | 80 | kg | Weighted mean value (US EPA, 2014). | |
| | | | | AT-C | Averaging Time (Cancer) | 25,550 | days | 70-year lifetime * 365 days. | |
| | | | | AT-NC | Averaging Time (Non-Cancer) | 9,490 | days | Exposure Duration * 365 days. | |
| | | Adolescent (6-16 yr) | UNDV | CS | Chemical Concentration in Soil | C-S | mg/kg | See Table 3.2. | Dermal Absorbed Dose= |
| | | | | AF_S | Soil Adherence Factor | 0.07 | $mg/cm^2$ | Recommended value for adult resident (US EPA, 2004a, 2014). | $\frac{(CS \times AF \times SA \times ABS \times EF \times ED \times CF)}{(BW \times AT)}$ |
| | | | | SA_S | Surface Area | 4,639 | $cm^2$ | Age weighted mean skin surface area (head, hands, forearms, lower legs, and feet) (US EPA, 2011a). | |
| | | | | ABS | Dermal Absorption Fraction | C-S | unitless | Chemical-specific. | |
| | | | | EF_S | Exposure Frequency | 150 | days/year | 3 days a week for a year, Professional judgment. | |
| | | | | ED | Exposure Duration | 10 | years | Age 6-16. | |
| | | | | CF | Conversion Factor | 1E-06 | kg/mg | | |
| | | | | TAF | Toxicity Adjustment Factor | Age-specific | unitless | For mutagenic compounds only. | |
| | | | | BW | Body Weight | 44.3 | kg | Age-weighted mean body weight for adolescent ages 6-16 years (US EPA, 2011a). | |
| | | | | AT-C | Averaging Time (Cancer) | 25,550 | days | 70-year lifetime * 365 days. | |
| | | | | AT-NC | Averaging Time (Non-Cancer) | 3,650 | days | Exposure Duration * 365 days. | |

**Table 4.1**
**Values Used for Daily Intake Calculations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current and/or Future |
| Medium: | Soil |
| Exposure Medium: | Soil |

| Exposure Route | Receptor Population | Receptor Age | Exposure Point | Parameter Code | Parameter Definition | Value | Units | Rationale/Reference | Intake Equation/Model Name |
|---|---|---|---|---|---|---|---|---|---|
| Dermal | | Child (0-6 yr) | UNDV | CS | Chemical Concentration in Soil | C-S | mg/kg | See Table 3.2. | Dermal Absorbed Dose= |
| | | | | AF_S | Soil Adherence Factor | 0.2 | mg/cm2 | US EPA, 2014. | (CS x AF x SA x ABS x EF x ED x CF) |
| | | | | SA_S | Surface Area | 2,373 | $cm^2$ | US EPA, 2014. | (BW x AT) |
| | | | | ABS | Dermal Absorption Fraction | C-S | unitless | Chemical-specific. | |
| | | | | EF_S | Exposure Frequency | 150 | days/year | 3 days a week for a year, Professional judgment. | |
| | | | | ED | Exposure Duration | 6 | years | Age 0-6. | |
| | | | | CF | Conversion Factor | 1E-06 | kg/mg | | |
| | | | | TAF | Toxicity Adjustment Factor | Age-specific | unitless | For mutagenic compounds only. | |
| | | | | BW | Body Weight | 15 | kg | US EPA, 2014. | |
| | | | | AT-C | Averaging Time (Cancer) | 25,550 | days | 70-year lifetime * 365 days. | |
| | | | | AT-NC | Averaging Time (Non-Cancer) | 2,190 | days | Exposure Duration * 365 days. | |
| | Resident | Adult | EUSA NFA SFA UNDV | CS | Chemical Concentration in Soil | C-S | mg/kg | See Table 3.2. | Dermal Absorbed Dose= |
| | | | | AF_S | Soil Adherence Factor | 0.07 | $mg/cm^2$ | US EPA, 2014. | (CS x AF x SA x ABS x EF x ED x CF) |
| | | | | SA_S | Surface Area | 6,032 | $cm^2$ | US EPA, 2014. | (BW x AT) |
| | | | | ABS | Dermal Absorption Fraction | C-S | unitless | Chemical-specific. | |
| | | | | EF_S | Exposure Frequency | 350 | days/year | US EPA, 2014. | |
| | | | | ED | Exposure Duration | 20 | years | US EPA, 2014. | |
| | | | | CF | Conversion Factor | 1E-06 | kg/mg | | |
| | | | | BW | Body Weight | 80 | kg | US EPA, 2014. | |
| | | | | AT-C | Averaging Time (Cancer) | 25,550 | days | 70-year lifetime * 365 days. | |
| | | | | AT-NC | Averaging Time (Non-Cancer) | 7,300 | days | Exposure Duration * 365 days. | |
| | | Child | EUSA NFA SFA UNDV | CS | Chemical Concentration in Soil | C-S | mg/kg | See Table 3.2. | Dermal Absorbed Dose= |
| | | | | AF_S | Soil Adherence Factor | 0.2 | $mg/cm^2$ | US EPA, 2014. | (CS x AF x SA x ABS x EF x ED x CF) |
| | | | | SA_S | Surface Area | 2,373 | $cm^2$ | US EPA, 2014. | (BW x AT) |
| | | | | ABS | Dermal Absorption Fraction | C-S | unitless | Chemical-specific. | |
| | | | | EF_S | Exposure Frequency | 350 | days/year | US EPA, 2014. | |
| | | | | ED | Exposure Duration | 6 | years | US EPA, 2014. | |
| | | | | CF | Conversion Factor | 1E-06 | kg/mg | | |
| | | | | TAF | Toxicity Adjustment Factor | Age-specific | unitless | For mutagenic compounds only. | |
| | | | | BW | Body Weight | 15 | kg | US EPA, 2014. | |
| | | | | AT-C | Averaging Time (Cancer) | 25,550 | days | 70-year lifetime * 365 days. | |
| | | | | AT-NC | Averaging Time (Non-Cancer) | 2190 | days | Exposure Duration * 365 days. | |
| Inhalation | Construction Worker | Adult | EUSA NFA SFA UNDV | CS | Chemical Concentration in Soil | C-S | mg/kg | See Table 3.1. | Exposure Concentration (EC) = |
| | | | | Ca | Chemical Concentration in Air | C-S | $mg/m^3$ | Chemical-specific. | |
| | | | | PEF | Particulate Emissions Factor | 3.20E+09 | $m^3/kg$ | Default value for Philadelphia (US EPA, 2017c). | (Ca x ET x EF x ED x CF1 x CF2) / AT |
| | | | | VF | Volatilization Factor | C-S | $m^3/kg$ | RSL calculator (US EPA, 2017c). | |
| | | | | ET | Exposure Time | 8 | hr/day | 8-hour work day. | where: |
| | | | | EF_S | Exposure Frequency | 250 | days/year | US EPA, 2014. | Ca = CS * ((1/VF)+(1/PEF)) |
| | | | | ED | Exposure Duration | 1 | years | Professional judgment. | |
| | | | | CF1 | Conversion Factor 1 | 0.042 | days/hr | 1 day / 24 hours. | |
| | | | | CF2 | Conversion Factor 2 | 1000 | µg/mg | Cancer only. | |
| | | | | AT-C | Averaging Time (Cancer) | 25,550 | days | 70-year lifetime * 365 days. | |
| | | | | AT-NC | Averaging Time (Non-Cancer) | 365 | days | Exposure Duration * 365 days. | |

**Table 4.1**
**Values Used for Daily Intake Calculations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current and/or Future |
| Medium: | Soil |
| Exposure Medium: | Soil |

| Exposure Route | Receptor Population | Receptor Age | Exposure Point | Parameter Code | Parameter Definition | Value | Units | Rationale/Reference | Intake Equation/Model Name |
|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Utility Worker | Adult | EUSA<br>NFA<br>SFA<br>UNDV | CS | Chemical Concentration in Soil | C-S | mg/kg | See Table 3.1. | Exposure Concentration (EC) = |
| | | | | Ca | Chemical Concentration in Air | C-S | $mg/m^3$ | Chemical-specific. | $\frac{(Ca \times ET \times EF \times ED \times CF1 \times CF2)}{AT}$ |
| | | | | PEF | Particulate Emissions Factor | 3.20E+09 | $m^3/kg$ | Default value for Philadelphia (US EPA, 2017c). | |
| | | | | VF | Volatilization Factor | C-S | $m^3/kg$ | RSL calculator (US EPA, 2017c). | where: |
| | | | | ET | Exposure Time | 8 | hr/day | 8-hour work day. | Ca = CS * ((1/VF)+(1/PEF)) |
| | | | | EF_S | Exposure Frequency | 10 | days/year | Professional judgment. | |
| | | | | ED | Exposure Duration | 25 | years | US EPA, 2014. | |
| | | | | CF1 | Conversion Factor 1 | 0.042 | days/hr | 1 day / 24 hours. | |
| | | | | CF2 | Conversion Factor 2 | 1000 | µg/mg | Cancer only. | |
| | | | | AT-C | Averaging Time (Cancer) | 25,550 | days | 70-year lifetime * 365 days. | |
| | | | | AT-NC | Averaging Time (Non-Cancer) | 9125 | days | Exposure Duration * 365 days. | |
| | Outdoor Worker | Adult | EUSA<br>NFA<br>SFA<br>UNDV | CS | Chemical Concentration in Soil | C-S | mg/kg | See Table 3.1. | Exposure Concentration (EC) = |
| | | | | Ca | Chemical Concentration in Air | C-S | mg/m3 | Chemical-specific. | $\frac{(Ca \times ET \times EF \times ED \times CF1 \times CF2)}{AT}$ |
| | | | | PEF | Particulate Emissions Factor | 3.20E+09 | $m^3/kg$ | Default value for Philadelphia (US EPA, 2017c). | |
| | | | | VF | Volatilization Factor | C-S | $m^3/kg$ | RSL calculator (US EPA, 2017c). | where: |
| | | | | ET | Exposure Time | 8 | hr/day | 8-hour work day. | Ca = CS * ((1/VF)+(1/PEF)) |
| | | | | EF_S | Exposure Frequency | 225 | days/year | Recommended value for an outdoor worker (US EPA, 2014). | |
| | | | | ED | Exposure Duration | 25 | years | US EPA, 2014. | |
| | | | | CF1 | Conversion Factor 1 | 0.042 | days/hr | 1 day / 24 hours. | |
| | | | | CF2 | Conversion Factor 2 | 1000 | µg/mg | Cancer only. | |
| | | | | AT-C | Averaging Time (Cancer) | 25,550 | days | 70-year lifetime * 365 days. | |
| | | | | AT-NC | Averaging Time (Non-Cancer) | 9125 | days | Exposure Duration * 365 days. | |
| | Recreator | Adult | UNDV | CS | Chemical Concentration in Soil | C-S | mg/kg | See Table 3.1. | Exposure Concentration (EC) = |
| | | | | Ca | Chemical Concentration in Air | C-S | $mg/m^3$ | Chemical-specific. | |
| | | | | PEF | Particulate Emissions Factor | 3.20E+09 | $m^3/kg$ | Default value for Philadelphia (US EPA, 2017c). | $\frac{(Ca \times ET \times EF \times ED \times CF1 \times CF2)}{AT}$ |
| | | | | VF | Volatilization Factor | C-S | $m^3/kg$ | RSL calculator (US EPA, 2017c). | |
| | | | | ET | Exposure Time | 8 | hr/day | Professional judgement. | where: |
| | | | | EF_S | Exposure Frequency | 150 | days/year | 3 days a week for a year, Professional judgment. | Ca = CS * ((1/VF)+(1/PEF)) |
| | | | | ED | Exposure Duration | 26 | years | 90th percentile for time at one residence (US EPA, 2014). | |
| | | | | CF1 | Conversion Factor 1 | 0.042 | days/hr | 1 day / 24 hours. | |
| | | | | CF2 | Conversion Factor 2 | 1000 | µg/mg | Cancer only. | |
| | | | | AT-C | Averaging Time (Cancer) | 25,550 | days | 70-year lifetime * 365 days. | |
| | | | | AT-NC | Averaging Time (Non-Cancer) | 9,490 | days | Exposure Duration * 365 days. | |

**Table 4.1**
**Values Used for Daily Intake Calculations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current and/or Future |
| Medium: | Soil |
| Exposure Medium: | Soil |

| Exposure Route | Receptor Population | Receptor Age | Exposure Point | Parameter Code | Parameter Definition | Value | Units | Rationale/Reference | Intake Equation/Model Name |
|---|---|---|---|---|---|---|---|---|---|
| Inhalation | | Adolescent (6-16 yr) | UNDV | CS | Chemical Concentration in Soil | C-S | mg/kg | See Table 3.1. | Exposure Concentration (EC) = |
| | | | | Ca | Chemical Concentration in Air | C-S | $mg/m^3$ | Chemical-specific. | |
| | | | | PEF | Particulate Emissions Factor | 3.20E+09 | $m^3/kg$ | Default value for Philadelphia (US EPA, 2017c). | (Ca x ET x EF x ED x CF1 x CF2) / AT |
| | | | | VF | Volatilization Factor | C-S | $m^3/kg$ | RSL calculator (US EPA, 2017c). | |
| | | | | ET | Exposure Time | 8 | hr/day | Professional judgement. | *Mutagenic Compounds:* |
| | | | | EF_S | Exposure Frequency | 150 | days/year | 3 days a week for a year, Professional judgment. | Exposure Concentration (EC) = |
| | | | | ED | Exposure Duration | 10 | years | Age 6-16. | (Ca x ET x EF x ED x CF1 x CF2 x TAF) / AT |
| | | | | CF1 | Conversion Factor 1 | 0.042 | days/hr | 1 day / 24 hours. | |
| | | | | CF2 | Conversion Factor 2 | 1000 | µg/mg | Cancer only. | |
| | | | | TAF | Toxicity Adjustment Factor | Age-specific | unitless | For mutagenic compounds only. | where: |
| | | | | AT-C | Averaging Time (Cancer) | 25,550 | days | 70-year lifetime * 365 days. | Ca = CS * ((1/VF)+(1/PEF)) |
| | | | | AT-NC | Averaging Time (Non-Cancer) | 3,650 | days | Exposure Duration * 365 days. | |
| | Recreator | Child (0-6 yr) | UNDV | CS | Chemical Concentration in Soil | C-S | mg/kg | See Table 3.1. | Exposure Concentration (EC) = |
| | | | | Ca | Chemical Concentration in Air | C-S | mg/m3 | Chemical-specific. | |
| | | | | PEF | Particulate Emissions Factor | 3.20E+09 | $m^3/kg$ | Default value for Philadelphia (US EPA, 2017c). | (Ca x ET x EF x ED x CF1 x CF2) / AT |
| | | | | VF | Volatilization Factor | C-S | $m^3/kg$ | RSL calculator (US EPA, 2017c). | |
| | | | | ET | Exposure Time | 8 | hr/day | Professional judgement. | *Mutagenic Compounds:* |
| | | | | EF_S | Exposure Frequency | 150 | days/year | 3 days a week for a year, Professional judgment. | Exposure Concentration (EC) = |
| | | | | ED | Exposure Duration | 10 | years | Age 6-16. | (Ca x ET x EF x ED x CF1 x CF2 x TAF) / AT |
| | | | | CF1 | Conversion Factor 1 | 0.042 | days/hr | 1 day / 24 hours. | |
| | | | | CF2 | Conversion Factor 2 | 1000 | µg/mg | Cancer only. | |
| | | | | TAF | Toxicity Adjustment Factor | Age-specific | unitless | For mutagenic compounds only. | where: |
| | | | | AT-C | Averaging Time (Cancer) | 25,550 | days | 70-year lifetime * 365 days. | Ca = CS * ((1/VF)+(1/PEF)) |
| | | | | AT-NC | Averaging Time (Non-Cancer) | 3,650 | days | Exposure Duration * 365 days. | |
| | Resident | Adult | EUSA<br>NFA<br>SFA<br>UNDV | CS | Chemical Concentration in Soil | C-S | mg/kg | See Table 3.1. | Exposure Concentration (EC) = |
| | | | | Ca | Chemical Concentration in Air | C-S | $mg/m^3$ | Chemical-specific. | |
| | | | | PEF | Particulate Emissions Factor | 3.20E+09 | $m^3/kg$ | Default value for Philadelphia (US EPA, 2017c). | (Ca x ET x EF x ED x CF1 x CF2) / AT |
| | | | | VF | Volatilization Factor | C-S | $m^3/kg$ | RSL calculator (US EPA, 2017c). | |
| | | | | ET | Exposure Time | 24 | hr/day | US EPA, 2014. | |
| | | | | EF_S | Exposure Frequency | 350 | days/yr | US EPA, 2014. | where: |
| | | | | ED | Exposure Duration | 20 | years | US EPA, 2014. | Ca = CS * ((1/VF)+(1/PEF)) |
| | | | | CF1 | Conversion Factor 1 | 0.042 | days/hr | 1 day / 24 hours. | |
| | | | | CF2 | Conversion Factor 2 | 1000 | µg/mg | Cancer only. | |
| | | | | AT-C | Averaging Time (Cancer) | 25,550 | days | 70-year lifetime * 365 days. | |
| | | | | AT-NC | Averaging Time (Non-Cancer) | 7,300 | days | ED * 365 days. | |

**Table 4.1**
**Values Used for Daily Intake Calculations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current and/or Future |
| Medium: | Soil |
| Exposure Medium: | Soil |

| Exposure Route | Receptor Population | Receptor Age | Exposure Point | Parameter Code | Parameter Definition | Value | Units | Rationale/Reference | Intake Equation/Model Name |
|---|---|---|---|---|---|---|---|---|---|
| Inhalation | | Child | EUSA<br>NFA<br>SFA<br>UNDV | CS | Chemical Concentration in Soil | C-S | mg/kg | See Table 3.1. | Exposure Concentration (EC) = |
| | | | | Ca | Chemical Concentration in Air | C-S | mg/m3 | Chemical-specific. | (Ca x ET x EF x ED x CF1 x CF2) / AT |
| | | | | PEF | Particulate Emissions Factor | 3.20E+09 | $m^3$/kg | Default value for Philadelphia (US EPA, 2017c). | |
| | | | | VF | Volatilization Factor | C-S | $m^3$/kg | RSL calculator (US EPA, 2017c). | |
| | | | | ET | Exposure Time | 24 | hr/day | US EPA, 2014. | |
| | | | | EF_S | Exposure Frequency | 350 | days/yr | US EPA, 2014. | *Mutagenic Compounds:* |
| | | | | ED | Exposure Duration | 6 | years | US EPA, 2014. | Exposure Concentration (EC) = |
| | | | | CF1 | Conversion Factor 1 | 0.042 | days/hr | 1 day / 24 hours. | (Ca x ET x EF x ED x CF1 x CF2 x TAF) / AT |
| | | | | CF2 | Conversion Factor 2 | 1000 | µg/mg | Cancer only. | |
| | | | | TAF | Toxicity Adjustment Factor | Age-specific | unitless | For mutagenic compounds only. | where: |
| | | | | AT-C | Averaging Time (Cancer) | 25,550 | days | 70-year lifetime * 365 days. | Ca = CS * ((1/VF)+(1/PEF)) |
| | | | | AT-NC | Averaging Time (Non-Cancer) | 2,190 | days | ED * 365 days. | |
| Ingestion | Recreator/ Resident - Early Life Mutagen Exposure | | EUSA<br>NFA<br>SFA<br>UNDV | $IRS_{0-2}$ | Soil Ingestion Rate for 0 to <2 years old | 200 | mg/day | Recommended value for child (US EPA, 2014). | Chronic Daily Intake (CDI) = CS x $IFSM_{adj}$ x B xFS x EF x CF x 1/AT |
| | | | | $IRS_{2-6}$ | Soil Ingestion Rate for 2 to <6 years old | 200 | mg/day | Recommended value for child (US EPA, 2014). | where $IFSM_{adj}$ = ($ED_{0-2}$ x $IRS_c$ x 10 x 1/BW)+($ED_{2-6}$x $IRS_c$ x 3 x 1/BW)+($ED_{6-16}$ x $IRS_a$ x 3 x 1/BW)+($ED_{16-26}$ x $IRS_a$ x 1 x 1/BW) |
| | | | | $IRS_{6-16}$ | Soil Ingestion Rate for 6 to <16 years old | 100 | mg/day | Recommended value for adult resident (US EPA, 2014). | |
| | | | | $IRS_{16-26}$ | Soil Ingestion Rate for 16 to <26 years old | 100 | mg/day | Recommended value for adult resident (US EPA, 2014). | Note: Body weights are age-specific |
| Dermal | Recreator/ Resident - Early Life Mutagen Exposure | | EUSA<br>NFA<br>SFA<br>UNDV | $SA_{0-2}$ | Age-adjusted Surface Area for 0 to <2 years old | 1,954 | $cm^2$ | Mean surface area for this age group (head, forearms, hands, lower legs, feet) (US EPA, 2011a). See Table 4.5. | Chronic Daily Intake (CDI) = CS x DA x $DFSM_{adj}$ x EF x CF x 1/AT |
| | | | | $SA_{2-6}$ | Age-adjusted Surface Area for 2 to <6 years old | 2,591 | $cm^2$ | Mean surface area for this age group (head, forearms, hands, lower legs, feet) (US EPA, 2011a). See Table 4.5. | where $DFSM_{adj}$ = ($ED_{0-2}$ x $AF_c$ x $SA_{0-2}$ x 10 x 1/BW)+($ED_{2-6}$ x $AF_c$ x $SA_{2-6}$ x 3 x 1/BW)+($ED_{6-16}$ x $AF_a$ x $SA_{6-16}$ x 3 x 1/BW)+($ED_{16-26}$ x $AF_a$ x $SA_{16-26}$ x 1 x 1/BW) |
| | | | | $SA_{6-16}$ | Age-adjusted Surface Area for 6 to <16 years old | 4,639 | $cm^2$ | Mean surface area for this age group (head, forearms, hands, lower legs, feet) (US EPA, 2011a). See Table 4.5. | Note: Body weights are age-specific |
| | | | | $SA_{16-26}$ | Age-adjusted Surface Area for 16 to <26 years old | 6,709 | $cm^2$ | Mean surface area for this age group (head, forearms, hands, lower legs, feet) (US EPA, 2011a). See Table 4.5. | |

**Table 4.1**
**Values Used for Daily Intake Calculations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current and/or Future |
| Medium: | Soil |
| Exposure Medium: | Soil |

| Exposure Route | Receptor Population | Receptor Age | Exposure Point | Parameter Code | Parameter Definition | Value | Units | Rationale/Reference | Intake Equation/Model Name |
|---|---|---|---|---|---|---|---|---|---|
| Exposure Factors Applicable to All Early Life Mutagen Exposure Pathways | Recreator/ Resident - Early Life Mutagen Exposure | | EUSA NFA SFA UNDV | $ED_{0-2}$ | Exposure Duration 0 to <2 years old | 2 | years | Exposure Duration - age segment 0-2 (yr) (US EPA, 2016e). | |
| | | | | $ED_{2-6}$ | Exposure Duration 2 to <6 years old | 4 | years | Exposure Duration - age segment 2-6 (yr) (US EPA, 2016e). | |
| | | | | $ED_{6-16}$ | Exposure Duration 6 to <16 years old | 10 | years | Exposure Duration - age segment 6-16 (yr) (US EPA, 2016e). | |
| | | | | $ED_{16-26}$ | Exposure Duration 16 to <26 years old | 10 | years | Exposure Duration - age segment 16-26 (yr) (US EPA, 2016e). | |
| | | | | $BW_{0-2}$ | Age-adjusted Body Weight for 0 to <2 years old | 9 | kg | Mean body weight for ages within this age group (US EPA, 2011a). See Table 4.5. | |
| | | | | $BW_{2-6}$ | Age-adjusted Body Weight for 2 to <6 years old | 17 | kg | Mean body weight for ages within this age group (US EPA, 2011a). See Table 4.5. | |
| | | | | $BW_{6-16}$ | Age-adjusted Body Weight for 6 to <16 years old | 44 | kg | Mean body weight for ages within this age group (US EPA, 2011a). See Table 4.5. | |
| | | | | $BW_{16-26}$ | Age-adjusted Body Weight for 16 to <26 years old | 76 | kg | Mean body weight for ages within this age group (US EPA, 2011a). See Table 4.5. | |
| Exposure Factors Applicable to All Early Life Mutagen Exposure Pathways | Recreator/ Resident - Early Life Mutagen Exposure | | EUSA NFA SFA UNDV | $TAF_{0-2}$ | Toxicity Adjustment Factor for 0 to <2 years old | 10 | unitless | Adjustment for this age group (US EPA, 2005). | |
| | | | | $TAF_{2-6}$ | Toxicity Adjustment Factor for 2 to <6 years old | 3 | unitless | Adjustment for this age group (US EPA, 2005). | |
| | | | | $TAF_{6-16}$ | Toxicity Adjustment Factor for 6 to <16 years old | 3 | unitless | Adjustment for this age group (US EPA, 2005). | |
| | | | | $TAF_{16-26}$ | Toxicity Adjustment Factor for 16 to <26 years old | 1 | unitless | Adjustment for this age group (US EPA, 2005). | |

Notes:
Value – C-S indicates the value is chemical-specific.
Sources: EPA (2002, 2004a, 2005, 2011a, 2014, 2016e, 2017c).

**Table 4.2**
**Values Used for Daily Intake Calculations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current and/or Future |
| Medium: | Sediment |
| Exposure Medium: | Sediment |

| Exposure Route | Receptor Population | Receptor Age | Exposure Point | Parameter Code | Parameter Definition | Value | Units | Rationale/Reference | Intake Equation/Model Name |
|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Recreator | Adult | UHC | CS | Chemical Concentration in Sediment | See Table 3.3. | mg/kg | See Table 3.3. | Chronic Daily Intake (CDI) = |
| | | | | IR_D | Ingestion Rate - Sediment | 100 | mg/day | Recommended value for adult resident (US EPA, 2014). | (CS x IR-S x B x FS x EF x ED x CF) / (BW x AT) |
| | | | | B | Relative Bioavailability | C-S | unitless | Chemical-specific. | |
| | | | | FS | Fraction Ingested from Site | 1 | unitless | Professional judgment. | |
| | | | | EF_D | Exposure Frequency | 44 | days/year | 2 day/week for 5 warmer months; Professional judgment. | |
| | | | | ED | Exposure Duration | 26 | years | 90th percentile for time at one residence (US EPA, 2014). | |
| | | | | CF | Conversion Factor | 1E-06 | kg/mg | | |
| | | | | BW | Body Weight | 80 | kg | US EPA, 2014. | |
| | | | | AT-C | Averaging Time (Cancer) | 25,550 | days | 70-year lifetime * 365 days. | |
| | | | | AT-N | Averaging Time (Non-Cancer) | 9,490 | days | Exposure Duration * 365 days. | |
| | | Adolescent (6-16 yr) | UHC | CS | Chemical Concentration in Sediment | See Table 3.3. | mg/kg | See Table 3.3. | Chronic Daily Intake (CDI) = |
| | | | | IR_D | Ingestion Rate - Sediment | 100 | mg/day | Recommended value for adult resident (US EPA, 2014). | (CS x IR-S x B x FS x EF x ED x CF) / (BW x AT) |
| | | | | B | Relative Bioavailability | C-S | unitless | Chemical-specific. | |
| | | | | FS | Fraction Ingested from Site | 1 | unitless | Professional judgment. | |
| | | | | EF_D | Exposure Frequency | 44 | days/year | 2 day/week for 5 warmer months; Professional judgment. | |
| | | | | ED | Exposure Duration | 10 | years | Age 6-16. | *Mutagenic Compounds:* |
| | | | | CF | Conversion Factor | 1E-06 | kg/mg | | Chronic Daily Intake (CDI) = |
| | | | | TAF | Toxicity Adjustment Factor | Age-specific | unitless | For mutagenic compounds only. | (CS x IR-S x B x FS x EF x ED x CF x TAF) / (BW x AT) |
| | | | | BW | Body Weight | 44.3 | kg | Age-weighted mean body weight for adolescent ages 6-16 years (US EPA, 2011a). | |
| | | | | AT-C | Averaging Time (Cancer) | 25,550 | days | 70-year lifetime * 365 days. | |
| | | | | AT-N | Averaging Time (Non-Cancer) | 3,650 | days | Exposure Duration * 365 days. | |
| | | Child (0-6 yr) | UHC | CS | Chemical Concentration in Sediment | See Table 3.3. | mg/kg | See Table 3.3. | Chronic Daily Intake (CDI) = |
| | | | | IR_D | Ingestion Rate - Sediment | 200 | mg/day | US EPA, 2014. | (CS x IR-S x B x FS x EF x ED x CF) / (BW x AT) |
| | | | | B | Relative Bioavailability | C-S | unitless | Chemical-specific. | |
| | | | | FS | Fraction Ingested from Site | 1 | unitless | Professional judgment. | |
| | | | | EF_D | Exposure Frequency | 44 | days/year | 2 day/week for 5 warmer months; Professional judgment. | |
| | | | | ED | Exposure Duration | 6 | years | Age 0-6. | *Mutagenic Compounds:* |
| | | | | CF | Conversion Factor | 1E-06 | kg/mg | | Chronic Daily Intake (CDI) = |
| | | | | TAF | Toxicity Adjustment Factor | Age-specific | unitless | For mutagenic compounds only. | (CS x IR-S x B x FS x EF x ED x CF x TAF) / (BW x AT) |
| | | | | BW | Body Weight | 15 | kg | US EPA, 2014. | |
| | | | | AT-C | Averaging Time (Cancer) | 25,550 | days | 70-year lifetime * 365 days. | |
| | | | | AT-N | Averaging Time (Non-Cancer) | 2,190 | days | Exposure Duration * 365 days. | |

**Table 4.2**
**Values Used for Daily Intake Calculations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current and/or Future |
| Medium: | Sediment |
| Exposure Medium: | Sediment |

| Exposure Route | Receptor Population | Receptor Age | Exposure Point | Parameter Code | Parameter Definition | Value | Units | Rationale/Reference | Intake Equation/Model Name |
|---|---|---|---|---|---|---|---|---|---|
| Dermal | Recreator | Adult | UHC | CS | Chemical Concentration in Sediment | See Table 3.3. | mg/kg | See Table 3.3. | Dermal Absorbed Dose= |
| | | | | AF_D | Sediment Adherence Factor | 0.2 | $mg/cm^2$ | Recommended value for child resident exposed to wet soils (US EPA, 2004a). | (CS x AF x SA x ABS x EF x ED x CF) / (BW x AT) |
| | | | | SA_D | Surface Area | 6,032 | $cm^2$ | Recommended value for adult resident (US EPA, 2014). | |
| | | | | ABS | Dermal Absorption Fraction | C-S | unitless | Chemical-specific. | |
| | | | | EF_D | Exposure Frequency | 44 | days/year | 2 day/week for 5 warmer months; Professional judgment. | |
| | | | | ED | Exposure Duration | 26 | years | 90th percentile for time at one residence (US EPA, 2014). | |
| | | | | CF | Conversion Factor | 1E-06 | kg/mg | | |
| | | | | BW | Body Weight | 80 | kg | US EPA, 2014. | |
| | | | | AT-C | Averaging Time (Cancer) | 25,550 | days | 70-year lifetime*365 days. | |
| | | | | AT-N | Averaging Time (Non-Cancer) | 9,490 | days | Exposure Duration * 365 days. | |
| | | Adolescent (6-16 yr) | UHC | CS | Chemical Concentration in Sediment | See Table 3.3. | mg/kg | See Table 3.3. | Chronic Dermal Absorbed Dose (DAD)= |
| | | | | AF_D | Sediment Adherence Factor | 0.2 | $mg/cm^2$ | Recommended value for child resident exposed to wet soils (US EPA, 2004a). | (CS x AF x SA x ABS x EF x ED x CF) / (BW x AT) |
| | | | | SA_D | Surface Area | 4,639 | $cm^2$ | Age weighted mean skin surface area (head, hands, forearms, lower legs, and feet) (US EPA, 2011a). | |
| | | | | ABS | Dermal Absorption Fraction | C-S | unitless | Chemical-specific. | |
| | | | | EF_D | Exposure Frequency | 44 | days/year | 2 day/week for 5 warmer months; Professional judgment. | |
| | | | | ED | Exposure Duration | 10 | years | Age 6-16. | Mutagenic Compounds: |
| | | | | CF | Conversion Factor | 1E-06 | kg/mg | | Chronic Dermal Absorbed Dose (DAD)= |
| | | | | TAF | Toxicity Adjustment Factor | Age-specific | unitless | For mutagenic compounds only. | (CS x AF x SA x ABS x EF x ED x CF) / (BW x AT) |
| | | | | BW | Body Weight | 44.3 | kg | Age-weighted mean body weight for adolescent ages 6-16 years (US EPA, 2011a). | |
| | | | | AT-C | Averaging Time (Cancer) | 25,550 | days | 70-year lifetime*365 days. | |
| | | | | AT-N | Averaging Time (Non-Cancer) | 3,650 | days | Exposure Duration * 365 days. | |

**Table 4.2**
**Values Used for Daily Intake Calculations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current and/or Future |
| Medium: | Sediment |
| Exposure Medium: | Sediment |

| Exposure Route | Receptor Population | Receptor Age | Exposure Point | Parameter Code | Parameter Definition | Value | Units | Rationale/Reference | Intake Equation/Model Name |
|---|---|---|---|---|---|---|---|---|---|
| Dermal | | Child (0-6 yr) | UHC | CS | Chemical Concentration in Sediment | See Table 3.3. | mg/kg | See Table 3.3. | Chronic Dermal Absorbed Dose (DAD)= |
| | | | | AF_D | Sediment Adherence Factor | 0.2 | $mg/cm^2$ | Recommended value for child resident exposed to wet soils (US EPA, 2004a). | (CS x AF x SA x ABS x EF x ED x CF) / (BW x AT) |
| | | | | SA_D | Surface Area | 2,373 | $cm^2$ | US EPA, 2014. | |
| | | | | ABS | Dermal Absorption Fraction | C-S | unitless | Chemical-specific. | |
| | | | | EF_D | Exposure Frequency | 44 | days/year | 2 day/week for 5 warmer months; Professional judgment. | |
| | | | | ED | Exposure Duration | 6 | years | Age 0-6. | Mutagenic Compounds: |
| | | | | CF | Conversion Factor | 1E-06 | kg/mg | | Chronic Dermal Absorbed Dose (DAD)= |
| | | | | TAF | Toxicity Adjustment Factor | Age-specific | unitless | For mutagenic compounds only. | (CS x AF x SA x ABS x EF x ED x CF) / (BW x AT) |
| | | | | BW | Body Weight | 15 | kg | US EPA, 2014. | |
| | | | | AT-C | Averaging Time (Cancer) | 25,550 | days | 70-year lifetime*365 days. | |
| | | | | AT-N | Averaging Time (Non-Cancer) | 2,190 | days | Exposure Duration * 365 days. | |

Notes:
Value – C-S indicates the value is chemical-specific.
Sources: EPA (2004a, 2011a, 2014).

**Table 4.3**
**Values Used for Daily Intake Calculations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current and/or Future |
| Medium: | Surface Water |
| Exposure Medium: | Surface Water |

| Exposure Route | Receptor Population | Receptor Age | Exposure Point | Parameter Code | Parameter Definition | Value | Units | Rationale/Reference | Intake Equation/Model Name |
|---|---|---|---|---|---|---|---|---|---|
| Dermal | Recreator | Adult | UHC | CW | Chemical Concentration in Surface Water | See Table 3.4. | mg/L | See Table 3.4. | Dermally Absorbed Dose (DAD) (mg/kg-day) = DA-event x EV x ED x EF x SA x 1/BW x 1/AT where for organic compounds, Absorbed Dose Per Event '(DA-event) (mg/cm2)= 2 FA x Kp x CW x CF x SQRT{(6 x tau-event x t-event)/pi} or (DA-event) (mg/cm2-event) = FA x Kp x CW x {(t-event/(1 + B)) + 2 x tau-event x ( (1 + (3 x B) + (3 x B x B))/(1 + B)2)}, and where for inorganic compounds, DA-event = Kp x CW x CF x t-event |
| | | | | Kp | Permeability Constant | C-S | cm/hr | US EPA, 2004a. | |
| | | | | FA | Fraction Absorbed Water | C-S | | US EPA, 2004a. | |
| | | | | tau-event | Lag Time per Event | C-S | hrs/event | US EPA, 2004a. | |
| | | | | t-event | Event Duration | 1 | hrs/event | Professional judgment. | |
| | | | | CF | Volumetric Conversion Factor for Water | 0.001 | $L/cm^3$ | --- | |
| | | | | EF_W | Exposure Frequency | 44 | days/year | 2 day/week for 5 warmer months; Professional judgment. | |
| | | | | EV | Event Frequency | 1 | event/day | Professional judgment. | |
| | | | | ED | Exposure Duration | 26 | years | 90th percentile for time at one residence (US EPA, 2014). | |
| | | | | SA_W | Skin Surface Area | 6,032 | $cm^2$ | EPA recommended RME value for adult resident (US EPA, 2014). | |
| | | | | B | Ratio of Permeability Coefficient of a Compound Through the Stratum Corneum Relative to its Permeability Coefficient Across the Epidermis | C-S | | US EPA, 2004a. | |
| | | | | BW | Body Weight | 80 | kg | US EPA, 2014. | |
| | | | | AT-C | Averaging Time - Cancer | 25,550 | days | 70-year lifetime * 365 days. | |
| | | | | AT-N | Averaging Time - Non-Cancer | 9,490 | days | ED * 365 days. | |
| | | Adolescent (6-16 yr) | UHC | CW | Chemical Concentration in Surface Water | See Table 3.4. | mg/L | See Table 3.4. | Dermally Absorbed Dose (DAD) (mg/kg-day) = DA-event x EV x ED x EF x SA x 1/BW x 1/AT where for organic compounds, Absorbed Dose Per Event '(DA-event) (mg/cm2)= 2 FA x Kp x CW x CF x SQRT{(6 x tau-event x t-event)/pi} or (DA-event) (mg/cm2-event) = FA x Kp x CW x {(t-event/(1 + B)) + 2 x tau-event x ( (1 + (3 x B) + (3 x B x B))/(1 + B)2)}, and where for inorganic compounds, DA-event = Kp x CW x CF x t-event |
| | | | | Kp | Permeability Constant | C-S | cm/hr | US EPA, 2004a. | |
| | | | | FA | Fraction Absorbed Water | C-S | | US EPA, 2004a. | |
| | | | | tau-event | Lag Time per Event | C-S | hrs/event | US EPA, 2004a. | |
| | | | | t-event | Event Duration | 1 | hrs/event | Professional judgment. | |
| | | | | CF | Volumetric Conversion Factor for Water | 0.001 | $L/cm^3$ | --- | |
| | | | | EF_W | Exposure Frequency | 44 | days/year | 2 day/week for 5 warmer months; Professional judgment. | |
| | | | | EV | Event Frequency | 1 | event/day | Professional judgment. | |
| | | | | ED | Exposure Duration | 10 | years | Age 6-16. | |
| | | | | SA_W | Skin Surface Area | 4,639 | $cm^2$ | Age weighted mean skin surface area (head, hands, forearms, lower legs, and feet) (US EPA, 2011a). | |
| | | | | B | Ratio of Permeability Coefficient of a Compound Through the Stratum Corneum Relative to its Permeability Coefficient Across the Epidermis | C-S | | US EPA, 2004a. | |
| | | | | TAF | Toxicity Adjustment Factor | Age-specific | unitless | For mutagenic compounds only. | |
| | | | | BW | Body Weight | 44.3 | kg | Age-weighted mean body weight for adolescent ages 6-16 years (US EPA, 2011a). | |
| | | | | AT-C | Averaging Time - Cancer | 25,550 | days | 70-year lifetime * 365 days. | |
| | | | | AT-N | Averaging Time - Non-Cancer | 3,650 | days | ED * 365 days. | |

**Table 4.3**
**Values Used for Daily Intake Calculations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current and/or Future |
| Medium: | Surface Water |
| Exposure Medium: | Surface Water |

| Exposure Route | Receptor Population | Receptor Age | Exposure Point | Parameter Code | Parameter Definition | Value | Units | Rationale/Reference | Intake Equation/Model Name |
|---|---|---|---|---|---|---|---|---|---|
| Dermal | Recreator | Child (0-6 yr) | UHC | CW | Chemical Concentration in Surface Water | See Table 3.4. | mg/L | See Table 3.4. | Dermally Absorbed Dose (DAD) (mg/kg-day) = DA-event x EV x ED x EF x SA x 1/BW x 1/AT where for organic compounds, Absorbed Dose Per Event '(DA-event) (mg/cm2)= 2 FA x Kp x CW x CF x SQRT{(6 x tau-event x t-event)/pi} or (DA-event) (mg/cm2-event) = FA x Kp x CW x {(t-event/(1 + B)) + 2 x tau-event x ( (1 + (3 x B) + (3 x B x B))/(1 + B)2)}, and where for inorganic compounds, |
| | | | | Kp | Permeability Constant | C-S | cm/hr | US EPA, 2004a. | |
| | | | | FA | Fraction Absorbed Water | C-S | | US EPA, 2004a. | |
| | | | | tau-event | Lag Time per Event | C-S | hrs/event | US EPA, 2004a. | |
| | | | | t-event | Event Duration | 1 | hrs/event | Professional judgment. | |
| | | | | CF | Volumetric Conversion Factor for Water | 0.001 | $L/cm^3$ | --- | |
| | | | | EF_W | Exposure Frequency | 44 | days/year | 2 day/week for 5 warmer months; Professional judgment. | |
| | | | | EV | Event Frequency | 1 | event/day | Professional judgment. | |
| | | | | ED | Exposure Duration | 6 | years | Age 0-6. | |
| | | | | SA_W | Skin Surface Area | 2,373 | $cm^2$ | US EPA, 2014. | |
| | | | | B | Ratio of Permeability Coefficient of a Compound Through the Stratum Corneum Relative to its Permeability Coefficient Across the Epidermis | C-S | | US EPA, 2004a. | |
| | | | | TAF | Toxicity Adjustment Factor | Age-specific | unitless | For mutagenic compounds only. | |
| | | | | BW | Body Weight | 15 | kg | US EPA, 2014. | |
| | | | | AT-C | Averaging Time - Cancer | 25,550 | days | 70-year lifetime * 365 days. | |
| | | | | AT-N | Averaging Time - Non-Cancer | 2,190 | days | ED * 365 days. | |

Notes:
Value – C-S indicates the value is chemical-specific.
Sources: EPA (2004a, 2011a, 2014).

**Table 4.4**
**Age-adjusted Exposure Factors for MMOA Chemicals**
**Reasonable Maximum Exposure**

| Age (Years) | Exposure Duration (Years) | Body Weight (kg) | Head ($cm^2$) | Arms ($cm^2$) | Forearms ($cm^2$) | Hands ($cm^2$) | Legs ($cm^2$) | Lower legs ($cm^2$) | Feet ($cm^2$) | Exposed Surface Area ($cm^2$) | Age Group | Soil Ingestion Rate (mg/day) | Age-adjusted Exposed SA ($cm^2$) | Adjusted Body Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 1 | 6.6 | 663 | 498 | 224 | 190 | 748 | 299 | 235 | 1,610 | 0 to <2 years | 200 | 1,954 | 9.0 |
| 1 | 1 | 11 | 870 | 690 | 311 | 300 | 1,220 | 488 | 330 | 2,299 | | | | |
| 2 | 1 | 14 | 510 | 880 | 396 | 280 | 1,540 | 616 | 380 | 2,182 | 2 to <6 years | 200 | 2,591 | 17 |
| 3 | 1 | 19 | 610 | 1,060 | 477 | 370 | 1,950 | 780 | 490 | 2,727 | | | | |
| 4 | 1 | 19 | 610 | 1,060 | 477 | 370 | 1,950 | 780 | 490 | 2,727 | | | | |
| 5 | 1 | 19 | 610 | 1,060 | 477 | 370 | 1,950 | 780 | 490 | 2,727 | | | | |
| 6 | 1 | 32 | 660 | 1,510 | 680 | 510 | 3,110 | 1,244 | 730 | 3,824 | 6 to <16 years | 100 | 4,639 | 44 |
| 7 | 1 | 32 | 660 | 1,510 | 680 | 510 | 3,110 | 1,244 | 730 | 3,824 | | | | |
| 8 | 1 | 32 | 660 | 1,510 | 680 | 510 | 3,110 | 1,244 | 730 | 3,824 | | | | |
| 9 | 1 | 32 | 660 | 1,510 | 680 | 510 | 3,110 | 1,244 | 730 | 3,824 | | | | |
| 10 | 1 | 32 | 660 | 1,510 | 680 | 510 | 3,110 | 1,244 | 730 | 3,824 | | | | |
| 11 | 1 | 57 | 730 | 2,270 | 1,022 | 720 | 4,830 | 1,932 | 1,050 | 5,454 | | | | |
| 12 | 1 | 57 | 730 | 2,270 | 1,022 | 720 | 4,830 | 1,932 | 1,050 | 5,454 | | | | |
| 13 | 1 | 57 | 730 | 2,270 | 1,022 | 720 | 4,830 | 1,932 | 1,050 | 5,454 | | | | |
| 14 | 1 | 57 | 730 | 2,270 | 1,022 | 720 | 4,830 | 1,932 | 1,050 | 5,454 | | | | |
| 15 | 1 | 57 | 730 | 2,270 | 1,022 | 720 | 4,830 | 1,932 | 1,050 | 5,454 | | | | |
| 16 | 1 | 72 | 760 | 2,690 | 1,211 | 830 | 5,430 | 2,172 | 1,120 | 6,093 | 16 to <26 years | 100 | 6,709 | 76 |
| 17 | 1 | 72 | 760 | 2,690 | 1,211 | 830 | 5,430 | 2,172 | 1,120 | 6,093 | | | | |
| 18 | 1 | 72 | 760 | 2,690 | 1,211 | 830 | 5,430 | 2,172 | 1,120 | 6,093 | | | | |
| 19 | 1 | 72 | 760 | 2,690 | 1,211 | 830 | 5,430 | 2,172 | 1,120 | 6,093 | | | | |
| 20 | 1 | 72 | 760 | 2,690 | 1,211 | 830 | 5,430 | 2,172 | 1,120 | 6,093 | | | | |
| 21 | 1 | 80 | 1,250 | 2,755 | 1,240 | 980 | 6,400 | 2,560 | 1,295 | 7,325 | | | | |
| 22 | 1 | 80 | 1,250 | 2,755 | 1,240 | 980 | 6,400 | 2,560 | 1,295 | 7,325 | | | | |
| 23 | 1 | 80 | 1,250 | 2,755 | 1,240 | 980 | 6,400 | 2,560 | 1,295 | 7,325 | | | | |
| 24 | 1 | 80 | 1,250 | 2,755 | 1,240 | 980 | 6,400 | 2,560 | 1,295 | 7,325 | | | | |
| 25 | 1 | 80 | 1,250 | 2,755 | 1,240 | 980 | 6,400 | 2,560 | 1,295 | 7,325 | | | | |

Notes:

Exposed Surface Area (SA) = Head + Forearms + Hands + Lower Legs + Feet (US EPA, 2014).

Forearms assumed to represent 45% of the arm and the lower legs assumed to represent 40% of the legs (US EPA, 2004a, 2011a).

Body weight and surface areas (total, heads, arms, hands, legs, feet) from US EPA's 2011 Exposure Factors Handbook (Tables 7-1, 7-2, and 8-1) (US EPA, 2011a).

**Table 4.5**
**Values Used for Daily Absorbed Dose Calculations**
**Recreational Exposure to Surface Water**

| In EPD? | Exposure Area | Chemicals of Potential Concern (COPCs) | Chemical-specific Parameters | | | | | | | | | Receptor-specific Parameters | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | MW g/mole | Kp cm/hr | B unitless | $D_{sc}$ cm²/hr | $\tau_{event}$ hr/event | b unitless | c unitless | t* hr | FA unitless | $t_{event}$ (hr/event) | $EPC_{sw}$ (mg/L) | DA mg/cm²-event |
| Yes | UHC | ALUMINUM | 2.7E+01 | 1.0E-03 | 2.0E-03 | 1.1E-06 | 1.5E-01 | 3.0E-01 | 3.3E-01 | 3.6E-01 | 1 | 1 | | |
| Yes | UHC | ANTIMONY | 1.2E+02 | 1.0E-03 | 4.3E-03 | 3.1E-07 | 5.3E-01 | 3.1E-01 | 3.4E-01 | 1.3E+00 | 1 | 1 | 2.90E-03 | 5.9E-09 |
| Yes | UHC | ARSENIC | 7.8E+01 | 1.0E-03 | 3.4E-03 | 5.7E-07 | 2.9E-01 | 3.1E-01 | 3.4E-01 | 7.0E-01 | 1 | 1 | 5.72E-02 | 9.0E-08 |
| Yes | UHC | BARIUM | 1.4E+02 | 1.0E-03 | 4.5E-03 | 2.6E-07 | 6.4E-01 | 3.1E-01 | 3.4E-01 | 1.5E+00 | 1 | 1 | 2.84E-01 | 6.3E-07 |
| Yes | UHC | CADMIUM (W) | 1.1E+02 | 1.0E-03 | 4.1E-03 | 3.7E-07 | 4.5E-01 | 3.1E-01 | 3.4E-01 | 1.1E+00 | 1 | 1 | | |
| Yes | UHC | CHROMIUM | 5.2E+01 | 1.0E-03 | 2.8E-03 | 8.0E-07 | 2.1E-01 | 3.0E-01 | 3.4E-01 | 5.0E-01 | 1 | 1 | 3.82E-03 | 5.4E-09 |
| Yes | UHC | CHROMIUM, HEXAVALENT | 5.2E+01 | 2.0E-03 | 5.5E-03 | 8.0E-07 | 2.1E-01 | 3.1E-01 | 3.4E-01 | 5.0E-01 | 1 | 1 | | |
| Yes | UHC | COBALT | 5.9E+01 | 4.0E-04 | 1.2E-03 | 7.3E-07 | 2.3E-01 | 3.0E-01 | 3.3E-01 | 5.5E-01 | 1 | 1 | | |
| Yes | UHC | COPPER | 6.4E+01 | 1.0E-03 | 3.1E-03 | 6.9E-07 | 2.4E-01 | 3.1E-01 | 3.4E-01 | 5.8E-01 | 1 | 1 | | |
| Yes | UHC | IRON | 5.6E+01 | 1.0E-03 | 2.9E-03 | 7.6E-07 | 2.2E-01 | 3.1E-01 | 3.4E-01 | 5.3E-01 | 1 | 1 | 6.21E+00 | 8.9E-06 |
| Yes | UHC | LEAD | 2.1E+02 | 1.0E-04 | 5.5E-04 | 1.1E-07 | 1.5E+00 | 3.0E-01 | 3.3E-01 | 3.7E+00 | 1 | 1 | 9.81E-03 | 3.4E-09 |
| Yes | UHC | MANGANESE | 5.5E+01 | 1.0E-03 | 2.9E-03 | 7.7E-07 | 2.2E-01 | 3.1E-01 | 3.4E-01 | 5.2E-01 | 1 | 1 | 2.87E-01 | 4.1E-07 |
| Yes | UHC | MERCURY | 2.7E+02 | 1.0E-03 | 6.3E-03 | 4.7E-08 | 3.6E+00 | 3.1E-01 | 3.4E-01 | 8.5E+00 | 1 | 1 | | |
| Yes | UHC | THALLIUM | 2.1E+02 | 1.0E-03 | 5.5E-03 | 1.1E-07 | 1.5E+00 | 3.1E-01 | 3.4E-01 | 3.6E+00 | 1 | 1 | 3.56E-03 | 1.2E-08 |
| Yes | UHC | VANADIUM | 5.1E+01 | 1.0E-03 | 2.7E-03 | 8.1E-07 | 2.1E-01 | 3.0E-01 | 3.4E-01 | 4.9E-01 | 1 | 1 | 2.76E-03 | 3.9E-09 |
| Yes | UHC | ZINC | 6.5E+01 | 6.0E-04 | 1.9E-03 | 6.7E-07 | 2.5E-01 | 3.0E-01 | 3.3E-01 | 5.9E-01 | 1 | 1 | | |
| Yes | UHC | CYANIDE | 2.6E+01 | 1.0E-03 | 2.0E-03 | 1.1E-06 | 1.5E-01 | 3.0E-01 | 3.3E-01 | 3.6E-01 | 1 | 1 | 9.68E-03 | 1.3E-08 |
| Yes | UHC | 4,4'-DDD | 3.2E+02 | 2.5E-01 | 1.7E+00 | 2.5E-08 | 6.7E+00 | 2.9E+00 | 1.8E+00 | 2.7E+01 | 1 | 1 | | |
| No | UHC | ALDRIN | 3.6E+02 | 2.9E-01 | 2.2E+00 | 1.4E-08 | 1.2E+01 | 4.1E+00 | 2.3E+00 | 4.9E+01 | 1 | 1 | | |
| Yes | UHC | ALPHA-BHC | 2.9E+02 | 2.1E-02 | 1.4E-01 | 3.7E-08 | 4.6E+00 | 3.9E-01 | 4.3E-01 | 1.1E+01 | 1 | 1 | | |
| Yes | UHC | BETA-BHC | 2.9E+02 | 2.1E-02 | 1.4E-01 | 3.7E-08 | 4.6E+00 | 3.9E-01 | 4.3E-01 | 1.1E+01 | 1 | 1 | | |
| Yes | UHC | DELTA-BHC | 2.9E+02 | 2.1E-02 | 1.4E-01 | 3.7E-08 | 4.6E+00 | 3.9E-01 | 4.3E-01 | 1.1E+01 | 1 | 1 | | |
| Yes | UHC | GAMMA-BHC (LINDANE) | 2.9E+02 | 2.1E-02 | 1.4E-01 | 3.7E-08 | 4.6E+00 | 3.9E-01 | 4.3E-01 | 1.1E+01 | 1 | 1 | | |
| Yes | UHC | DIELDRIN | 3.8E+02 | 3.3E-02 | 2.4E-01 | 1.1E-08 | 1.5E+01 | 4.7E-01 | 5.1E-01 | 3.5E+01 | 1 | 1 | | |
| Yes | UHC | HEPTACHLOR | 3.7E+02 | 1.4E-01 | 1.1E+00 | 1.3E-08 | 1.3E+01 | 1.5E+00 | 1.2E+00 | 5.1E+01 | 1 | 1 | | |
| Yes | UHC | 2-METHYLNAPHTHALENE | 1.4E+02 | 9.2E-02 | 4.2E-01 | 2.5E-07 | 6.7E-01 | 6.3E-01 | 6.6E-01 | 1.6E+00 | 1 | 1 | | |
| No | UHC | BENZO(A)ANTHRACENE | 2.3E+02 | 5.5E-01 | 3.2E+00 | 8.2E-08 | 2.0E+00 | 8.0E+00 | 3.3E+00 | 8.6E+00 | 1 | 1 | | |
| No | UHC | BENZO(A)PYRENE | 2.5E+02 | 7.1E-01 | 4.4E+00 | 6.0E-08 | 2.8E+00 | 1.4E+01 | 4.4E+00 | 1.2E+01 | 1 | 1 | 1.00E-03 | 3.3E-06 |
| No | UHC | BENZO(B)FLUORANTHENE | 2.5E+02 | 4.2E-01 | 2.5E+00 | 6.0E-08 | 2.8E+00 | 5.4E+00 | 2.6E+00 | 1.2E+01 | 1 | 1 | 2.00E-03 | 3.8E-06 |
| No | UHC | BIS(2-ETHYLHEXYL) PHTHALATE | 3.9E+02 | 1.1E+00 | 8.6E+00 | 1.0E-08 | 1.7E+01 | 5.0E+01 | 8.6E+00 | 7.5E+01 | 1 | 1 | | |
| No | UHC | DIBENZO(A,H)ANTHRACENE | 2.8E+02 | 9.5E-01 | 6.1E+00 | 4.3E-08 | 3.9E+00 | 2.6E+01 | 6.2E+00 | 1.7E+01 | 1 | 1 | | |
| No | UHC | INDENO(1,2,3-CD)PYRENE | 2.8E+02 | 1.2E+00 | 7.9E+00 | 4.4E-08 | 3.8E+00 | 4.3E+01 | 8.0E+00 | 1.7E+01 | 1 | 1 | 1.00E-03 | 6.7E-06 |
| Yes | UHC | NAPHTHALENE | 1.3E+02 | 4.7E-02 | 2.0E-01 | 3.0E-07 | 5.6E-01 | 4.4E-01 | 4.8E-01 | 1.3E+00 | 1 | 1 | 5.00E-04 | 4.8E-08 |
| Yes | UHC | PENTACHLOROPHENOL | 2.7E+02 | 1.3E-01 | 8.0E-01 | 5.0E-08 | 3.3E+00 | 1.1E+00 | 9.8E-01 | 1.3E+01 | 1 | 1 | | |
| Yes | UHC | 1,2-DICHLOROETHANE | 9.9E+01 | 4.2E-03 | 1.6E-02 | 4.4E-07 | 3.8E-01 | 3.1E-01 | 3.4E-01 | 9.2E-01 | 1 | 1 | | |
| Yes | UHC | 1,4-DICHLOROBENZENE | 1.5E+02 | 4.5E-02 | 2.1E-01 | 2.3E-07 | 7.1E-01 | 4.5E-01 | 4.9E-01 | 1.7E+00 | 1 | 1 | 7.00E-04 | 7.4E-08 |
| Yes | UHC | BENZENE | 7.8E+01 | 1.5E-02 | 5.1E-02 | 5.7E-07 | 2.9E-01 | 3.3E-01 | 3.7E-01 | 7.0E-01 | 1 | 1 | 5.31E-03 | 1.2E-07 |
| Yes | UHC | CHLOROFORM | 1.2E+02 | 6.8E-03 | 2.9E-02 | 3.3E-07 | 5.0E-01 | 3.2E-01 | 3.5E-01 | 1.2E+00 | 1 | 1 | | |
| Yes | UHC | DICHLOROMETHANE | 8.5E+01 | 3.5E-03 | 1.3E-02 | 5.2E-07 | 3.2E-01 | 3.1E-01 | 3.4E-01 | 7.7E-01 | 1 | 1 | 7.06E-03 | 4.1E-08 |
| Yes | UHC | ETHYLBENZENE | 1.1E+02 | 4.9E-02 | 2.0E-01 | 4.0E-07 | 4.2E-01 | 4.4E-01 | 4.7E-01 | 1.0E+00 | 1 | 1 | | |
| Yes | UHC | ISOPROPYLBENZENE | 1.2E+02 | 9.0E-02 | 3.8E-01 | 3.3E-07 | 5.0E-01 | 5.9E-01 | 6.2E-01 | 1.2E+00 | 1 | 1 | | |

**Table 4.5**
**Values Used for Daily Absorbed Dose Calculations**
**Recreational Exposure to Surface Water**

| In EPD? | Exposure Area | Chemicals of Potential Concern (COPCs) | Chemical-specific Parameters | | | | | | | | | Receptor-specific Parameters | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | MW g/mole | Kp cm/hr | B unitless | $D_{sc}$ cm²/hr | $\tau_{event}$ hr/event | b unitless | c unitless | t* hr | FA unitless | $t_{event}$ (hr/event) | $EPC_{sw}$ (mg/L) | DA mg/cm²-event |
| Yes | UHC | VINYL CHLORIDE | 6.2E+01 | 8.4E-03 | 2.5E-02 | 7.0E-07 | 2.4E-01 | 3.2E-01 | 3.5E-01 | 5.7E-01 | 1 | 1 | 1.00E-03 | 1.2E-08 |
| Yes | UHC | XYLENE, O- | 1.1E+02 | 4.7E-02 | 1.9E-01 | 4.0E-07 | 4.2E-01 | 4.3E-01 | 4.7E-01 | 1.0E+00 | 1 | 1 | | |
| Yes | UHC | XYLENES, M & P | 1.1E+02 | 5.3E-02 | 2.1E-01 | 4.0E-07 | 4.2E-01 | 4.5E-01 | 4.9E-01 | 1.0E+00 | 1 | 1 | | |

Notes:
Only COPCs identified in surface water are presented.
EPD – Effective predictive domain.
MW – Molecular weight (g/mole).
Kp – Stratum corneum (sc) permeability constant (cm/hr).
B – Ratio of permeability of chemical in stratum corneum to permeability in viable epidermis (unitless).
$D_{sc}$ – Effective diffusivity for chemical transfer through the skin (cm²/hr).
$\tau_{event}$ – Lag time per event (hr/event).
b & c – parameters used to calculate time to reach steady state.
t* – Time to reach steady state (hr).
FA – Fraction absorbed (unitless).
$DA_{event}$ – Absorbed dose (mg/cm²-event).
$l_{sc}$ – Apparent thickness of stratum corneum (cm). 0.001
CF – Conversion Factor (L/cm³). 0.001
$C_w$ – Water concentration (*i.e.* , surface water exposure point concentration).
Equations are provided in Part E, Supplemental Guidance for Dermal Risk Assessment of the Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (US EPA, 2004a)

$$B = K_p \frac{\sqrt{MW}}{2.6} \qquad D_{sc} = 10^{(-2.8-0.0056\,MW)} \times l_{sc}$$

$$c = \frac{1+3B+3B^2}{3(1+B)} \qquad \tau_{event} = \frac{l_{sc}^2}{6D_{sc}}$$

$$b = \frac{2(1+B)^2}{\pi} - c \qquad \begin{array}{l} If\ B \le 0.6\ then\ t^* = 2.4\tau_{event} \\ If\ B > 0.6\ then\ t^* = 6\tau_{event}\left(b - \sqrt{b^2 - c^2}\right) \end{array}$$

$$If\ t_{event} \le t^*\ then\ DA_{event} = 2\,FA \times K_p \times C_w \sqrt{\frac{6\tau_{event} \times t_{event}}{\pi}}$$

$$If\ t_{event} > t^*\ then\ DA_{event} = FA \times K_p \times C_w \times \left[\frac{t_{event}}{1+B} + 2\tau_{event}\left(\frac{1+3B+3B^2}{(1+B)^2}\right)\right]$$

**Table 5.1**
**Non-cancer Toxicity Data - Oral/Dermal**

| Chemical of Potential Concern | Chronic/ Subchronic | Oral RfD | | Oral Absorption Efficiency for Dermal (1) | Oral Bioavailability (B) (unitless) | Dermal Absorption Fraction -Soil (ABS) (unitless) (2) | Absorbed RfD for Dermal | | Primary Target Organ/System | Combined Uncertainty/ Modifying Factors | RfD: Target Organ(s) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Value | Units | | | | Value | Units | | | Source(s) (3) | Date(s) |
| ALUMINUM | Chronic | 1.0E+00 | mg/kg-day | 1 | 1 | NA | 1.0E+00 | mg/kg-day | Nervous System | 100 | PPRTV | 10/23/2006 |
| ANTIMONY | Chronic | 4.0E-04 | mg/kg-day | 0.15 | 1 | NA | 6.0E-05 | mg/kg-day | Hematological | 1000 | IRIS | 2/1/1991 |
| ARSENIC | Chronic | 3.0E-04 | mg/kg-day | 1 | 0.6 | 0.03 | 3.0E-04 | mg/kg-day | Skin | 3 | IRIS | 2/1/1993 |
| BARIUM | Chronic | 2.0E-01 | mg/kg-day | 0.07 | 1 | NA | 1.4E-02 | mg/kg-day | Renal | 300 | IRIS | 7/11/2005 |
| CADMIUM | Chronic | 1.0E-03 | mg/kg-day | 0.025 | 1 | 0.001 | 2.5E-05 | mg/kg-day | Renal | 10 | IRIS (Cadmium in soil) | 2/1/1994 |
| CHROMIUM | Chronic | 3.0E-03 | mg/kg-day | 0.025 | 1 | NA | 7.5E-05 | mg/kg-day | None Observed | 900 | IRIS (Chromium VI) | 9/3/1998 |
| CHROMIUM, HEXAVALENT | Chronic | 3.0E-03 | mg/kg-day | 0.025 | 1 | NA | 7.5E-05 | mg/kg-day | None Observed | 900 | IRIS (Chromium VI) | 9/3/1998 |
| COBALT | Chronic | 3.0E-04 | mg/kg-day | 1 | 1 | NA | 3.0E-04 | mg/kg-day | Endocrine | 3000 | PPRTV | NA |
| COPPER | Chronic | 4.0E-02 | mg/kg-day | 1 | 1 | NA | 4.0E-02 | mg/kg-day | Gastrointestinal | NA | HEAST | NA |
| CYANIDE | Chronic | 6.0E-04 | mg/kg-day | 1 | 1 | NA | 6.0E-04 | mg/kg-day | Reproductive | 3000 | IRIS | 9/28/2010 |
| IRON | Chronic | 7.0E-01 | mg/kg-day | 1 | 1 | NA | 7.0E-01 | mg/kg-day | Gastrointestinal | 1.5 | PPRTV | NA |
| LEAD | Chronic | NA | NA | 1 | 1 | NA | NA | NA | NA | NA | See Note (4) | NA |
| MANGANESE | Chronic | 2.4E-02 | mg/kg-day | 0.04 | 1 | NA | 9.6E-04 | mg/kg-day | Nervous System | 1 | US EPA RSL (5) | 5/1/1996 |
| MERCURY | Chronic | 3.0E-04 | mg/kg-day | 0.07 | 1 | NA | 2.1E-05 | mg/kg-day | Immunological | 1000 | IRIS (mercuric chloride) | 5/1/1995 |
| THALLIUM | Chronic | 1.0E-05 | mg/kg-day | 1 | 1 | NA | 1.0E-05 | mg/kg-day | Skin | 3000 | PPRTV (Appendix) | NA |
| VANADIUM | Chronic | 5.0E-03 | mg/kg-day | 0.026 | 1 | NA | 1.3E-04 | mg/kg-day | Systemic | 100 | IRIS (Vanadium Pentoxide) | 12/1/1996 |
| ZINC | Chronic | 3.0E-01 | mg/kg-day | 1 | 1 | NA | 3.0E-01 | mg/kg-day | Hematological | 3 | IRIS | 8/3/2005 |
| ALDRIN | Chronic | 3.0E-05 | mg/kg-day | 1 | 1 | NA | 3.0E-05 | mg/kg-day | Hepatic | 1000 | IRIS | 3/31/1987 |
| AROCLOR-1248 | Chronic | 2.0E-05 | mg/kg-day | 1 | 1 | 0.14 | 2.0E-05 | mg/kg-day | Immunological | 300 | IRIS (Aroclor 1254) (6) | 11/1/1996 |
| AROCLOR-1254 | Chronic | 2.0E-05 | mg/kg-day | 1 | 1 | 0.14 | 2.0E-05 | mg/kg-day | Immunological | 300 | IRIS | 11/1/1996 |
| AROCLOR-1260 | Chronic | 2.0E-05 | mg/kg-day | 1 | 1 | 0.14 | 2.0E-05 | mg/kg-day | Immunological | 300 | IRIS (Aroclor 1254) (6) | 11/1/1996 |
| DIELDRIN | Chronic | 5.0E-05 | mg/kg-day | 1 | 1 | 0.1 | 5.0E-05 | mg/kg-day | Hepatic | 100 | IRIS | 9/1/1990 |
| 1,1'-BIPHENYL | Chronic | 5.0E-01 | mg/kg-day | 1 | 1 | NA | 5.0E-01 | mg/kg-day | Renal | 30 | IRIS | 8/27/2013 |
| 2-METHYLNAPHTHALENE | Chronic | 4.0E-03 | mg/kg-day | 1 | 1 | 0.13 | 4.0E-03 | mg/kg-day | Respiratory | 1000 | IRIS | 12/22/2003 |
| BENZO(A)ANTHRACENE | Chronic | NA | NA | 1 | 1 | 0.13 | NA | NA | NA | NA | NA | NA |
| BENZO(A)PYRENE | Chronic | 3.0E-04 | mg/kg-day | 1 | 1 | 0.13 | 3.0E-04 | mg/kg-day | Developmental | 300 | IRIS (7) | 1/19/2017 |
| BENZO(B)FLUORANTHENE | Chronic | NA | NA | 1 | 1 | 0.13 | NA | NA | NA | NA | NA | NA |
| BENZO(K)FLUORANTHENE | Chronic | NA | NA | 1 | 1 | 0.13 | NA | NA | NA | NA | NA | NA |
| CARBAZOLE | Chronic | NA | NA | 1 | 1 | NA | NA | NA | NA | NA | NA | NA |
| CHRYSENE | Chronic | NA | NA | 1 | 1 | 0.13 | NA | NA | NA | NA | NA | NA |
| DIBENZO(A,H)ANTHRACENE | Chronic | NA | NA | 1 | 1 | 0.13 | NA | NA | NA | NA | NA | NA |
| DIBENZOFURAN | Chronic | 1.0E-03 | mg/kg-day | 1 | 1 | 0.03 | 1.0E-03 | mg/kg-day | Systemic | 10000 | PPRTV (Appendix) | 6/11/2007 |
| INDENO(1,2,3-CD)PYRENE | Chronic | NA | NA | 1 | 1 | 0.13 | NA | NA | NA | NA | NA | NA |
| NAPHTHALENE | Chronic | 2.0E-02 | mg/kg-day | 1 | 1 | 0.13 | 2.0E-02 | mg/kg-day | Systemic | 3000 | IRIS | 9/17/1998 |
| PENTACHLOROPHENOL | Chronic | 5.0E-03 | mg/kg-day | 1 | 1 | 0.25 | 5.0E-03 | mg/kg-day | Hepatic | 300 | IRIS | 9/30/2010 |
| 1,4-DICHLOROBENZENE | Chronic | 7.0E-02 | mg/kg-day | 1 | 1 | NA | 7.0E-02 | mg/kg-day | Hepatic | 100 | ATSDR | 8/1/2006 |
| BENZENE | Chronic | 4.0E-03 | mg/kg-day | 1 | 1 | NA | 4.0E-03 | mg/kg-day | Immunological | 300 | IRIS | 4/17/2003 |
| DICHLOROMETHANE | Chronic | 6.0E-03 | mg/kg-day | 1 | 1 | NA | 6.0E-03 | mg/kg-day | Hepatic | 30 | IRIS | 11/18/2011 |
| ETHYLBENZENE | Chronic | 1.0E-01 | mg/kg-day | 1 | 1 | NA | 1.0E-01 | mg/kg-day | Hepatic | 1000 | IRIS | 6/1/1991 |
| METHYLCYCLOHEXANE | Chronic | NA | NA | 1 | 1 | NA | NA | NA | NA | NA | NA | NA |
| TRICHLOROETHYLENE (TCE) | Chronic | 5.0E-04 | mg/kg-day | 1 | 1 | NA | 5.0E-04 | mg/kg-day | Developmental | See note (8) | IRIS | 9/28/2011 |
| VINYL CHLORIDE | Chronic | 3.0E-03 | mg/kg-day | 1 | 1 | NA | 3.0E-03 | mg/kg-day | Hepatic | 30 | IRIS | 8/7/2000 |
| XYLENES (TOTAL) | Chronic | 2.0E-01 | mg/kg-day | 1 | 1 | NA | 2.0E-01 | mg/kg-day | Systemic | 1000 | IRIS | 2/21/2003 |
| 1,1-BIPHENYL, 3,3,4,4,5,5-HEXACHLORO | Chronic | 2.3E-08 | mg/kg-day | 1 | 1 | 0.14 | 2.3E-08 | mg/kg-day | Reproductive | 30 | IRIS (2,3,7,8-TCDD) (9) | 2/17/2012 |
| 1,2,4-TRIMETHYLBENZENE | Chronic | 1.0E-02 | mg/kg-day | 1 | 1 | NA | 1.0E-02 | mg/kg-day | Nervous System | 300 | IRIS (10) | 9/9/2016 |
| BENZENE, 1,2,3-TRIMETHYL- | Chronic | 1.0E-02 | mg/kg-day | 1 | 1 | NA | 1.0E-02 | mg/kg-day | Nervous System | 300 | IRIS (10) | 9/9/2016 |

**Table 5.1**
**Non-cancer Toxicity Data - Oral/Dermal**

| Chemical of Potential Concern | Chronic/ Subchronic | Oral RfD | | Oral Absorption Efficiency for Dermal (1) | Oral Bioavailability (B) (unitless) | Dermal Absorption Fraction -Soil (ABS) (unitless) (2) | Absorbed RfD for Dermal | | Primary Target Organ/System | Combined Uncertainty/ Modifying Factors | RfD: Target Organ(s) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Value | Units | | | | Value | Units | | | Source(s) (3) | Date(s) |
| BENZENE, 1,3,5-TRIMETHYL- | Chronic | 1.0E-02 | mg/kg-day | 1 | 1 | NA | 1.0E-02 | mg/kg-day | Nervous System | 300 | IRIS (10) | 9/9/2016 |
| BENZO[J]FLUORANTHENE | Chronic | NA | NA | 1 | 1 | 0.13 | NA | NA | NA | NA | NA | |
| NAPHTHALENE, 1-METHYL- | Chronic | 7.0E-02 | mg/kg-day | 1 | 1 | 0.13 | 7.0E-02 | mg/kg-day | Respiratory | 1000 | ATSDR (1-Methylnaphthalene) | 8/1/2005 |

Notes:

(1) The oral absorption efficiency is from EPA (2004a, Exhibit 4-1) or the EPA RSLs (US EPA, 2016b).

(2) Literature sources of Dermal Absorption Fractions for Soil are discussed in Section 7 of the report text.

(3) EPA (2016b) cites the following sources for toxicity values (Cancer Slope Factor, Reference Dose, Unit Risk, and Reference Concentration):

EPA Integrated Risk Information System (IRIS)
Health Effects Assessment Summary Tables (HEAST)
Agency for Toxic Substances and Disease Registry (ATSDR)
Provisional Peer-reviewed Toxicity Values (PPRTVs)

(4) Lead does not have toxicity factors; lead risk will be evaluated with a blood lead model.

(5) RfD for manganese based on non-diet is recommended in the EPA RSL User Guide, which subtracts the manganese contribution from the diet and uses a modifying factor of 3 (US EPA, 2016e).

(6) The RfD for Aroclor 1254 was used for other highly chlorinated Aroclors, including Aroclor 1248 and Aroclor 1260.

(7) The RfD for benzo(a)pyrene was obtained from the IRIS January 2017 toxicological review (US EPA, 2017a).

(8) Multiple uncertainty factors were considered in the derivation of this RfD.

(9) The RfDs for the non-ortho and mono-ortho PCB compounds are based on 2,3,7,8-tetrachlorodibenzo-p-dioxin and a toxicity equivalency factor (US EPA, 2016e).

(10) The RfDs for the trimethylbenzenes were obtained from the IRIS September 2016 toxicological review (US EPA, 2016g).

**Table 5.2**
**Non-cancer Toxicity Data - Inhalation**

| Chemical of Potential Concern | Chronic/ Subchronic | Inhalation Reference Concentration (RfC) | | Primary Target Organ/System | Combined Uncertainty/ Modifying Factors | RfC: Target Organ(s) | |
|---|---|---|---|---|---|---|---|
| | | | | | | Source(s) (1) | Date(s) |
| ALUMINUM | Chronic | 5.0E-03 | mg/m3 | Nervous System | 300 | PPRTV | 10/23/2006 |
| ANTIMONY | Chronic | NA | NA | NA | NA | NA | NA |
| ARSENIC | Chronic | 1.5E-05 | mg/m3 | Respiratory | 30 | CalEPA | 12/1/2008 |
| BARIUM | Chronic | 5.0E-04 | mg/m3 | Reproductive | 1000 | HEAST | 7/1/1997 |
| CADMIUM | Chronic | 1.0E-05 | mg/m3 | Renal | 10 | ATSDR | 9/1/2012 |
| CHROMIUM | Chronic | 1.0E-04 | mg/m3 | Respiratory | 300 | IRIS (Chromium VI) | 9/3/1998 |
| CHROMIUM, HEXAVALENT | Chronic | 1.0E-04 | mg/m3 | Respiratory | 300 | IRIS (Chromium VI) | 9/3/1998 |
| COBALT | Chronic | 6.0E-06 | mg/m3 | Respiratory | 300 | PPRTV | 8/25/2008 |
| COPPER | Chronic | NA | NA | NA | NA | NA | NA |
| CYANIDE | Chronic | 8.0E-04 | mg/m3 | Endocrine | 3000 | IRIS (Hydrogen Cyanide & Cyanide Salts) | 9/28/2010 |
| IRON | Chronic | NA | NA | NA | NA | NA | NA |
| LEAD | Chronic | NA | NA | NA | NA | NA | NA |
| MANGANESE | Chronic | 5.0E-05 | mg/m3 | Nervous System | 1000 | IRIS | 12/1/1993 |
| MERCURY | Chronic | 3.0E-04 | mg/m3 | Nervous System | 30 | IRIS (Mercury, elemental) | 6/1/1995 |
| THALLIUM | Chronic | NA | NA | NA | NA | NA | NA |
| VANADIUM | Chronic | 1.0E-04 | mg/m3 | Respiratory | 30 | ATSDR | 9/1/2012 |
| ZINC | Chronic | NA | NA | NA | NA | NA | NA |
| ALDRIN | Chronic | NA | NA | NA | NA | NA | NA |
| AROCLOR-1248 | Chronic | NA | NA | NA | NA | NA | NA |
| AROCLOR-1254 | Chronic | NA | NA | NA | NA | NA | NA |
| AROCLOR-1260 | Chronic | NA | NA | NA | NA | NA | NA |
| DIELDRIN | Chronic | NA | NA | NA | NA | NA | NA |
| 1,1'-BIPHENYL | Chronic | 4.0E-04 | mg/m3 | Hepatic | 3000 | PPRTV (Appendix) | 4/4/2011 |
| 2-METHYLNAPHTHALENE | Chronic | NA | NA | NA | NA | NA | NA |
| BENZO(A)ANTHRACENE | Chronic | NA | NA | NA | NA | NA | NA |
| BENZO(A)PYRENE | Chronic | 2.0E-06 | mg/m3 | Developmental | 3000 | IRIS (2) | 1/19/2017 |
| BENZO(B)FLUORANTHENE | Chronic | NA | NA | NA | NA | NA | NA |
| BENZO(K)FLUORANTHENE | Chronic | NA | NA | NA | NA | NA | NA |
| CARBAZOLE | Chronic | NA | NA | NA | NA | NA | NA |
| CHRYSENE | Chronic | NA | NA | NA | NA | NA | NA |
| DIBENZO(A,H)ANTHRACENE | Chronic | NA | NA | NA | NA | NA | NA |
| DIBENZOFURAN | Chronic | NA | NA | NA | NA | NA | NA |
| INDENO(1,2,3-CD)PYRENE | Chronic | NA | NA | NA | NA | NA | NA |
| NAPHTHALENE | Chronic | 3.0E-03 | mg/m3 | Respiratory | 3000 | IRIS | 9/17/1998 |
| PENTACHLOROPHENOL | Chronic | NA | NA | NA | NA | NA | NA |
| 1,4-DICHLOROBENZENE | Chronic | 8.0E-01 | mg/m3 | Hepatic | 100 | IRIS | 11/1/1996 |
| BENZENE | Chronic | 3.0E-02 | mg/m3 | Immunological | 300 | IRIS | 4/17/2003 |
| DICHLOROMETHANE | Chronic | 6.0E-01 | mg/m3 | Hepatic | 30 | IRIS | 11/18/2011 |

**Table 5.2**
**Non-cancer Toxicity Data - Inhalation**

| Chemical of Potential Concern | Chronic/ Subchronic | Inhalation Reference Concentration (RfC) | | Primary Target Organ/System | Combined Uncertainty/ Modifying Factors | RfC: Target Organ(s) | |
|---|---|---|---|---|---|---|---|
| | | | | | | Source(s) (1) | Date(s) |
| ETHYLBENZENE | Chronic | 1.0E+00 | mg/m3 | Developmental | 300 | IRIS | 3/1/1991 |
| METHYLCYCLOHEXANE | Chronic | 6.0E+00 | mg/m3 | Reproductive | 300 | IRIS (Cyclohexane) | 9/11/2003 |
| TRICHLOROETHYLENE (TCE) | Chronic | 2.0E-03 | mg/m3 | Developmental | See Note (3) | IRIS | 9/28/2011 |
| VINYL CHLORIDE | Chronic | 1.0E-01 | mg/m3 | Hepatic | 30 | IRIS | 8/7/2000 |
| XYLENES (TOTAL) | Chronic | 1.0E-01 | mg/m3 | Nervous System | 300 | IRIS | 2/21/2003 |
| 1,1-BIPHENYL, 3,3,4,4,5,5-HEXACHLORO | Chronic | 1.3E-06 | mg/m3 | Hepatic | 100 | CalEPA (2,3,7,8-TCDD) (4) | 12/1/2000 |
| 1,2,4-TRIMETHYLBENZENE | Chronic | 6.0E-02 | mg/m3 | Nervous System | 300 | IRIS (5) | 9/9/2016 |
| BENZENE, 1,2,3-TRIMETHYL- | Chronic | 6.0E-02 | mg/m3 | Nervous System | 300 | IRIS (5) | 9/9/2016 |
| BENZENE, 1,3,5-TRIMETHYL- | Chronic | 6.0E-02 | mg/m3 | Nervous System | 300 | IRIS (5) | 9/9/2016 |
| BENZO[J]FLUORANTHENE | Chronic | NA | NA | NA | NA | NA | NA |
| NAPHTHALENE, 1-METHYL- | Chronic | NA | NA | NA | NA | NA | NA |

Notes:

NA – Not available.

(1) EPA (2016b) cites the following sources for toxicity values (Cancer Slope Factor, Reference Dose, Unit Risk and Reference Concentration):

EPA Integrated Risk Information System (IRIS)
California EPA (CalEPA)
Health Effects Assessment Summary Tables (HEAST)
Agency for Toxic Substances and Disease Registry (ATSDR)
Provisional Peer-reviewed Toxicity Values (PPRTVs)

(2) The RfC for benzo(a)pyrene was obtained from the IRIS January 2017 toxicological review (US EPA, 2017a).

(3) Multiple uncertainty factors were considered in the derivation of this RfC.

(4) The RfCs for the non-ortho and mono-ortho PCB compounds are based on 2,3,7,8-tetrachlorodibenzo-p-dioxin and a toxicity equivalency factor (US EPA, 2016e).

(5) The RfDs for the trimethylbenzenes were obtained from the IRIS September 2016 toxicological review (US EPA, 2016g).

**Table 6.1**
**Cancer Toxicity Data - Oral/Dermal**

| Chemical of Potential Concern | Oral Cancer Slope Factor | | Oral Absorption Efficiency for Dermal (1) | Absorbed Cancer Slope Factor for Dermal | | Weight of Evidence/ Cancer Guideline Description | Oral CSF | | Mutagen (3) |
|---|---|---|---|---|---|---|---|---|---|
| | Value | Units | | Value | Units | | Source(s) (2) | Date(s) | |
| ALUMINUM | NA | NA | 1 | NA | NA | D | IRIS | 2/1/1995 | No |
| ANTIMONY | NA | NA | 0.15 | NA | NA | NA | NA | NA | No |
| ARSENIC | 1.5E+00 | (mg/kg-day)-1 | 1 | 1.5E+00 | (mg/kg-day)-1 | A | IRIS | 4/10/1998 | No |
| BARIUM | NA | NA | 0.07 | NA | NA | D | IRIS | 3/30/1998 | No |
| CADMIUM | NA | NA | 0.025 | NA | NA | B1 | IRIS (Cadmium in soil) | 6/1/1992 | No |
| CHROMIUM | 5.0E-01 | (mg/kg-day)-1 | 0.025 | 2.0E+01 | (mg/kg-day)-1 | NA | NJDEP (Chromium VI) (4) | 6/1/2009 | Yes |
| CHROMIUM, HEXAVALENT | 5.0E-01 | (mg/kg-day)-1 | 0.025 | 2.0E+01 | (mg/kg-day)-1 | NA | NJDEP (Chromium VI) (4) | 6/1/2009 | Yes |
| COBALT | NA | NA | 1 | NA | NA | NA | NA | NA | No |
| COPPER | NA | NA | 1 | NA | NA | D | IRIS | 8/1/1991 | No |
| CYANIDE | NA | NA | 1 | NA | NA | D | IRIS | 9/28/2010 | No |
| IRON | NA | NA | 1 | NA | NA | NA | NA | NA | No |
| LEAD | NA | NA | 1 | NA | NA | B2 | IRIS | 11/1/1993 | No |
| MANGANESE | NA | NA | 0.04 | NA | NA | D | IRIS | 12/1/1996 | No |
| MERCURY | NA | NA | 0.07 | NA | NA | C | IRIS (mercuric chloride) | 5/1/1995 | No |
| THALLIUM | NA | NA | 1 | NA | NA | D | IRIS (thallium soluble salts) | 9/30/2009 | No |
| VANADIUM | NA | NA | 0.026 | NA | NA | NA | NA | NA | No |
| ZINC | NA | NA | 1 | NA | NA | Data inadequate | IRIS | 8/3/2005 | No |
| ALDRIN | 1.7E+01 | (mg/kg-day)-1 | 1 | 1.7E+01 | (mg/kg-day)-1 | B2 | IRIS | 8/22/1988 | No |
| AROCLOR-1248 | 2.0E+00 | (mg/kg-day)-1 | 1 | 2.0E+00 | (mg/kg-day)-1 | B2 | IRIS (PCBs); High risk and persistence; Upper-bound | 6/1/1997 | No |
| AROCLOR-1254 | 2.0E+00 | (mg/kg-day)-1 | 1 | 2.0E+00 | (mg/kg-day)-1 | B2 | IRIS (PCBs); High risk and persistence; Upper-bound | 6/1/1997 | No |
| AROCLOR-1260 | 2.0E+00 | (mg/kg-day)-1 | 1 | 2.0E+00 | (mg/kg-day)-1 | B2 | IRIS (PCBs); High risk and persistence; Upper-bound | 6/1/1997 | No |
| DIELDRIN | 1.6E+01 | (mg/kg-day)-1 | 1 | 1.6E+01 | (mg/kg-day)-1 | B2 | IRIS | 7/1/1993 | No |
| 1,1'-BIPHENYL | 8.0E-03 | (mg/kg-day)-1 | 1 | 8.0E-03 | (mg/kg-day)-1 | Suggestive evidence of carcinogenic potential | IRIS | 8/27/2013 | No |
| 2-METHYLNAPHTHALENE | NA | NA | 1 | NA | NA | NA | NA | NA | No |
| BENZO(A)ANTHRACENE | 1.0E-01 | (mg/kg-day)-1 | 1 | 1.0E-01 | (mg/kg-day)-1 | B2 | IRIS (benzo(a)pyrene) (5) | 1/19/2017 | Yes |
| BENZO(A)PYRENE | 1.0E+00 | (mg/kg-day)-1 | 1 | 1.0E+00 | (mg/kg-day)-1 | B2 | IRIS (6) | 1/19/2017 | Yes |
| BENZO(B)FLUORANTHENE | 1.0E-01 | (mg/kg-day)-1 | 1 | 1.0E-01 | (mg/kg-day)-1 | B2 | IRIS (benzo(a)pyrene) (5) | 1/19/2017 | Yes |
| BENZO(K)FLUORANTHENE | 1.0E-02 | (mg/kg-day)-1 | 1 | 1.0E-02 | (mg/kg-day)-1 | B2 | IRIS (benzo(a)pyrene) (5) | 11/1/1994 | Yes |
| CARBAZOLE | 2.0E-02 | (mg/kg-day)-1 | 1 | 2.0E-02 | (mg/kg-day)-1 | B2 | HEAST | 7/1/1997 | No |
| CHRYSENE | 1.0E-03 | (mg/kg-day)-1 | 1 | 1.0E-03 | (mg/kg-day)-1 | B2 | IRIS (benzo(a)pyrene) (5) | 11/1/1994 | Yes |
| DIBENZO(A,H)ANTHRACENE | 1.0E+00 | (mg/kg-day)-1 | 1 | 1.0E+00 | (mg/kg-day)-1 | B2 | IRIS (benzo(a)pyrene) (5) | 11/1/1994 | Yes |
| DIBENZOFURAN | NA | NA | 1 | NA | NA | D | IRIS | 10/1/1990 | No |
| INDENO(1,2,3-CD)PYRENE | 1.0E-01 | (mg/kg-day)-1 | 1 | 1.0E-01 | (mg/kg-day)-1 | B2 | IRIS (benzo(a)pyrene) (5) | 11/1/1994 | Yes |
| NAPHTHALENE | NA | NA | 1 | NA | NA | NA | NA | NA | No |
| PENTACHLOROPHENOL | 4.0E-01 | (mg/kg-day)-1 | 1 | 4.0E-01 | (mg/kg-day)-1 | B2 | IRIS | 9/30/2010 | No |
| 1,4-DICHLOROBENZENE | 5.4E-03 | (mg/kg-day)-1 | 1 | 5.4E-03 | (mg/kg-day)-1 | B3 | Cal EPA | 10/10/2008 | No |
| BENZENE | 5.5E-02 | (mg/kg-day)-1 | 1 | 5.5E-02 | (mg/kg-day)-1 | A | IRIS | 1/19/2000 | No |
| DICHLOROMETHANE | 2.0E-03 | (mg/kg-day)-1 | 1 | 2.0E-03 | (mg/kg-day)-1 | B1 | IRIS | 11/18/2011 | Yes |
| ETHYLBENZENE | 1.1E-02 | (mg/kg-day)-1 | 1 | 1.1E-02 | (mg/kg-day)-1 | D | CalEPA | 6/11/2004 | No |
| METHYLCYCLOHEXANE | NA | NA | 1 | NA | NA | NA | NA | NA | No |

**Table 6.1**
**Cancer Toxicity Data - Oral/Dermal**

| Chemical of Potential Concern | Oral Cancer Slope Factor | | Oral Absorption Efficiency for Dermal (1) | Absorbed Cancer Slope Factor for Dermal | | Weight of Evidence/ Cancer Guideline Description | Oral CSF | | Mutagen (3) |
|---|---|---|---|---|---|---|---|---|---|
| | Value | Units | | Value | Units | | Source(s) (2) | Date(s) | |
| TRICHLOROETHYLENE (TCE) | 4.6E-02 | (mg/kg-day)-1 | 1 | 4.6E-02 | (mg/kg-day)-1 | A | IRIS (7) | 9/28/2011 | Yes |
| VINYL CHLORIDE | 7.2E-01 | (mg/kg-day)-1 | 1 | 7.2E-01 | (mg/kg-day)-1 | A | IRIS | 8/7/2000 | Yes |
| XYLENES (TOTAL) | NA | NA | 1 | NA | NA | NA | NA | NA | No |
| 1,1-BIPHENYL, 3,3,4,4,5,5-HEXACHLORO | 3.9E+03 | (mg/kg-day)-1 | 1 | 3.9E+03 | (mg/kg-day)-1 | Potential Carcinogen to humans | CalEPA (2,3,7,8-TCDD) (8) | 5/1/2009 | No |
| 1,2,4-TRIMETHYLBENZENE | NA | NA | 1 | NA | NA | NA | NA | NA | No |
| BENZENE, 1,2,3-TRIMETHYL- | NA | NA | 1 | NA | NA | NA | NA | NA | No |
| BENZENE, 1,3,5-TRIMETHYL- | NA | NA | 1 | NA | NA | NA | NA | NA | No |
| BENZO[J]FLUORANTHENE | 1.2E+00 | (mg/kg-day)-1 | 1 | 1.2E+00 | (mg/kg-day)-1 | B2 | CalEPA (Benzo(j)fluoranthene) (9) | 5/1/2009 | No |
| NAPHTHALENE, 1-METHYL- | 2.9E-02 | (mg/kg-day)-1 | 1 | 2.9E-02 | (mg/kg-day)-1 | Suggestive Evidence of Carcinogenicity | PPRTV (1-methylnaphthalene) | 1/10/2008 | No |

Notes:

Data inadequate – Data are inadequate to assess carcinogenic potential.

(1) The oral absorption efficiency was obtained from EPA (2004a, Exhibit 4-1) or EPA RSLs (US EPA, 2016b).

(2) EPA (2016b) cites the following sources for toxicity values (Cancer Slope Factor, Reference Dose, Unit Risk, and Reference Concentration):

EPA Integrated Risk Information System (IRIS) — California EPA (CalEPA)

Provisional Peer-reviewed Toxicity Values (PPRTVs) — Health Effects Assessment Summary Tables (HEAST)

(3) Mutagen – Compounds with mutagenic modes of action are flagged in this column. Information is obtained from the EPA RSL table (US EPA, 2016b).

(4) The toxicological value for chromium (VI) was obtained from NJDEP (2009).

(5) The CSFs for the PAH compounds are based on benzo(a)pyrene and a toxicity equivalency factor, as listed in IRIS (US EPA, 2016e).

(6) The CSF for benzo(a)pyrene was obtained from the IRIS January 2017 toxicological review (US EPA, 2017a).

(7) The CSF for trichloroethylene is based on specific CSFs for kidney cancer [9.3E-03 $(mg/kg\text{-}day)^{-1}$], liver cancer [1.6E-02 $(mg/kg\text{-}day)^{-1}$], and non-Hodgkin's lymphoma [2.2E-02 $(mg/kg\text{-}day)^{-1}$] (US EPA, 2011c).

(8) The CSFs for the non-ortho and mono-ortho PCB compounds are based on 2,3,7,8-tetrachlorodibenzo-p-dioxin and a toxicity equivalency factor (US EPA, 2016e).

(9) The CSF for benzo(j)fluoranthene is based on benzo(a)pyrene and a potency equivalency factor from CalEPA (CalOEHHA, 2009). This value pre-dates EPA's CSF for benzo(a)pyrene published in January 2017 (EPA, 2017a).

## Table 6.2
## Cancer Toxicity Factors - Inhalation

| Chemical of Potential Concern | Inhalation Unit Risk (UR) | | Weight of Evidence/Cancer Guideline Description | Unit Risk | | Mutagen (2) |
|---|---|---|---|---|---|---|
| | | | | Source(s) (1) | Date(s) | |
| ALUMINUM | NA | NA | NA | NA | NA | No |
| ANTIMONY | NA | NA | NA | NA | NA | No |
| ARSENIC | 4.3E-03 | (µg/m3)-1 | A | IRIS | 4/10/1998 | No |
| BARIUM | NA | NA | NA | NA | NA | No |
| CADMIUM | 1.8E-03 | (µg/m3)-1 | B1 | IRIS | 6/1/1992 | No |
| CHROMIUM | 8.4E-02 | (µg/m3)-1 | A | IRIS (Chromium VI) | 9/3/1998 | Yes |
| CHROMIUM, HEXAVALENT | 8.4E-02 | (µg/m3)-1 | A | IRIS (Chromium VI) | 9/3/1998 | Yes |
| COBALT | 9.0E-03 | (µg/m3)-1 | B2 | PPRTV | 8/25/2008 | No |
| COPPER | NA | NA | NA | NA | NA | No |
| CYANIDE | NA | NA | NA | NA | NA | No |
| IRON | NA | NA | NA | NA | NA | No |
| LEAD | NA | NA | NA | NA | NA | No |
| MANGANESE | NA | NA | NA | NA | NA | No |
| MERCURY | NA | NA | NA | NA | NA | No |
| THALLIUM | NA | NA | NA | NA | NA | No |
| VANADIUM | NA | NA | NA | NA | NA | No |
| ZINC | NA | NA | NA | NA | NA | No |
| ALDRIN | 4.9E-03 | (µg/m3)-1 | B2 | IRIS | 9/30/1987 | No |
| AROCLOR-1248 | 5.7E-04 | (µg/m3)-1 | B2 | IRIS (PCBs); High risk and persistence; Upper-bound | 6/1/1997 | No |
| AROCLOR-1254 | 5.7E-04 | (µg/m3)-1 | B2 | IRIS (PCBs); High risk and persistence; Upper-bound | 6/1/1997 | No |
| AROCLOR-1260 | 5.7E-04 | (µg/m3)-1 | B2 | IRIS (PCBs); High risk and persistence; Upper-bound | 6/1/1997 | No |
| DIELDRIN | 4.6E-03 | (µg/m3)-1 | B2 | IRIS | 7/1/1993 | No |
| 1,1'-BIPHENYL | NA | NA | NA | NA | NA | No |
| 2-METHYLNAPHTHALENE | NA | NA | NA | NA | NA | No |
| BENZO(A)ANTHRACENE | 6.0E-05 | (µg/m3)-1 | B2 | IRIS (benzo(a)pyrene) (3) | 1/19/2017 | Yes |
| BENZO(A)PYRENE | 6.0E-04 | (µg/m3)-1 | B2 | IRIS (4) | 1/19/2017 | Yes |
| BENZO(B)FLUORANTHENE | 6.0E-05 | (µg/m3)-1 | B2 | IRIS (benzo(a)pyrene) (3) | 1/19/2017 | Yes |
| BENZO(K)FLUORANTHENE | 6.0E-06 | (µg/m3)-1 | B2 | IRIS (benzo(a)pyrene) (3) | 1/19/2017 | Yes |
| CARBAZOLE | NA | NA | Data inadequate | NA | NA | No |
| CHRYSENE | 6.0E-07 | (µg/m3)-1 | B2 | IRIS (benzo(a)pyrene) (3) | 1/19/2017 | Yes |
| DIBENZO(A,H)ANTHRACENE | 6.0E-04 | (µg/m3)-1 | B2 | IRIS (benzo(a)pyrene) (3) | 1/19/2017 | Yes |
| DIBENZOFURAN | NA | NA | D | NA | 10/1/1990 | No |
| INDENO(1,2,3-CD)PYRENE | 6.0E-05 | (µg/m3)-1 | B2 | IRIS (benzo(a)pyrene) (3) | 1/19/2017 | Yes |

## Table 6.2
## Cancer Toxicity Factors - Inhalation

| Chemical of Potential Concern | Inhalation Unit Risk (UR) | | Weight of Evidence/Cancer Guideline Description | Unit Risk | | Mutagen (2) |
|---|---|---|---|---|---|---|
| | | | | Source(s) (1) | Date(s) | |
| NAPHTHALENE | 3.4E-05 | (µg/m3)-1 | B2 | CalEPA (3) | 1/20/2011 | No |
| PENTACHLOROPHENOL | 5.1E-06 | (µg/m3)-1 | B2 | CalEPA (3) | 1/20/2011 | No |
| 1,4-DICHLOROBENZENE | 1.1E-05 | (µg/m3)-1 | B3 | Cal EPA | 10/10/2008 | No |
| BENZENE | 7.8E-06 | (µg/m3)-1 | A | IRIS | 1/19/2000 | No |
| DICHLOROMETHANE | 1.0E-08 | (µg/m3)-1 | B1 | IRIS | 11/18/2011 | Yes |
| ETHYLBENZENE | 2.5E-06 | (µg/m3)-1 | D | CalEPA | 1/20/2011 | No |
| METHYLCYCLOHEXANE | NA | NA | NA | NA | NA | No |
| TRICHLOROETHYLENE (TCE) | 4.1E-06 | (µg/m3)-1 | A | IRIS (5) | 9/28/2011 | Yes |
| VINYL CHLORIDE | 4.4E-06 | (µg/m3)-1 | A | IRIS | 8/7/2000 | Yes |
| XYLENES (TOTAL) | NA | NA | NA | NA | NA | No |
| 1,1-BIPHENYL, 3,3,4,4,5,5-HEXACHLORO | 1.1E+00 | (µg/m3)-1 | Potential Carcinogen to humans | CalEPA (2,3,7,8-TCDD) (6) | 5/1/2009 | No |
| 1,2,4-TRIMETHYLBENZENE | NA | NA | NA | NA | NA | No |
| BENZENE, 1,2,3-TRIMETHYL- | NA | NA | NA | NA | NA | No |
| BENZENE, 1,3,5-TRIMETHYL- | NA | NA | NA | NA | NA | No |
| BENZO[J]FLUORANTHENE | 1.1E-04 | (µg/m3)-1 | B2 | CalEPA (Benzo(j)fluoranthene) (7) | 5/1/2009 | No |
| NAPHTHALENE, 1-METHYL- | NA | NA | NA | NA | NA | No |

Notes:

NA – Not Available.

Toxicity factors, absorption factors (Dermal and GI), and mutagen identification from EPA (2016b).

(1) EPA (2016b) cites the following sources for toxicity values (Cancer Slope Factor, Reference Dose, Unit Risk, and Reference Concentration):
EPA Integrated Risk Information System (IRIS) Provisional Peer-reviewed Toxicity Values (PPRTVs)
California EPA (CalEPA)

(2) Mutagen – Compounds with mutagenic modes of action are flagged in this column. Information is obtained from the EPA RSL table (US EPA, 2016b).

(3) The IURs for the PAH compounds are based on benzo(a)pyrene and a toxicity equivalency factor, as listed in IRIS (US EPA, 2016e).

(4) The IUR for benzo(a)pyrene was obtained from the IRIS January 2017 toxicological review (US EPA, 2017a).

(5) The IUR for trichloroethylene is based on specific IURs for kidney cancer [1E-06 $(\mu g/m^3)^{-1}$], liver cancer [1E-06 $(\mu g/m^3)^{-1}$], and non-Hodgkin's lymphoma [2E-06 $(\mu g/m^3)^{-1}$] (US EPA, 2011c).

(6) The IURs for the non-ortho and mono-ortho PCB compounds are based on 2,3,7,8-tetrachlorodibenzo-p-dioxin and a toxicity equivalency factor (US EPA, 2016e).

(7) The IUR for benzo(j)fluoranthene is based on benzo(a)pyrene and a potency equivalency factor from CalEPA (CalOEHHA, 2009). This value pre-dates EPA's IUR for benzo(a)pyrene published in January 2017 (EPA, 2017a).

**Table 7.1**
**Calculation of Chemical Cancer Risks for Utility Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Utility Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| Soil | Soil (0-10 ft bgs) | EUSA | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ARSENIC | 2.4E+00 | mg/kg | 5.8E-08 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 8.8E-08 |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 7.3E-01 | mg/kg | 2.9E-08 | mg/kg-d | 5.0E-01 | (mg/kg-d)-1 | 1.5E-08 |
| | | | Ingestion | COBALT | 3.1E+00 | mg/kg | 1.2E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | IRON | 6.6E+03 | mg/kg | 2.7E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | THALLIUM | 3.3E-01 | mg/kg | 1.3E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)PYRENE | 7.3E-02 | mg/kg | 2.9E-09 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 2.9E-09 |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 2.1E-02 | mg/kg | 8.5E-10 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 8.5E-10 |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Ingestion]** | | | | | | | | **1.1E-07** |
| Soil | Soil (0-10 ft bgs) | EUSA | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ARSENIC | 2.4E+00 | mg/kg | 9.4E-09 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 1.4E-08 |
| | | | Dermal | CHROMIUM, HEXAVALENT | 7.3E-01 | mg/kg | NA | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | NA |
| | | | Dermal | COBALT | 3.1E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 6.6E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | THALLIUM | 3.3E-01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)PYRENE | 7.3E-02 | mg/kg | 1.2E-09 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.2E-09 |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 2.1E-02 | mg/kg | 3.5E-10 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 3.5E-10 |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Dermal]** | | | | | | | | **1.6E-08** |
| Soil | Particulates in Air | EUSA | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ARSENIC | 7.5E-10 | mg/m3 | 2.5E-09 | µg/m3 | 4.3E-03 | (µg/m3)-1 | 1.1E-11 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.3E-10 | mg/m3 | 7.4E-10 | µg/m3 | 8.4E-02 | (µg/m3)-1 | 6.2E-11 |
| | | | Inhalation | COBALT | 9.5E-10 | mg/m3 | 3.1E-09 | µg/m3 | 9.0E-03 | (µg/m3)-1 | 2.8E-11 |
| | | | Inhalation | IRON | 2.1E-06 | mg/m3 | 6.7E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | THALLIUM | 1.0E-10 | mg/m3 | 3.4E-10 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | BENZO(A)PYRENE | 2.3E-11 | mg/m3 | 7.4E-11 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 4.5E-14 |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 6.6E-12 | mg/m3 | 2.1E-11 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 1.3E-14 |
| | | | **Exposure Route Total [Particulates in Air (soil 0-10)-Inhalation]** | | | | | | | | **1.0E-10** |
| **Exposure Point Total (EUSA)** | | | | | | | | | | | **1E-07** |

**Table 7.1**
**Calculation of Chemical Cancer Risks for Utility Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Utility Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| Soil | Soil (0-10 ft bgs) | NFA | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.3E+03 | mg/kg | 1.3E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ANTIMONY | 1.3E+00 | mg/kg | 5.3E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ARSENIC | 2.3E+01 | mg/kg | 5.7E-07 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 8.5E-07 |
| | | | Ingestion | BARIUM | 3.8E+02 | mg/kg | 1.5E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CADMIUM | 3.4E-01 | mg/kg | 1.4E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 3.5E+01 | mg/kg | 1.4E-06 | mg/kg-d | 5.0E-01 | (mg/kg-d)-1 | 7.0E-07 |
| | | | Ingestion | COBALT | 1.8E+00 | mg/kg | 7.3E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | COPPER | 2.5E+01 | mg/kg | 9.9E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CYANIDE | 4.6E+00 | mg/kg | 1.9E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | IRON | 7.2E+03 | mg/kg | 2.9E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | LEAD | 3.0E+02 | mg/kg | 1.2E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | MANGANESE | 1.1E+02 | mg/kg | 4.3E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | THALLIUM | 2.9E-01 | mg/kg | 1.2E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | VANADIUM | 1.2E+01 | mg/kg | 4.9E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ZINC | 1.9E+02 | mg/kg | 7.6E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | ALDRIN | 1.2E-02 | mg/kg | 4.8E-10 | mg/kg-d | 1.7E+01 | (mg/kg-d)-1 | 8.1E-09 |
| | | | Ingestion | AROCLOR-1254 | 2.7E-02 | mg/kg | 1.1E-09 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 2.2E-09 |
| | | | Ingestion | AROCLOR-1260 | 2.5E+01 | mg/kg | 1.0E-06 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 2.0E-06 |
| | | | Ingestion | DIELDRIN | 1.7E-02 | mg/kg | 7.0E-10 | mg/kg-d | 1.6E+01 | (mg/kg-d)-1 | 1.1E-08 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | 1,1'-BIPHENYL | 6.2E-01 | mg/kg | 2.5E-08 | mg/kg-d | 8.0E-03 | (mg/kg-d)-1 | 2.0E-10 |
| | | | Ingestion | 2-METHYLNAPHTHALENE | 4.4E+00 | mg/kg | 1.8E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | BENZO(A)ANTHRACENE | 2.4E+00 | mg/kg | 9.6E-08 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 9.6E-09 |
| | | | Ingestion | BENZO(A)PYRENE | 2.1E+00 | mg/kg | 8.6E-08 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 8.6E-08 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 2.3E+00 | mg/kg | 9.1E-08 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 9.1E-09 |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 1.6E+00 | mg/kg | 6.4E-08 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 6.4E-10 |
| | | | Ingestion | CARBAZOLE | 8.9E-01 | mg/kg | 3.6E-08 | mg/kg-d | 2.0E-02 | (mg/kg-d)-1 | 7.2E-10 |
| | | | Ingestion | CHRYSENE | 2.3E+00 | mg/kg | 9.4E-08 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 9.4E-11 |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 4.5E-01 | mg/kg | 1.8E-08 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.8E-08 |
| | | | Ingestion | DIBENZOFURAN | 7.9E-01 | mg/kg | 3.2E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |

**Table 7.1**
**Calculation of Chemical Cancer Risks for Utility Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Utility Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 1.2E+00 | mg/kg | 4.7E-08 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 4.7E-09 |
| | | | Ingestion | NAPHTHALENE | 1.1E+01 | mg/kg | 4.5E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **VOCs** | | | | | | | |
| | | | Ingestion | BENZENE | 3.7E-02 | mg/kg | 1.5E-09 | mg/kg-d | 5.5E-02 | (mg/kg-d)-1 | 8.3E-11 |
| | | | Ingestion | ETHYLBENZENE | 2.5E+01 | mg/kg | 1.0E-06 | mg/kg-d | 1.1E-02 | (mg/kg-d)-1 | 1.1E-08 |
| | | | Ingestion | METHYLCYCLOHEXANE | 2.9E+03 | mg/kg | 1.2E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | TRICHLOROETHYLENE (TCE) | 3.5E-02 | mg/kg | 1.4E-09 | mg/kg-d | 4.6E-02 | (mg/kg-d)-1 | 6.4E-11 |
| | | | Ingestion | XYLENES (TOTAL) | 4.1E+02 | mg/kg | 1.7E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **TICs** | | | | | | | |
| | | | Ingestion | 1,2,4-TRIMETHYLBENZENE | 1.6E+02 | mg/kg | 6.3E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | BENZENE, 1,2,3-TRIMETHYL- | 1.7E+02 | mg/kg | 6.8E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | BENZENE, 1,3,5-TRIMETHYL- | 3.7E+02 | mg/kg | 1.5E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | NAPHTHALENE, 1-METHYL- | 4.1E+00 | mg/kg | 1.6E-07 | mg/kg-d | 2.9E-02 | (mg/kg-d)-1 | 4.7E-09 |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Ingestion]** | | | | | | | | **3.7E-06** |
| Soil | Soil (0-10 ft bgs) | NFA | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.3E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ANTIMONY | 1.3E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ARSENIC | 2.3E+01 | mg/kg | 9.1E-08 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 1.4E-07 |
| | | | Dermal | BARIUM | 3.8E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CADMIUM | 3.4E-01 | mg/kg | 4.3E-11 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CHROMIUM, HEXAVALENT | 3.5E+01 | mg/kg | NA | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | NA |
| | | | Dermal | COBALT | 1.8E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | COPPER | 2.5E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CYANIDE | 4.6E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 7.2E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | LEAD | 3.0E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MANGANESE | 1.1E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | THALLIUM | 2.9E-01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | VANADIUM | 1.2E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ZINC | 1.9E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |

**Table 7.1**
**Calculation of Chemical Cancer Risks for Utility Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Utility Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | ALDRIN | 1.2E-02 | mg/kg | NA | mg/kg-d | 1.7E+01 | (mg/kg-d)-1 | NA |
| | | | Dermal | AROCLOR-1254 | 2.7E-02 | mg/kg | 4.8E-10 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 9.7E-10 |
| | | | Dermal | AROCLOR-1260 | 2.5E+01 | mg/kg | 4.6E-07 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 9.1E-07 |
| | | | Dermal | DIELDRIN | 1.7E-02 | mg/kg | 2.2E-10 | mg/kg-d | 1.6E+01 | (mg/kg-d)-1 | 3.6E-09 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | 1,1'-BIPHENYL | 6.2E-01 | mg/kg | NA | mg/kg-d | 8.0E-03 | (mg/kg-d)-1 | NA |
| | | | Dermal | 2-METHYLNAPHTHALENE | 4.4E+00 | mg/kg | 7.5E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | BENZO(A)ANTHRACENE | 2.4E+00 | mg/kg | 4.0E-08 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 4.0E-09 |
| | | | Dermal | BENZO(A)PYRENE | 2.1E+00 | mg/kg | 3.6E-08 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 3.6E-08 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 2.3E+00 | mg/kg | 3.8E-08 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 3.8E-09 |
| | | | Dermal | BENZO(K)FLUORANTHENE | 1.6E+00 | mg/kg | 2.7E-08 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 2.7E-10 |
| | | | Dermal | CARBAZOLE | 8.9E-01 | mg/kg | NA | mg/kg-d | 2.0E-02 | (mg/kg-d)-1 | NA |
| | | | Dermal | CHRYSENE | 2.3E+00 | mg/kg | 3.9E-08 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 3.9E-11 |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 4.5E-01 | mg/kg | 7.5E-09 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 7.5E-09 |
| | | | Dermal | DIBENZOFURAN | 7.9E-01 | mg/kg | 3.0E-09 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.2E+00 | mg/kg | 1.9E-08 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.9E-09 |
| | | | Dermal | NAPHTHALENE | 1.1E+01 | mg/kg | 1.9E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **VOCs** | | | | | | | |
| | | | Dermal | BENZENE | 3.7E-02 | mg/kg | NA | mg/kg-d | 5.5E-02 | (mg/kg-d)-1 | NA |
| | | | Dermal | ETHYLBENZENE | 2.5E+01 | mg/kg | NA | mg/kg-d | 1.1E-02 | (mg/kg-d)-1 | NA |
| | | | Dermal | METHYLCYCLOHEXANE | 2.9E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | TRICHLOROETHYLENE (TCE) | 3.5E-02 | mg/kg | NA | mg/kg-d | 4.6E-02 | (mg/kg-d)-1 | NA |
| | | | Dermal | XYLENES (TOTAL) | 4.1E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **TICs** | | | | | | | |
| | | | Dermal | 1,2,4-TRIMETHYLBENZENE | 1.6E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | BENZENE, 1,2,3-TRIMETHYL- | 1.7E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | BENZENE, 1,3,5-TRIMETHYL- | 3.7E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | NAPHTHALENE, 1-METHYL- | 4.1E+00 | mg/kg | 6.8E-08 | mg/kg-d | 2.9E-02 | (mg/kg-d)-1 | 2.0E-09 |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Dermal]** | | | | | | | | **1.1E-06** |

**Table 7.1**
**Calculation of Chemical Cancer Risks for Utility Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Utility Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| Soil | Particulates in Air | NFA | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ALUMINUM | 1.0E-06 | mg/m3 | 3.4E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ANTIMONY | 4.1E-10 | mg/m3 | 1.3E-09 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ARSENIC | 7.3E-09 | mg/m3 | 2.4E-08 | µg/m3 | 4.3E-03 | (µg/m3)-1 | 1.0E-10 |
| | | | Inhalation | BARIUM | 1.2E-07 | mg/m3 | 3.9E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | CADMIUM | 1.1E-10 | mg/m3 | 3.4E-10 | µg/m3 | 1.8E-03 | (µg/m3)-1 | 6.2E-13 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 1.1E-08 | mg/m3 | 3.5E-08 | µg/m3 | 8.4E-02 | (µg/m3)-1 | 3.0E-09 |
| | | | Inhalation | COBALT | 5.7E-10 | mg/m3 | 1.9E-09 | µg/m3 | 9.0E-03 | (µg/m3)-1 | 1.7E-11 |
| | | | Inhalation | COPPER | 7.7E-09 | mg/m3 | 2.5E-08 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | CYANIDE | 6.1E-05 | mg/m3 | 2.0E-04 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | IRON | 2.2E-06 | mg/m3 | 7.3E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | LEAD | 9.2E-08 | mg/m3 | 3.0E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | MANGANESE | 3.3E-08 | mg/m3 | 1.1E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | THALLIUM | 8.9E-11 | mg/m3 | 2.9E-10 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | VANADIUM | 3.8E-09 | mg/m3 | 1.2E-08 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ZINC | 5.9E-08 | mg/m3 | 1.9E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | ALDRIN | 5.4E-09 | mg/m3 | 1.8E-08 | µg/m3 | 4.9E-03 | (µg/m3)-1 | 8.6E-11 |
| | | | Inhalation | AROCLOR-1254 | 2.5E-08 | mg/m3 | 8.1E-08 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 4.6E-11 |
| | | | Inhalation | AROCLOR-1260 | 1.5E-05 | mg/m3 | 4.9E-05 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 2.8E-08 |
| | | | Inhalation | DIELDRIN | 5.4E-12 | mg/m3 | 1.8E-11 | µg/m3 | 4.6E-03 | (µg/m3)-1 | 8.1E-14 |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | 1,1'-BIPHENYL | 4.3E-06 | mg/m3 | 1.4E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | 2-METHYLNAPHTHALENE | 6.0E-05 | mg/m3 | 1.9E-04 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | BENZO(A)ANTHRACENE | 4.2E-07 | mg/m3 | 1.4E-06 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 8.2E-11 |
| | | | Inhalation | BENZO(A)PYRENE | 6.7E-10 | mg/m3 | 2.2E-09 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 1.3E-12 |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 7.1E-10 | mg/m3 | 2.3E-09 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 1.4E-13 |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 5.0E-10 | mg/m3 | 1.6E-09 | µg/m3 | 6.0E-06 | (µg/m3)-1 | 9.7E-15 |
| | | | Inhalation | CARBAZOLE | 2.8E-10 | mg/m3 | 9.1E-10 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | CHRYSENE | 7.3E-10 | mg/m3 | 2.4E-09 | µg/m3 | 6.0E-07 | (µg/m3)-1 | 1.4E-15 |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 1.4E-10 | mg/m3 | 4.5E-10 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 2.7E-13 |

**Table 7.1**
**Calculation of Chemical Cancer Risks for Utility Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Utility Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | DIBENZOFURAN | 3.1E-06 | mg/m3 | 1.0E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 3.6E-10 | mg/m3 | 1.2E-09 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 7.1E-14 |
| | | | Inhalation | NAPHTHALENE | 1.9E-04 | mg/m3 | 6.2E-04 | µg/m3 | 3.4E-05 | (µg/m3)-1 | 2.1E-08 |
| | | | Inhalation | **VOCs** | | | | | | | |
| | | | Inhalation | BENZENE | 8.2E-06 | mg/m3 | 2.7E-05 | µg/m3 | 7.8E-06 | (µg/m3)-1 | 2.1E-10 |
| | | | Inhalation | ETHYLBENZENE | 3.5E-03 | mg/m3 | 1.1E-02 | µg/m3 | 2.5E-06 | (µg/m3)-1 | 2.8E-08 |
| | | | Inhalation | METHYLCYCLOHEXANE | 2.2E+00 | mg/m3 | 7.1E+00 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | TRICHLOROETHYLENE (TCE) | 1.2E-05 | mg/m3 | 4.0E-05 | µg/m3 | 4.1E-06 | (µg/m3)-1 | 1.6E-10 |
| | | | Inhalation | XYLENES (TOTAL) | 5.6E-02 | mg/m3 | 1.8E-01 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | **TICs** | | | | | | | |
| | | | Inhalation | 1,2,4-TRIMETHYLBENZENE | 1.5E-02 | mg/m3 | 5.0E-02 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | BENZENE, 1,2,3-TRIMETHYL- | 1.4E-02 | mg/m3 | 4.6E-02 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | BENZENE, 1,3,5-TRIMETHYL- | 4.4E-02 | mg/m3 | 1.4E-01 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | NAPHTHALENE, 1-METHYL- | 5.4E-05 | mg/m3 | 1.8E-04 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | **Exposure Route Total [Particulates in Air (soil 0-10)-Inhalation]** | | | | | | | | **8.1E-08** |
| **Exposure Point Total (NFA)** | | | | | | | | | | | **5E-06** |
| Soil | Soil (0-10 ft bgs) | SFA | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 2.7E+03 | mg/kg | 1.1E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ANTIMONY | 5.1E+01 | mg/kg | 2.1E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ARSENIC | 2.6E+01 | mg/kg | 6.2E-07 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 9.4E-07 |
| | | | Ingestion | BARIUM | 4.7E+02 | mg/kg | 1.9E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CADMIUM | 4.7E-01 | mg/kg | 1.9E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 9.1E-01 | mg/kg | 3.7E-08 | mg/kg-d | 5.0E-01 | (mg/kg-d)-1 | 1.8E-08 |
| | | | Ingestion | COBALT | 1.8E+00 | mg/kg | 7.4E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CYANIDE | 6.9E+00 | mg/kg | 2.8E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | IRON | 6.2E+03 | mg/kg | 2.5E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | LEAD | 9.1E+02 | mg/kg | 3.7E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | MANGANESE | 4.7E+01 | mg/kg | 1.9E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | MERCURY | 4.1E-01 | mg/kg | 1.7E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | THALLIUM | 4.7E-01 | mg/kg | 1.9E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | VANADIUM | 1.1E+01 | mg/kg | 4.6E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ZINC | 4.7E+02 | mg/kg | 1.9E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |

**Table 7.1**
**Calculation of Chemical Cancer Risks for Utility Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Utility Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 4.2E-02 | mg/kg | 1.7E-09 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 3.4E-09 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | 2-METHYLNAPHTHALENE | 2.9E+00 | mg/kg | 1.2E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | BENZO(A)ANTHRACENE | 3.2E+00 | mg/kg | 1.3E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.3E-08 |
| | | | Ingestion | BENZO(A)PYRENE | 2.8E+00 | mg/kg | 1.1E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.1E-07 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 4.6E+00 | mg/kg | 1.8E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.8E-08 |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 3.0E+00 | mg/kg | 1.2E-07 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 1.2E-09 |
| | | | Ingestion | CHRYSENE | 4.4E+00 | mg/kg | 1.8E-07 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 1.8E-10 |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 1.4E+00 | mg/kg | 5.7E-08 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 5.7E-08 |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 2.5E+00 | mg/kg | 1.0E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.0E-08 |
| | | | Ingestion | NAPHTHALENE | 7.9E+00 | mg/kg | 3.2E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | PENTACHLOROPHENOL | 3.0E-01 | mg/kg | 1.2E-08 | mg/kg-d | 4.0E-01 | (mg/kg-d)-1 | 4.8E-09 |
| | | | Ingestion | **VOCs** | | | | | | | |
| | | | Ingestion | BENZENE | 2.0E-01 | mg/kg | 8.0E-09 | mg/kg-d | 5.5E-02 | (mg/kg-d)-1 | 4.4E-10 |
| | | | Ingestion | ETHYLBENZENE | 3.9E+00 | mg/kg | 1.6E-07 | mg/kg-d | 1.1E-02 | (mg/kg-d)-1 | 1.7E-09 |
| | | | Ingestion | XYLENES (TOTAL) | 3.5E+01 | mg/kg | 1.4E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **TICs** | | | | | | | |
| | | | Ingestion | 1,2,4-TRIMETHYLBENZENE | 4.8E+02 | mg/kg | 1.9E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | BENZENE, 1,2,3-TRIMETHYL- | 1.1E+02 | mg/kg | 4.5E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | BENZENE, 1,3,5-TRIMETHYL- | 1.8E+02 | mg/kg | 7.3E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Ingestion]** | | | | | | | | **1.2E-06** |
| Soil | Soil (0-10 ft bgs) | SFA | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 2.7E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ANTIMONY | 5.1E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ARSENIC | 2.6E+01 | mg/kg | 1.0E-07 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 1.5E-07 |
| | | | Dermal | BARIUM | 4.7E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CADMIUM | 4.7E-01 | mg/kg | 6.1E-11 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CHROMIUM, HEXAVALENT | 9.1E-01 | mg/kg | NA | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | NA |
| | | | Dermal | COBALT | 1.8E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |

**Table 7.1**
**Calculation of Chemical Cancer Risks for Utility Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Utility Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | CYANIDE | 6.9E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 6.2E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | LEAD | 9.1E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MANGANESE | 4.7E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MERCURY | 4.1E-01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | THALLIUM | 4.7E-01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | VANADIUM | 1.1E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ZINC | 4.7E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 4.2E-02 | mg/kg | 7.7E-10 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 1.5E-09 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | 2-METHYLNAPHTHALENE | 2.9E+00 | mg/kg | 4.9E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | BENZO(A)ANTHRACENE | 3.2E+00 | mg/kg | 5.3E-08 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 5.3E-09 |
| | | | Dermal | BENZO(A)PYRENE | 2.8E+00 | mg/kg | 4.7E-08 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 4.7E-08 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 4.6E+00 | mg/kg | 7.7E-08 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 7.7E-09 |
| | | | Dermal | BENZO(K)FLUORANTHENE | 3.0E+00 | mg/kg | 5.0E-08 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 5.0E-10 |
| | | | Dermal | CHRYSENE | 4.4E+00 | mg/kg | 7.3E-08 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 7.3E-11 |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 1.4E+00 | mg/kg | 2.4E-08 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 2.4E-08 |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 2.5E+00 | mg/kg | 4.3E-08 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 4.3E-09 |
| | | | Dermal | NAPHTHALENE | 7.9E+00 | mg/kg | 1.3E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | PENTACHLOROPHENOL | 3.0E-01 | mg/kg | 9.7E-09 | mg/kg-d | 4.0E-01 | (mg/kg-d)-1 | 3.9E-09 |
| | | | Dermal | **VOCs** | | | | | | | |
| | | | Dermal | BENZENE | 2.0E-01 | mg/kg | NA | mg/kg-d | 5.5E-02 | (mg/kg-d)-1 | NA |
| | | | Dermal | ETHYLBENZENE | 3.9E+00 | mg/kg | NA | mg/kg-d | 1.1E-02 | (mg/kg-d)-1 | NA |
| | | | Dermal | XYLENES (TOTAL) | 3.5E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **TICs** | | | | | | | |
| | | | Dermal | 1,2,4-TRIMETHYLBENZENE | 4.8E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | BENZENE, 1,2,3-TRIMETHYL- | 1.1E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | BENZENE, 1,3,5-TRIMETHYL- | 1.8E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Dermal]** | | | | | | | | **2.4E-07** |

**Table 7.1**
**Calculation of Chemical Cancer Risks for Utility Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Utility Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| Soil | Particulates in Air | SFA | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ALUMINUM | 8.5E-07 | mg/m3 | 2.8E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ANTIMONY | 1.6E-08 | mg/m3 | 5.2E-08 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ARSENIC | 8.1E-09 | mg/m3 | 2.6E-08 | µg/m3 | 4.3E-03 | (µg/m3)-1 | 1.1E-10 |
| | | | Inhalation | BARIUM | 1.5E-07 | mg/m3 | 4.8E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | CADMIUM | 1.5E-10 | mg/m3 | 4.8E-10 | µg/m3 | 1.8E-03 | (µg/m3)-1 | 8.6E-13 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.9E-10 | mg/m3 | 9.3E-10 | µg/m3 | 8.4E-02 | (µg/m3)-1 | 7.8E-11 |
| | | | Inhalation | COBALT | 5.8E-10 | mg/m3 | 1.9E-09 | µg/m3 | 9.0E-03 | (µg/m3)-1 | 1.7E-11 |
| | | | Inhalation | CYANIDE | 9.1E-05 | mg/m3 | 3.0E-04 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | IRON | 1.9E-06 | mg/m3 | 6.4E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | LEAD | 2.8E-07 | mg/m3 | 9.3E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | MANGANESE | 1.5E-08 | mg/m3 | 4.8E-08 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | MERCURY | 1.3E-10 | mg/m3 | 4.2E-10 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | THALLIUM | 1.5E-10 | mg/m3 | 4.8E-10 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | VANADIUM | 3.6E-09 | mg/m3 | 1.2E-08 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ZINC | 1.5E-07 | mg/m3 | 4.8E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | AROCLOR-1254 | 3.9E-08 | mg/m3 | 1.3E-07 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 7.3E-11 |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | 2-METHYLNAPHTHALENE | 3.9E-05 | mg/m3 | 1.3E-04 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | BENZO(A)ANTHRACENE | 5.6E-07 | mg/m3 | 1.8E-06 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 1.1E-10 |
| | | | Inhalation | BENZO(A)PYRENE | 8.8E-10 | mg/m3 | 2.9E-09 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 1.7E-12 |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 1.4E-09 | mg/m3 | 4.6E-09 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 2.8E-13 |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 9.3E-10 | mg/m3 | 3.0E-09 | µg/m3 | 6.0E-06 | (µg/m3)-1 | 1.8E-14 |
| | | | Inhalation | CHRYSENE | 1.4E-09 | mg/m3 | 4.4E-09 | µg/m3 | 6.0E-07 | (µg/m3)-1 | 2.7E-15 |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 4.4E-10 | mg/m3 | 1.4E-09 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 8.6E-13 |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 7.9E-10 | mg/m3 | 2.6E-09 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 1.6E-13 |
| | | | Inhalation | NAPHTHALENE | 1.3E-04 | mg/m3 | 4.3E-04 | µg/m3 | 3.4E-05 | (µg/m3)-1 | 1.5E-08 |
| | | | Inhalation | PENTACHLOROPHENOL | 9.3E-11 | mg/m3 | 3.0E-10 | µg/m3 | 5.1E-06 | (µg/m3)-1 | 1.6E-15 |
| | | | Inhalation | **VOCs** | | | | | | | |
| | | | Inhalation | BENZENE | 4.4E-05 | mg/m3 | 1.4E-04 | µg/m3 | 7.8E-06 | (µg/m3)-1 | 1.1E-09 |

**Table 7.1**
**Calculation of Chemical Cancer Risks for Utility Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Utility Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | ETHYLBENZENE | 5.4E-04 | mg/m3 | 1.8E-03 | µg/m3 | 2.5E-06 | (µg/m3)-1 | 4.4E-09 |
| | | | Inhalation | XYLENES (TOTAL) | 4.8E-03 | mg/m3 | 1.6E-02 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | **TICs** | | | | | | | |
| | | | Inhalation | 1,2,4-TRIMETHYLBENZENE | 4.7E-02 | mg/m3 | 1.5E-01 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | BENZENE, 1,2,3-TRIMETHYL- | 9.2E-03 | mg/m3 | 3.0E-02 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | BENZENE, 1,3,5-TRIMETHYL- | 2.1E-02 | mg/m3 | 6.9E-02 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | **Exposure Route Total [Particulates in Air (soil 0-10)-Inhalation]** | | | | | | | | **2.1E-08** |
| **Exposure Point Total (SFA)** | | | | | | | | | | | **1E-06** |
| Soil | Soil (0-10 ft bgs) | UNDV | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.3E+03 | mg/kg | 1.3E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ANTIMONY | 7.2E+00 | mg/kg | 2.9E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ARSENIC | 1.7E+02 | mg/kg | 4.2E-06 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 6.2E-06 |
| | | | Ingestion | BARIUM | 8.3E+02 | mg/kg | 3.4E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CADMIUM | 9.0E-01 | mg/kg | 3.6E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | 3.4E-08 | mg/kg-d | 5.0E-01 | (mg/kg-d)-1 | 1.7E-08 |
| | | | Ingestion | COBALT | 4.2E+00 | mg/kg | 1.7E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | COPPER | 8.3E+01 | mg/kg | 3.3E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CYANIDE | 4.7E+01 | mg/kg | 1.9E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | IRON | 1.1E+04 | mg/kg | 4.5E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | LEAD | 6.8E+02 | mg/kg | 2.8E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | MANGANESE | 1.5E+02 | mg/kg | 5.9E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | MERCURY | 1.1E+00 | mg/kg | 4.5E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | THALLIUM | 4.8E-01 | mg/kg | 1.9E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | VANADIUM | 1.5E+01 | mg/kg | 5.9E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ZINC | 4.7E+02 | mg/kg | 1.9E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 6.2E-02 | mg/kg | 2.5E-09 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 5.0E-09 |
| | | | Ingestion | AROCLOR-1260 | 2.7E-01 | mg/kg | 1.1E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 2.1E-08 |
| | | | Ingestion | DIELDRIN | 6.4E-03 | mg/kg | 2.6E-10 | mg/kg-d | 1.6E+01 | (mg/kg-d)-1 | 4.1E-09 |

**Table 7.1**
**Calculation of Chemical Cancer Risks for Utility Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Utility Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 2.1E+00 | mg/kg | 8.3E-08 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 8.3E-09 |
| | | | Ingestion | BENZO(A)PYRENE | 2.5E+00 | mg/kg | 9.9E-08 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 9.9E-08 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 3.7E+00 | mg/kg | 1.5E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.5E-08 |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 2.6E+00 | mg/kg | 1.0E-07 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 1.0E-09 |
| | | | Ingestion | CHRYSENE | 2.9E+00 | mg/kg | 1.2E-07 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 1.2E-10 |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 3.9E-01 | mg/kg | 1.6E-08 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.6E-08 |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 1.6E+00 | mg/kg | 6.5E-08 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 6.5E-09 |
| | | | Ingestion | PENTACHLOROPHENOL | 2.4E+01 | mg/kg | 9.6E-07 | mg/kg-d | 4.0E-01 | (mg/kg-d)-1 | 3.8E-07 |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Ingestion]** | | | | | | | | **6.8E-06** |
| Soil | Soil (0-10 ft bgs) | UNDV | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.3E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ANTIMONY | 7.2E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ARSENIC | 1.7E+02 | mg/kg | 6.7E-07 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 1.0E-06 |
| | | | Dermal | BARIUM | 8.3E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CADMIUM | 9.0E-01 | mg/kg | 1.2E-10 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | NA | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | NA |
| | | | Dermal | COBALT | 4.2E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | COPPER | 8.3E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CYANIDE | 4.7E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 1.1E+04 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | LEAD | 6.8E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MANGANESE | 1.5E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MERCURY | 1.1E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | THALLIUM | 4.8E-01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | VANADIUM | 1.5E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ZINC | 4.7E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 6.2E-02 | mg/kg | 1.1E-09 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 2.2E-09 |
| | | | Dermal | AROCLOR-1260 | 2.7E-01 | mg/kg | 4.8E-09 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 9.6E-09 |
| | | | Dermal | DIELDRIN | 6.4E-03 | mg/kg | 8.3E-11 | mg/kg-d | 1.6E+01 | (mg/kg-d)-1 | 1.3E-09 |

**Table 7.1**
**Calculation of Chemical Cancer Risks for Utility Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Utility Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 2.1E+00 | mg/kg | 3.5E-08 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 3.5E-09 |
| | | | Dermal | BENZO(A)PYRENE | 2.5E+00 | mg/kg | 4.1E-08 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 4.1E-08 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 3.7E+00 | mg/kg | 6.3E-08 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 6.3E-09 |
| | | | Dermal | BENZO(K)FLUORANTHENE | 2.6E+00 | mg/kg | 4.4E-08 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 4.4E-10 |
| | | | Dermal | CHRYSENE | 2.9E+00 | mg/kg | 4.9E-08 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 4.9E-11 |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 3.9E-01 | mg/kg | 6.6E-09 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 6.6E-09 |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.6E+00 | mg/kg | 2.7E-08 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 2.7E-09 |
| | | | Dermal | PENTACHLOROPHENOL | 2.4E+01 | mg/kg | 7.7E-07 | mg/kg-d | 4.0E-01 | (mg/kg-d)-1 | 3.1E-07 |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Dermal]** | | | | | | | | **1.4E-06** |
| Soil | Particulates in Air | UNDV | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ALUMINUM | 1.0E-06 | mg/m3 | 3.4E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ANTIMONY | 2.2E-09 | mg/m3 | 7.3E-09 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ARSENIC | 5.4E-08 | mg/m3 | 1.7E-07 | µg/m3 | 4.3E-03 | (µg/m3)-1 | 7.5E-10 |
| | | | Inhalation | BARIUM | 2.6E-07 | mg/m3 | 8.5E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | CADMIUM | 2.8E-10 | mg/m3 | 9.2E-10 | µg/m3 | 1.8E-03 | (µg/m3)-1 | 1.7E-12 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.6E-10 | mg/m3 | 8.6E-10 | µg/m3 | 8.4E-02 | (µg/m3)-1 | 7.2E-11 |
| | | | Inhalation | COBALT | 1.3E-09 | mg/m3 | 4.3E-09 | µg/m3 | 9.0E-03 | (µg/m3)-1 | 3.8E-11 |
| | | | Inhalation | COPPER | 2.6E-08 | mg/m3 | 8.4E-08 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | CYANIDE | 6.2E-04 | mg/m3 | 2.0E-03 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | IRON | 3.5E-06 | mg/m3 | 1.1E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | LEAD | 2.1E-07 | mg/m3 | 6.9E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | MANGANESE | 4.5E-08 | mg/m3 | 1.5E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | MERCURY | 3.5E-10 | mg/m3 | 1.1E-09 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | THALLIUM | 1.5E-10 | mg/m3 | 4.9E-10 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | VANADIUM | 4.6E-09 | mg/m3 | 1.5E-08 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ZINC | 1.5E-07 | mg/m3 | 4.8E-07 | µg/m3 | NA | (µg/m3)-1 | NA |

**Table 7.1**
**Calculation of Chemical Cancer Risks for Utility Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Utility Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | AROCLOR-1254 | 5.7E-08 | mg/m3 | 1.9E-07 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 1.1E-10 |
| | | | Inhalation | AROCLOR-1260 | 1.6E-07 | mg/m3 | 5.1E-07 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 2.9E-10 |
| | | | Inhalation | DIELDRIN | 2.0E-12 | mg/m3 | 6.5E-12 | µg/m3 | 4.6E-03 | (µg/m3)-1 | 3.0E-14 |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | BENZO(A)ANTHRACENE | 3.7E-07 | mg/m3 | 1.2E-06 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 7.1E-11 |
| | | | Inhalation | BENZO(A)PYRENE | 7.7E-10 | mg/m3 | 2.5E-09 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 1.5E-12 |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 1.2E-09 | mg/m3 | 3.8E-09 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 2.3E-13 |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 8.1E-10 | mg/m3 | 2.7E-09 | µg/m3 | 6.0E-06 | (µg/m3)-1 | 1.6E-14 |
| | | | Inhalation | CHRYSENE | 9.2E-10 | mg/m3 | 3.0E-09 | µg/m3 | 6.0E-07 | (µg/m3)-1 | 1.8E-15 |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 1.2E-10 | mg/m3 | 4.0E-10 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 2.4E-13 |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 5.0E-10 | mg/m3 | 1.6E-09 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 9.8E-14 |
| | | | Inhalation | PENTACHLOROPHENOL | 7.4E-09 | mg/m3 | 2.4E-08 | µg/m3 | 5.1E-06 | (µg/m3)-1 | 1.2E-13 |
| | | | **Exposure Route Total [Particulates in Air (soil 0-10)-Inhalation]** | | | | | | | | **1.3E-09** |
| **Exposure Point Total (UNDV)** | | | | | | | | | | | **8E-06** |

Notes:
NA – Not Available.

**Ingestion-Soil**

$$\text{Intake Factor (IF)} = \frac{IR \times FS \times EF \times ED \times CF}{BW \times AT} = 4.0E\text{-}08 \text{ (Adult)}$$

| | | |
|---|---|---|
| IR | Ingestion Rate (mg/day) | 330 |
| FS | Fraction from Contaminated Source | 1 |
| EF | Soil Ingestion Exposure Frequency (days/yr) | 10 |
| ED | Soil Ingestion Exposure Duration (yrs) | 25 |
| CF | Conversion Factor (kg/mg) | 1E-06 |
| BW | Body Weight (kg) | 80 |
| AT | Averaging Time (d) | 25,550 |

Intake = EPC x Bioavailability (B) x IF
(B) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Table 7.1**
**Calculation of Chemical Cancer Risks for Utility Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Utility Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |

**Dermal-Soil**

$$\text{Intake Factor (IF)} = \frac{SA \times AF \times EF \times ED \times CF}{BW \times AT} = 1.3E\text{-}07 \text{ (Adult)}$$

| | | |
|---|---|---|
| SA | Surface Area Exposed to Soil (cm²/day) | 3,527 |
| AF | Soil Skin Adherence Factor (mg/cm²) | 0.3 |
| EF | Soil Dermal Exposure Frequency (days/yr) | 10 |
| ED | Soil Dermal Exposure Duration (yrs) | 25 |
| CF | Conversion Factor (kg/mg) | 1E-06 |
| BW | Body Weight (kg) | 80 |
| AT | Averaging Time (d) | 25,550 |

Intake = EPC x Dermal Absorption (ABS) x IF
(ABS) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Inhalation-Soil**

$$\text{Intake Factor (IF)} = \frac{EF \times ED \times ET \times CF1 \times CF2}{AT} = 3.3E{+}00 \text{ (Adult)}$$

| | | |
|---|---|---|
| EF | Soil Exposure Frequency (days/yr) | 10 |
| ED | Soil Exposure Duration (yrs) | 25 |
| ET | Soil Exposure Time (hours/day) | 8 |
| CF1 | Conversion Factor (day/hour) | 0.042 |
| CF2 | Conversion Factor (µg/mg) | 1000 |
| AT | Averaging Time (d) | 25,550 |

EPCair = EPCsoil x [1/Volatilization Factor (VF) + 1/Particulate Emissions Factor (PEF)]
Exposure = EPCair x IF
Cancer risk = Exposure x Inhalation Unit Risk (IUR)

**Table 7.2**
**Calculation of Chemical Cancer Risks for Construction Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| Soil | Soil (0-10 ft bgs) | EUSA | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ARSENIC | 2.4E+00 | mg/kg | 5.8E-08 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 8.8E-08 |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 7.3E-01 | mg/kg | 2.9E-08 | mg/kg-d | 5.0E-01 | (mg/kg-d)-1 | 1.5E-08 |
| | | | Ingestion | COBALT | 3.1E+00 | mg/kg | 1.2E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | IRON | 6.6E+03 | mg/kg | 2.7E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | THALLIUM | 3.3E-01 | mg/kg | 1.3E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)PYRENE | 7.3E-02 | mg/kg | 2.9E-09 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 2.9E-09 |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 2.1E-02 | mg/kg | 8.5E-10 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 8.5E-10 |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Ingestion]** | | | | | | | | **1.1E-07** |
| Soil | Soil (0-10 ft bgs) | EUSA | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ARSENIC | 2.4E+00 | mg/kg | 9.4E-09 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 1.4E-08 |
| | | | Dermal | CHROMIUM, HEXAVALENT | 7.3E-01 | mg/kg | NA | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | NA |
| | | | Dermal | COBALT | 3.1E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 6.6E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | THALLIUM | 3.3E-01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)PYRENE | 7.3E-02 | mg/kg | 1.2E-09 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.2E-09 |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 2.1E-02 | mg/kg | 3.5E-10 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 3.5E-10 |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Dermal]** | | | | | | | | **1.6E-08** |
| Soil | Particulates in Air | EUSA | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ARSENIC | 7.5E-10 | mg/m3 | 2.5E-09 | µg/m3 | 4.3E-03 | (µg/m3)-1 | 1.1E-11 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.3E-10 | mg/m3 | 7.4E-10 | µg/m3 | 8.4E-02 | (µg/m3)-1 | 6.2E-11 |
| | | | Inhalation | COBALT | 9.5E-10 | mg/m3 | 3.1E-09 | µg/m3 | 9.0E-03 | (µg/m3)-1 | 2.8E-11 |
| | | | Inhalation | IRON | 2.1E-06 | mg/m3 | 6.7E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | THALLIUM | 1.0E-10 | mg/m3 | 3.4E-10 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | BENZO(A)PYRENE | 2.3E-11 | mg/m3 | 7.4E-11 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 4.5E-14 |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 6.6E-12 | mg/m3 | 2.1E-11 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 1.3E-14 |
| | | | **Exposure Route Total [Particulates in Air (soil 0-10)-Inhalation]** | | | | | | | | **1.0E-10** |
| **Exposure Point Total (EUSA)** | | | | | | | | | | | **1E-07** |

**Table 7.2**
**Calculation of Chemical Cancer Risks for Construction Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| Soil | Soil (0-10 ft bgs) | NFA | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.3E+03 | mg/kg | 1.3E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ANTIMONY | 1.3E+00 | mg/kg | 5.3E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ARSENIC | 2.3E+01 | mg/kg | 5.7E-07 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 8.5E-07 |
| | | | Ingestion | BARIUM | 3.8E+02 | mg/kg | 1.5E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CADMIUM | 3.4E-01 | mg/kg | 1.4E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 3.5E+01 | mg/kg | 1.4E-06 | mg/kg-d | 5.0E-01 | (mg/kg-d)-1 | 7.0E-07 |
| | | | Ingestion | COBALT | 1.8E+00 | mg/kg | 7.3E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | COPPER | 2.5E+01 | mg/kg | 9.9E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CYANIDE | 4.6E+00 | mg/kg | 1.9E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | IRON | 7.2E+03 | mg/kg | 2.9E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | LEAD | 3.0E+02 | mg/kg | 1.2E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | MANGANESE | 1.1E+02 | mg/kg | 4.3E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | THALLIUM | 2.9E-01 | mg/kg | 1.2E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | VANADIUM | 1.2E+01 | mg/kg | 4.9E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ZINC | 1.9E+02 | mg/kg | 7.6E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | ALDRIN | 1.2E-02 | mg/kg | 4.8E-10 | mg/kg-d | 1.7E+01 | (mg/kg-d)-1 | 8.1E-09 |
| | | | Ingestion | AROCLOR-1254 | 2.7E-02 | mg/kg | 1.1E-09 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 2.2E-09 |
| | | | Ingestion | AROCLOR-1260 | 2.5E+01 | mg/kg | 1.0E-06 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 2.0E-06 |
| | | | Ingestion | DIELDRIN | 1.7E-02 | mg/kg | 7.0E-10 | mg/kg-d | 1.6E+01 | (mg/kg-d)-1 | 1.1E-08 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | 1,1'-BIPHENYL | 6.2E-01 | mg/kg | 2.5E-08 | mg/kg-d | 8.0E-03 | (mg/kg-d)-1 | 2.0E-10 |
| | | | Ingestion | 2-METHYLNAPHTHALENE | 4.4E+00 | mg/kg | 1.8E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | BENZO(A)ANTHRACENE | 2.4E+00 | mg/kg | 9.6E-08 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 9.6E-09 |
| | | | Ingestion | BENZO(A)PYRENE | 2.1E+00 | mg/kg | 8.6E-08 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 8.6E-08 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 2.3E+00 | mg/kg | 9.1E-08 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 9.1E-09 |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 1.6E+00 | mg/kg | 6.4E-08 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 6.4E-10 |
| | | | Ingestion | CARBAZOLE | 8.9E-01 | mg/kg | 3.6E-08 | mg/kg-d | 2.0E-02 | (mg/kg-d)-1 | 7.2E-10 |
| | | | Ingestion | CHRYSENE | 2.3E+00 | mg/kg | 9.4E-08 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 9.4E-11 |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 4.5E-01 | mg/kg | 1.8E-08 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.8E-08 |
| | | | Ingestion | DIBENZOFURAN | 7.9E-01 | mg/kg | 3.2E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |

**Table 7.2**
**Calculation of Chemical Cancer Risks for Construction Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 1.2E+00 | mg/kg | 4.7E-08 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 4.7E-09 |
| | | | Ingestion | NAPHTHALENE | 1.1E+01 | mg/kg | 4.5E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **VOCs** | | | | | | | |
| | | | Ingestion | BENZENE | 3.7E-02 | mg/kg | 1.5E-09 | mg/kg-d | 5.5E-02 | (mg/kg-d)-1 | 8.3E-11 |
| | | | Ingestion | ETHYLBENZENE | 2.5E+01 | mg/kg | 1.0E-06 | mg/kg-d | 1.1E-02 | (mg/kg-d)-1 | 1.1E-08 |
| | | | Ingestion | METHYLCYCLOHEXANE | 2.9E+03 | mg/kg | 1.2E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | TRICHLOROETHYLENE (TCE) | 3.5E-02 | mg/kg | 1.4E-09 | mg/kg-d | 4.6E-02 | (mg/kg-d)-1 | 6.4E-11 |
| | | | Ingestion | XYLENES (TOTAL) | 4.1E+02 | mg/kg | 1.7E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **TICs** | | | | | | | |
| | | | Ingestion | 1,2,4-TRIMETHYLBENZENE | 1.6E+02 | mg/kg | 6.3E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | BENZENE, 1,2,3-TRIMETHYL- | 1.7E+02 | mg/kg | 6.8E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | BENZENE, 1,3,5-TRIMETHYL- | 3.7E+02 | mg/kg | 1.5E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | NAPHTHALENE, 1-METHYL- | 4.1E+00 | mg/kg | 1.6E-07 | mg/kg-d | 2.9E-02 | (mg/kg-d)-1 | 4.7E-09 |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Ingestion]** | | | | | | | | **3.7E-06** |
| Soil | Soil (0-10 ft bgs) | NFA | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.3E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ANTIMONY | 1.3E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ARSENIC | 2.3E+01 | mg/kg | 9.1E-08 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 1.4E-07 |
| | | | Dermal | BARIUM | 3.8E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CADMIUM | 3.4E-01 | mg/kg | 4.3E-11 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CHROMIUM, HEXAVALENT | 3.5E+01 | mg/kg | NA | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | NA |
| | | | Dermal | COBALT | 1.8E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | COPPER | 2.5E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CYANIDE | 4.6E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 7.2E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | LEAD | 3.0E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MANGANESE | 1.1E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | THALLIUM | 2.9E-01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | VANADIUM | 1.2E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ZINC | 1.9E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | ALDRIN | 1.2E-02 | mg/kg | NA | mg/kg-d | 1.7E+01 | (mg/kg-d)-1 | NA |

**Table 7.2**
**Calculation of Chemical Cancer Risks for Construction Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | AROCLOR-1254 | 2.7E-02 | mg/kg | 4.8E-10 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 9.7E-10 |
| | | | Dermal | AROCLOR-1260 | 2.5E+01 | mg/kg | 4.6E-07 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 9.1E-07 |
| | | | Dermal | DIELDRIN | 1.7E-02 | mg/kg | 2.2E-10 | mg/kg-d | 1.6E+01 | (mg/kg-d)-1 | 3.6E-09 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | 1,1'-BIPHENYL | 6.2E-01 | mg/kg | NA | mg/kg-d | 8.0E-03 | (mg/kg-d)-1 | NA |
| | | | Dermal | 2-METHYLNAPHTHALENE | 4.4E+00 | mg/kg | 7.5E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | BENZO(A)ANTHRACENE | 2.4E+00 | mg/kg | 4.0E-08 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 4.0E-09 |
| | | | Dermal | BENZO(A)PYRENE | 2.1E+00 | mg/kg | 3.6E-08 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 3.6E-08 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 2.3E+00 | mg/kg | 3.8E-08 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 3.8E-09 |
| | | | Dermal | BENZO(K)FLUORANTHENE | 1.6E+00 | mg/kg | 2.7E-08 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 2.7E-10 |
| | | | Dermal | CARBAZOLE | 8.9E-01 | mg/kg | NA | mg/kg-d | 2.0E-02 | (mg/kg-d)-1 | NA |
| | | | Dermal | CHRYSENE | 2.3E+00 | mg/kg | 3.9E-08 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 3.9E-11 |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 4.5E-01 | mg/kg | 7.5E-09 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 7.5E-09 |
| | | | Dermal | DIBENZOFURAN | 7.9E-01 | mg/kg | 3.0E-09 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.2E+00 | mg/kg | 1.9E-08 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.9E-09 |
| | | | Dermal | NAPHTHALENE | 1.1E+01 | mg/kg | 1.9E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **VOCs** | | | | | | | |
| | | | Dermal | BENZENE | 3.7E-02 | mg/kg | NA | mg/kg-d | 5.5E-02 | (mg/kg-d)-1 | NA |
| | | | Dermal | ETHYLBENZENE | 2.5E+01 | mg/kg | NA | mg/kg-d | 1.1E-02 | (mg/kg-d)-1 | NA |
| | | | Dermal | METHYLCYCLOHEXANE | 2.9E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | TRICHLOROETHYLENE (TCE) | 3.5E-02 | mg/kg | NA | mg/kg-d | 4.6E-02 | (mg/kg-d)-1 | NA |
| | | | Dermal | XYLENES (TOTAL) | 4.1E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **TICs** | | | | | | | |
| | | | Dermal | 1,2,4-TRIMETHYLBENZENE | 1.6E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | BENZENE, 1,2,3-TRIMETHYL- | 1.7E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | BENZENE, 1,3,5-TRIMETHYL- | 3.7E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | NAPHTHALENE, 1-METHYL- | 4.1E+00 | mg/kg | 6.8E-08 | mg/kg-d | 2.9E-02 | (mg/kg-d)-1 | 2.0E-09 |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Dermal]** | | | | | | | | **1.1E-06** |
| Soil | Particulates in Air | NFA | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ALUMINUM | 1.0E-06 | mg/m3 | 3.4E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ANTIMONY | 4.1E-10 | mg/m3 | 1.3E-09 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ARSENIC | 7.3E-09 | mg/m3 | 2.4E-08 | µg/m3 | 4.3E-03 | (µg/m3)-1 | 1.0E-10 |

**Table 7.2**
**Calculation of Chemical Cancer Risks for Construction Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | BARIUM | 1.2E-07 | mg/m3 | 3.9E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | CADMIUM | 1.1E-10 | mg/m3 | 3.4E-10 | µg/m3 | 1.8E-03 | (µg/m3)-1 | 6.2E-13 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 1.1E-08 | mg/m3 | 3.5E-08 | µg/m3 | 8.4E-02 | (µg/m3)-1 | 3.0E-09 |
| | | | Inhalation | COBALT | 5.7E-10 | mg/m3 | 1.9E-09 | µg/m3 | 9.0E-03 | (µg/m3)-1 | 1.7E-11 |
| | | | Inhalation | COPPER | 7.7E-09 | mg/m3 | 2.5E-08 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | CYANIDE | 6.1E-05 | mg/m3 | 2.0E-04 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | IRON | 2.2E-06 | mg/m3 | 7.3E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | LEAD | 9.2E-08 | mg/m3 | 3.0E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | MANGANESE | 3.3E-08 | mg/m3 | 1.1E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | THALLIUM | 8.9E-11 | mg/m3 | 2.9E-10 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | VANADIUM | 3.8E-09 | mg/m3 | 1.2E-08 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ZINC | 5.9E-08 | mg/m3 | 1.9E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | ALDRIN | 5.4E-09 | mg/m3 | 1.8E-08 | µg/m3 | 4.9E-03 | (µg/m3)-1 | 8.6E-11 |
| | | | Inhalation | AROCLOR-1254 | 2.5E-08 | mg/m3 | 8.1E-08 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 4.6E-11 |
| | | | Inhalation | AROCLOR-1260 | 1.5E-05 | mg/m3 | 4.9E-05 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 2.8E-08 |
| | | | Inhalation | DIELDRIN | 5.4E-12 | mg/m3 | 1.8E-11 | µg/m3 | 4.6E-03 | (µg/m3)-1 | 8.1E-14 |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | 1,1'-BIPHENYL | 4.3E-06 | mg/m3 | 1.4E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | 2-METHYLNAPHTHALENE | 6.0E-05 | mg/m3 | 1.9E-04 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | BENZO(A)ANTHRACENE | 4.2E-07 | mg/m3 | 1.4E-06 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 8.2E-11 |
| | | | Inhalation | BENZO(A)PYRENE | 6.7E-10 | mg/m3 | 2.2E-09 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 1.3E-12 |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 7.1E-10 | mg/m3 | 2.3E-09 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 1.4E-13 |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 5.0E-10 | mg/m3 | 1.6E-09 | µg/m3 | 6.0E-06 | (µg/m3)-1 | 9.7E-15 |
| | | | Inhalation | CARBAZOLE | 2.8E-10 | mg/m3 | 9.1E-10 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | CHRYSENE | 7.3E-10 | mg/m3 | 2.4E-09 | µg/m3 | 6.0E-07 | (µg/m3)-1 | 1.4E-15 |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 1.4E-10 | mg/m3 | 4.5E-10 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 2.7E-13 |
| | | | Inhalation | DIBENZOFURAN | 3.1E-06 | mg/m3 | 1.0E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 3.6E-10 | mg/m3 | 1.2E-09 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 7.1E-14 |
| | | | Inhalation | NAPHTHALENE | 1.9E-04 | mg/m3 | 6.2E-04 | µg/m3 | 3.4E-05 | (µg/m3)-1 | 2.1E-08 |

**Table 7.2**
**Calculation of Chemical Cancer Risks for Construction Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | **VOCs** | | | | | | | |
| | | | Inhalation | BENZENE | 8.2E-06 | mg/m3 | 2.7E-05 | µg/m3 | 7.8E-06 | (µg/m3)-1 | 2.1E-10 |
| | | | Inhalation | ETHYLBENZENE | 3.5E-03 | mg/m3 | 1.1E-02 | µg/m3 | 2.5E-06 | (µg/m3)-1 | 2.8E-08 |
| | | | Inhalation | METHYLCYCLOHEXANE | 2.2E+00 | mg/m3 | 7.1E+00 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | TRICHLOROETHYLENE (TCE) | 1.2E-05 | mg/m3 | 4.0E-05 | µg/m3 | 4.1E-06 | (µg/m3)-1 | 1.6E-10 |
| | | | Inhalation | XYLENES (TOTAL) | 5.6E-02 | mg/m3 | 1.8E-01 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | **TICs** | | | | | | | |
| | | | Inhalation | 1,2,4-TRIMETHYLBENZENE | 1.5E-02 | mg/m3 | 5.0E-02 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | BENZENE, 1,2,3-TRIMETHYL- | 1.4E-02 | mg/m3 | 4.6E-02 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | BENZENE, 1,3,5-TRIMETHYL- | 4.4E-02 | mg/m3 | 1.4E-01 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | NAPHTHALENE, 1-METHYL- | 5.4E-05 | mg/m3 | 1.8E-04 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | **Exposure Route Total [Particulates in Air (soil 0-10)-Inhalation]** | | | | | | | | **8.1E-08** |
| **Exposure Point Total (NFA)** | | | | | | | | | | | **5E-06** |
| Soil | Soil (0-10 ft bgs) | SFA | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 2.7E+03 | mg/kg | 1.1E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ANTIMONY | 5.1E+01 | mg/kg | 2.1E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ARSENIC | 2.6E+01 | mg/kg | 6.2E-07 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 9.4E-07 |
| | | | Ingestion | BARIUM | 4.7E+02 | mg/kg | 1.9E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CADMIUM | 4.7E-01 | mg/kg | 1.9E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 9.1E-01 | mg/kg | 3.7E-08 | mg/kg-d | 5.0E-01 | (mg/kg-d)-1 | 1.8E-08 |
| | | | Ingestion | COBALT | 1.8E+00 | mg/kg | 7.4E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CYANIDE | 6.9E+00 | mg/kg | 2.8E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | IRON | 6.2E+03 | mg/kg | 2.5E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | LEAD | 9.1E+02 | mg/kg | 3.7E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | MANGANESE | 4.7E+01 | mg/kg | 1.9E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | MERCURY | 4.1E-01 | mg/kg | 1.7E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | THALLIUM | 4.7E-01 | mg/kg | 1.9E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | VANADIUM | 1.1E+01 | mg/kg | 4.6E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ZINC | 4.7E+02 | mg/kg | 1.9E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 4.2E-02 | mg/kg | 1.7E-09 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 3.4E-09 |

**Table 7.2**
**Calculation of Chemical Cancer Risks for Construction Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | 2-METHYLNAPHTHALENE | 2.9E+00 | mg/kg | 1.2E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | BENZO(A)ANTHRACENE | 3.2E+00 | mg/kg | 1.3E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.3E-08 |
| | | | Ingestion | BENZO(A)PYRENE | 2.8E+00 | mg/kg | 1.1E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.1E-07 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 4.6E+00 | mg/kg | 1.8E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.8E-08 |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 3.0E+00 | mg/kg | 1.2E-07 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 1.2E-09 |
| | | | Ingestion | CHRYSENE | 4.4E+00 | mg/kg | 1.8E-07 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 1.8E-10 |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 1.4E+00 | mg/kg | 5.7E-08 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 5.7E-08 |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 2.5E+00 | mg/kg | 1.0E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.0E-08 |
| | | | Ingestion | NAPHTHALENE | 7.9E+00 | mg/kg | 3.2E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | PENTACHLOROPHENOL | 3.0E-01 | mg/kg | 1.2E-08 | mg/kg-d | 4.0E-01 | (mg/kg-d)-1 | 4.8E-09 |
| | | | Ingestion | **VOCs** | | | | | | | |
| | | | Ingestion | BENZENE | 2.0E-01 | mg/kg | 8.0E-09 | mg/kg-d | 5.5E-02 | (mg/kg-d)-1 | 4.4E-10 |
| | | | Ingestion | ETHYLBENZENE | 3.9E+00 | mg/kg | 1.6E-07 | mg/kg-d | 1.1E-02 | (mg/kg-d)-1 | 1.7E-09 |
| | | | Ingestion | XYLENES (TOTAL) | 3.5E+01 | mg/kg | 1.4E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **TICs** | | | | | | | |
| | | | Ingestion | 1,2,4-TRIMETHYLBENZENE | 4.8E+02 | mg/kg | 1.9E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | BENZENE, 1,2,3-TRIMETHYL- | 1.1E+02 | mg/kg | 4.5E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | BENZENE, 1,3,5-TRIMETHYL- | 1.8E+02 | mg/kg | 7.3E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Ingestion]** | | | | | | | | **1.2E-06** |
| Soil | Soil (0-10 ft bgs) | SFA | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 2.7E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ANTIMONY | 5.1E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ARSENIC | 2.6E+01 | mg/kg | 1.0E-07 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 1.5E-07 |
| | | | Dermal | BARIUM | 4.7E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CADMIUM | 4.7E-01 | mg/kg | 6.1E-11 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CHROMIUM, HEXAVALENT | 9.1E-01 | mg/kg | NA | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | NA |
| | | | Dermal | COBALT | 1.8E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CYANIDE | 6.9E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 6.2E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | LEAD | 9.1E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MANGANESE | 4.7E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |

**Table 7.2**
**Calculation of Chemical Cancer Risks for Construction Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | MERCURY | 4.1E-01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | THALLIUM | 4.7E-01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | VANADIUM | 1.1E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ZINC | 4.7E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 4.2E-02 | mg/kg | 7.7E-10 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 1.5E-09 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | 2-METHYLNAPHTHALENE | 2.9E+00 | mg/kg | 4.9E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | BENZO(A)ANTHRACENE | 3.2E+00 | mg/kg | 5.3E-08 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 5.3E-09 |
| | | | Dermal | BENZO(A)PYRENE | 2.8E+00 | mg/kg | 4.7E-08 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 4.7E-08 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 4.6E+00 | mg/kg | 7.7E-08 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 7.7E-09 |
| | | | Dermal | BENZO(K)FLUORANTHENE | 3.0E+00 | mg/kg | 5.0E-08 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 5.0E-10 |
| | | | Dermal | CHRYSENE | 4.4E+00 | mg/kg | 7.3E-08 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 7.3E-11 |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 1.4E+00 | mg/kg | 2.4E-08 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 2.4E-08 |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 2.5E+00 | mg/kg | 4.3E-08 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 4.3E-09 |
| | | | Dermal | NAPHTHALENE | 7.9E+00 | mg/kg | 1.3E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | PENTACHLOROPHENOL | 3.0E-01 | mg/kg | 9.7E-09 | mg/kg-d | 4.0E-01 | (mg/kg-d)-1 | 3.9E-09 |
| | | | Dermal | **VOCs** | | | | | | | |
| | | | Dermal | BENZENE | 2.0E-01 | mg/kg | NA | mg/kg-d | 5.5E-02 | (mg/kg-d)-1 | NA |
| | | | Dermal | ETHYLBENZENE | 3.9E+00 | mg/kg | NA | mg/kg-d | 1.1E-02 | (mg/kg-d)-1 | NA |
| | | | Dermal | XYLENES (TOTAL) | 3.5E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **TICs** | | | | | | | |
| | | | Dermal | 1,2,4-TRIMETHYLBENZENE | 4.8E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | BENZENE, 1,2,3-TRIMETHYL- | 1.1E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | BENZENE, 1,3,5-TRIMETHYL- | 1.8E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Dermal]** | | | | | | | | **2.4E-07** |
| Soil | Particulates in Air | SFA | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ALUMINUM | 8.5E-07 | mg/m3 | 2.8E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ANTIMONY | 1.6E-08 | mg/m3 | 5.2E-08 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ARSENIC | 8.1E-09 | mg/m3 | 2.6E-08 | µg/m3 | 4.3E-03 | (µg/m3)-1 | 1.1E-10 |
| | | | Inhalation | BARIUM | 1.5E-07 | mg/m3 | 4.8E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | CADMIUM | 1.5E-10 | mg/m3 | 4.8E-10 | µg/m3 | 1.8E-03 | (µg/m3)-1 | 8.6E-13 |

**Table 7.2**
**Calculation of Chemical Cancer Risks for Construction Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.9E-10 | mg/m3 | 9.3E-10 | µg/m3 | 8.4E-02 | (µg/m3)-1 | 7.8E-11 |
| | | | Inhalation | COBALT | 5.8E-10 | mg/m3 | 1.9E-09 | µg/m3 | 9.0E-03 | (µg/m3)-1 | 1.7E-11 |
| | | | Inhalation | CYANIDE | 9.1E-05 | mg/m3 | 3.0E-04 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | IRON | 1.9E-06 | mg/m3 | 6.4E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | LEAD | 2.8E-07 | mg/m3 | 9.3E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | MANGANESE | 1.5E-08 | mg/m3 | 4.8E-08 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | MERCURY | 1.3E-10 | mg/m3 | 4.2E-10 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | THALLIUM | 1.5E-10 | mg/m3 | 4.8E-10 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | VANADIUM | 3.6E-09 | mg/m3 | 1.2E-08 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ZINC | 1.5E-07 | mg/m3 | 4.8E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | AROCLOR-1254 | 3.9E-08 | mg/m3 | 1.3E-07 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 7.3E-11 |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | 2-METHYLNAPHTHALENE | 3.9E-05 | mg/m3 | 1.3E-04 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | BENZO(A)ANTHRACENE | 5.6E-07 | mg/m3 | 1.8E-06 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 1.1E-10 |
| | | | Inhalation | BENZO(A)PYRENE | 8.8E-10 | mg/m3 | 2.9E-09 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 1.7E-12 |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 1.4E-09 | mg/m3 | 4.6E-09 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 2.8E-13 |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 9.3E-10 | mg/m3 | 3.0E-09 | µg/m3 | 6.0E-06 | (µg/m3)-1 | 1.8E-14 |
| | | | Inhalation | CHRYSENE | 1.4E-09 | mg/m3 | 4.4E-09 | µg/m3 | 6.0E-07 | (µg/m3)-1 | 2.7E-15 |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 4.4E-10 | mg/m3 | 1.4E-09 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 8.6E-13 |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 7.9E-10 | mg/m3 | 2.6E-09 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 1.6E-13 |
| | | | Inhalation | NAPHTHALENE | 1.3E-04 | mg/m3 | 4.3E-04 | µg/m3 | 3.4E-05 | (µg/m3)-1 | 1.5E-08 |
| | | | Inhalation | PENTACHLOROPHENOL | 9.3E-11 | mg/m3 | 3.0E-10 | µg/m3 | 5.1E-06 | (µg/m3)-1 | 1.6E-15 |
| | | | Inhalation | **VOCs** | | | | | | | |
| | | | Inhalation | BENZENE | 4.4E-05 | mg/m3 | 1.4E-04 | µg/m3 | 7.8E-06 | (µg/m3)-1 | 1.1E-09 |
| | | | Inhalation | ETHYLBENZENE | 5.4E-04 | mg/m3 | 1.8E-03 | µg/m3 | 2.5E-06 | (µg/m3)-1 | 4.4E-09 |
| | | | Inhalation | XYLENES (TOTAL) | 4.8E-03 | mg/m3 | 1.6E-02 | µg/m3 | NA | (µg/m3)-1 | NA |

**Table 7.2**
**Calculation of Chemical Cancer Risks for Construction Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | **TICs** | | | | | | | |
| | | | Inhalation | 1,2,4-TRIMETHYLBENZENE | 4.7E-02 | mg/m3 | 1.5E-01 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | BENZENE, 1,2,3-TRIMETHYL- | 9.2E-03 | mg/m3 | 3.0E-02 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | BENZENE, 1,3,5-TRIMETHYL- | 2.1E-02 | mg/m3 | 6.9E-02 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | **Exposure Route Total [Particulates in Air (soil 0-10)-Inhalation]** | | | | | | | | **2.1E-08** |
| **Exposure Point Total (SFA)** | | | | | | | | | | | **1E-06** |
| Soil | Soil (0-10 ft bgs) | UNDV | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.3E+03 | mg/kg | 1.3E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ANTIMONY | 7.2E+00 | mg/kg | 2.9E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ARSENIC | 1.7E+02 | mg/kg | 4.2E-06 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 6.2E-06 |
| | | | Ingestion | BARIUM | 8.3E+02 | mg/kg | 3.4E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CADMIUM | 9.0E-01 | mg/kg | 3.6E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | 3.4E-08 | mg/kg-d | 5.0E-01 | (mg/kg-d)-1 | 1.7E-08 |
| | | | Ingestion | COBALT | 4.2E+00 | mg/kg | 1.7E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | COPPER | 8.3E+01 | mg/kg | 3.3E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CYANIDE | 4.7E+01 | mg/kg | 1.9E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | IRON | 1.1E+04 | mg/kg | 4.5E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | LEAD | 6.8E+02 | mg/kg | 2.8E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | MANGANESE | 1.5E+02 | mg/kg | 5.9E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | MERCURY | 1.1E+00 | mg/kg | 4.5E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | THALLIUM | 4.8E-01 | mg/kg | 1.9E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | VANADIUM | 1.5E+01 | mg/kg | 5.9E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ZINC | 4.7E+02 | mg/kg | 1.9E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 6.2E-02 | mg/kg | 2.5E-09 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 5.0E-09 |
| | | | Ingestion | AROCLOR-1260 | 2.7E-01 | mg/kg | 1.1E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 2.1E-08 |
| | | | Ingestion | DIELDRIN | 6.4E-03 | mg/kg | 2.6E-10 | mg/kg-d | 1.6E+01 | (mg/kg-d)-1 | 4.1E-09 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 2.1E+00 | mg/kg | 8.3E-08 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 8.3E-09 |
| | | | Ingestion | BENZO(A)PYRENE | 2.5E+00 | mg/kg | 9.9E-08 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 9.9E-08 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 3.7E+00 | mg/kg | 1.5E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.5E-08 |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 2.6E+00 | mg/kg | 1.0E-07 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 1.0E-09 |

**Table 7.2**
**Calculation of Chemical Cancer Risks for Construction Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | CHRYSENE | 2.9E+00 | mg/kg | 1.2E-07 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 1.2E-10 |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 3.9E-01 | mg/kg | 1.6E-08 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.6E-08 |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 1.6E+00 | mg/kg | 6.5E-08 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 6.5E-09 |
| | | | Ingestion | PENTACHLOROPHENOL | 2.4E+01 | mg/kg | 9.6E-07 | mg/kg-d | 4.0E-01 | (mg/kg-d)-1 | 3.8E-07 |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Ingestion]** | | | | | | | | **6.8E-06** |
| Soil | Soil (0-10 ft bgs) | UNDV | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.3E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ANTIMONY | 7.2E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ARSENIC | 1.7E+02 | mg/kg | 6.7E-07 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 1.0E-06 |
| | | | Dermal | BARIUM | 8.3E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CADMIUM | 9.0E-01 | mg/kg | 1.2E-10 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | NA | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | NA |
| | | | Dermal | COBALT | 4.2E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | COPPER | 8.3E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CYANIDE | 4.7E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 1.1E+04 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | LEAD | 6.8E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MANGANESE | 1.5E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MERCURY | 1.1E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | THALLIUM | 4.8E-01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | VANADIUM | 1.5E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ZINC | 4.7E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 6.2E-02 | mg/kg | 1.1E-09 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 2.2E-09 |
| | | | Dermal | AROCLOR-1260 | 2.7E-01 | mg/kg | 4.8E-09 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 9.6E-09 |
| | | | Dermal | DIELDRIN | 6.4E-03 | mg/kg | 8.3E-11 | mg/kg-d | 1.6E+01 | (mg/kg-d)-1 | 1.3E-09 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 2.1E+00 | mg/kg | 3.5E-08 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 3.5E-09 |
| | | | Dermal | BENZO(A)PYRENE | 2.5E+00 | mg/kg | 4.1E-08 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 4.1E-08 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 3.7E+00 | mg/kg | 6.3E-08 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 6.3E-09 |
| | | | Dermal | BENZO(K)FLUORANTHENE | 2.6E+00 | mg/kg | 4.4E-08 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 4.4E-10 |
| | | | Dermal | CHRYSENE | 2.9E+00 | mg/kg | 4.9E-08 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 4.9E-11 |

**Table 7.2**
**Calculation of Chemical Cancer Risks for Construction Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 3.9E-01 | mg/kg | 6.6E-09 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 6.6E-09 |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.6E+00 | mg/kg | 2.7E-08 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 2.7E-09 |
| | | | Dermal | PENTACHLOROPHENOL | 2.4E+01 | mg/kg | 7.7E-07 | mg/kg-d | 4.0E-01 | (mg/kg-d)-1 | 3.1E-07 |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Dermal]** | | | | | | | | **1.4E-06** |
| Soil | Particulates in Air | UNDV | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ALUMINUM | 1.0E-06 | mg/m3 | 3.4E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ANTIMONY | 2.2E-09 | mg/m3 | 7.3E-09 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ARSENIC | 5.4E-08 | mg/m3 | 1.7E-07 | µg/m3 | 4.3E-03 | (µg/m3)-1 | 7.5E-10 |
| | | | Inhalation | BARIUM | 2.6E-07 | mg/m3 | 8.5E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | CADMIUM | 2.8E-10 | mg/m3 | 9.2E-10 | µg/m3 | 1.8E-03 | (µg/m3)-1 | 1.7E-12 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.6E-10 | mg/m3 | 8.6E-10 | µg/m3 | 8.4E-02 | (µg/m3)-1 | 7.2E-11 |
| | | | Inhalation | COBALT | 1.3E-09 | mg/m3 | 4.3E-09 | µg/m3 | 9.0E-03 | (µg/m3)-1 | 3.8E-11 |
| | | | Inhalation | COPPER | 2.6E-08 | mg/m3 | 8.4E-08 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | CYANIDE | 6.2E-04 | mg/m3 | 2.0E-03 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | IRON | 3.5E-06 | mg/m3 | 1.1E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | LEAD | 2.1E-07 | mg/m3 | 6.9E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | MANGANESE | 4.5E-08 | mg/m3 | 1.5E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | MERCURY | 3.5E-10 | mg/m3 | 1.1E-09 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | THALLIUM | 1.5E-10 | mg/m3 | 4.9E-10 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | VANADIUM | 4.6E-09 | mg/m3 | 1.5E-08 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ZINC | 1.5E-07 | mg/m3 | 4.8E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | AROCLOR-1254 | 5.7E-08 | mg/m3 | 1.9E-07 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 1.1E-10 |
| | | | Inhalation | AROCLOR-1260 | 1.6E-07 | mg/m3 | 5.1E-07 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 2.9E-10 |
| | | | Inhalation | DIELDRIN | 2.0E-12 | mg/m3 | 6.5E-12 | µg/m3 | 4.6E-03 | (µg/m3)-1 | 3.0E-14 |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | BENZO(A)ANTHRACENE | 3.7E-07 | mg/m3 | 1.2E-06 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 7.1E-11 |
| | | | Inhalation | BENZO(A)PYRENE | 7.7E-10 | mg/m3 | 2.5E-09 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 1.5E-12 |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 1.2E-09 | mg/m3 | 3.8E-09 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 2.3E-13 |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 8.1E-10 | mg/m3 | 2.7E-09 | µg/m3 | 6.0E-06 | (µg/m3)-1 | 1.6E-14 |

## Table 7.2
## Calculation of Chemical Cancer Risks for Construction Worker
## Reasonable Maximum Exposure

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | CHRYSENE | 9.2E-10 | mg/m3 | 3.0E-09 | µg/m3 | 6.0E-07 | (µg/m3)-1 | 1.8E-15 |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 1.2E-10 | mg/m3 | 4.0E-10 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 2.4E-13 |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 5.0E-10 | mg/m3 | 1.6E-09 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 9.8E-14 |
| | | | Inhalation | PENTACHLOROPHENOL | 7.4E-09 | mg/m3 | 2.4E-08 | µg/m3 | 5.1E-06 | (µg/m3)-1 | 1.2E-13 |
| | | | **Exposure Route Total [Particulates in Air (soil 0-10)-Inhalation]** | | | | | | | | **1.3E-09** |
| **Exposure Point Total (UNDV)** | | | | | | | | | | | **8E-06** |

Notes:
NA – Not Available.

**Ingestion-Soil**

$$\text{Intake Factor (IF)} = \frac{IR \times FS \times EF \times ED \times CF}{BW \times AT} = 4.0E\text{-}08 \text{ (Adult)}$$

| | | |
|---|---|---|
| IR | Ingestion Rate (mg/day) | 330 |
| FS | Fraction from Contaminated Source | 1 |
| EF | Soil Ingestion Exposure Frequency (days/yr) | 250 |
| ED | Soil Ingestion Exposure Duration (yrs) | 1 |
| CF | Conversion Factor (kg/mg) | 1E-06 |
| BW | Body Weight (kg) | 80 |
| AT | Averaging Time (d) | 25,550 |

Intake = EPC x Bioavailability (B) x IF
(B) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Dermal-Soil**

$$\text{Intake Factor (IF)} = \frac{SA \times AF \times EF \times ED \times CF}{BW \times AT} = 1.3E\text{-}07 \text{ (Adult)}$$

| | | |
|---|---|---|
| SA | Surface Area Exposed to Soil ($cm^2$/day) | 3,527 |
| AF | Soil Skin Adherence Factor (mg/$cm^2$) | 0.3 |
| EF | Soil Dermal Exposure Frequency (days/yr) | 250 |
| ED | Soil Dermal Exposure Duration (yrs) | 1 |
| CF | Conversion Factor (kg/mg) | 1E-06 |
| BW | Body Weight (kg) | 80 |
| AT | Averaging Time (d) | 25,550 |

Intake = EPC x Dermal Absorption (ABS) x IF
(ABS) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

## Table 7.2
## Calculation of Chemical Cancer Risks for Construction Worker
## Reasonable Maximum Exposure

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |

**Inhalation-Soil**

$$\text{Intake Factor (IF)} = \frac{EF \times ED \times ET \times CF1 \times CF2}{AT} = 3.3E+00 \text{ (Adult)}$$

| | | |
|---|---|---|
| EF | Soil Exposure Frequency (days/yr) | 250 |
| ED | Soil Exposure Duration (yrs) | 1 |
| ET | Soil Exposure Time (hours/day) | 8 |
| CF1 | Conversion Factor (day/hour) | 0.042 |
| CF2 | Conversion Factor (µg/mg) | 1000 |
| AT | Averaging Time (d) | 25,550 |

EPCair = EPCsoil x [1/Volatilization Factor (VF) + 1/Particulate Emissions Factor (PEF)]

Exposure = EPCair x IF

Cancer risk = Exposure x Inhalation Unit Risk (IUR)

**Table 7.3**
**Calculation of Chemical Cancer Risks for Outdoor Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Outdoor Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| Soil | Soil (0-2 ft bgs) | EUSA | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ARSENIC | 2.5E+00 | mg/kg | 4.0E-07 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 6.1E-07 |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 6.1E-01 | mg/kg | 1.7E-07 | mg/kg-d | 5.0E-01 | (mg/kg-d)-1 | 8.3E-08 |
| | | | Ingestion | COBALT | 3.1E+00 | mg/kg | 8.5E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | IRON | 6.8E+03 | mg/kg | 1.9E-03 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | THALLIUM | 3.3E-01 | mg/kg | 9.1E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)PYRENE | 7.3E-02 | mg/kg | 2.0E-08 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 2.0E-08 |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 2.1E-02 | mg/kg | 5.8E-09 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 5.8E-09 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Ingestion]** | | | | | | | | **7.2E-07** |
| Soil | Soil (0-2 ft bgs) | EUSA | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ARSENIC | 2.5E+00 | mg/kg | 8.6E-08 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 1.3E-07 |
| | | | Dermal | CHROMIUM, HEXAVALENT | 6.1E-01 | mg/kg | NA | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | NA |
| | | | Dermal | COBALT | 3.1E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 6.8E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | THALLIUM | 3.3E-01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)PYRENE | 7.3E-02 | mg/kg | 1.1E-08 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.1E-08 |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 2.1E-02 | mg/kg | 3.2E-09 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 3.2E-09 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Dermal]** | | | | | | | | **1.4E-07** |
| Soil | Particulates in Air (s | EUSA | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ARSENIC | 7.7E-10 | mg/m3 | 5.6E-08 | µg/m3 | 4.3E-03 | (µg/m3)-1 | 2.4E-10 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 1.9E-10 | mg/m3 | 1.4E-08 | µg/m3 | 8.4E-02 | (µg/m3)-1 | 1.2E-09 |
| | | | Inhalation | COBALT | 9.7E-10 | mg/m3 | 7.1E-08 | µg/m3 | 9.0E-03 | (µg/m3)-1 | 6.4E-10 |
| | | | Inhalation | IRON | 2.1E-06 | mg/m3 | 1.6E-04 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | THALLIUM | 1.0E-10 | mg/m3 | 7.6E-09 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | BENZO(A)PYRENE | 2.3E-11 | mg/m3 | 1.7E-09 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 1.0E-12 |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 6.6E-12 | mg/m3 | 4.8E-10 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 2.9E-13 |
| | | | **Exposure Route Total [Particulates in Air (soil 0-2)-Inhalation]** | | | | | | | | **2.1E-09** |
| **Exposure Point Total (EUSA)** | | | | | | | | | | | **9E-07** |
| Soil | Soil (0-2 ft bgs) | NFA | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.6E+03 | mg/kg | 1.0E-03 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ANTIMONY | 1.0E+00 | mg/kg | 2.8E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ARSENIC | 4.3E+01 | mg/kg | 7.0E-06 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 1.1E-05 |

**Table 7.3**
**Calculation of Chemical Cancer Risks for Outdoor Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Outdoor Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | BARIUM | 4.5E+02 | mg/kg | 1.2E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 7.5E+00 | mg/kg | 2.1E-06 | mg/kg-d | 5.0E-01 | (mg/kg-d)-1 | 1.0E-06 |
| | | | Ingestion | COBALT | 2.3E+00 | mg/kg | 6.4E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | COPPER | 2.7E+01 | mg/kg | 7.5E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CYANIDE | 4.5E+00 | mg/kg | 1.2E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | IRON | 7.3E+03 | mg/kg | 2.0E-03 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | LEAD | 3.0E+02 | mg/kg | 8.3E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | MANGANESE | 1.0E+02 | mg/kg | 2.8E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | THALLIUM | 3.4E-01 | mg/kg | 9.4E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | VANADIUM | 1.5E+01 | mg/kg | 4.0E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1248 | 4.8E-02 | mg/kg | 1.3E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 2.6E-08 |
| | | | Ingestion | AROCLOR-1254 | 4.0E-02 | mg/kg | 1.1E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 2.2E-08 |
| | | | Ingestion | AROCLOR-1260 | 3.2E+00 | mg/kg | 8.8E-07 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 1.8E-06 |
| | | | Ingestion | DIELDRIN | 3.6E-02 | mg/kg | 9.8E-09 | mg/kg-d | 1.6E+01 | (mg/kg-d)-1 | 1.6E-07 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 2.1E+00 | mg/kg | 5.7E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 5.7E-08 |
| | | | Ingestion | BENZO(A)PYRENE | 1.0E+00 | mg/kg | 2.9E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 2.9E-07 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 2.3E+00 | mg/kg | 6.3E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 6.3E-08 |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 1.9E+00 | mg/kg | 5.3E-07 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 5.3E-09 |
| | | | Ingestion | CHRYSENE | 7.6E-01 | mg/kg | 2.1E-07 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 2.1E-10 |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 6.9E-01 | mg/kg | 1.9E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.9E-07 |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 9.9E-01 | mg/kg | 2.7E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 2.7E-08 |
| | | | Ingestion | NAPHTHALENE | 1.1E+00 | mg/kg | 3.0E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **VOCs** | | | | | | | |
| | | | Ingestion | BENZENE | 4.2E-01 | mg/kg | 1.2E-07 | mg/kg-d | 5.5E-02 | (mg/kg-d)-1 | 6.4E-09 |
| | | | Ingestion | ETHYLBENZENE | 4.2E+01 | mg/kg | 1.2E-05 | mg/kg-d | 1.1E-02 | (mg/kg-d)-1 | 1.3E-07 |
| | | | Ingestion | METHYLCYCLOHEXANE | 6.7E+02 | mg/kg | 1.8E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | TRICHLOROETHYLENE (TCE) | 5.1E-02 | mg/kg | 1.4E-08 | mg/kg-d | 4.6E-02 | (mg/kg-d)-1 | 6.5E-10 |
| | | | Ingestion | **TICs** | | | | | | | |
| | | | Ingestion | 1,1-BIPHENYL, 2,3,4,4,5,5-HEXACHLORO | 2.1E+00 | mg/kg | 5.9E-07 | mg/kg-d | 3.9E+00 | (mg/kg-d)-1 | 2.3E-06 |
| | | | Ingestion | BENZO[J]FLUORANTHENE | 3.2E+00 | mg/kg | 8.7E-07 | mg/kg-d | 1.2E+00 | (mg/kg-d)-1 | 1.0E-06 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Ingestion]** | | | | | | | | **1.8E-05** |

**Table 7.3**
**Calculation of Chemical Cancer Risks for Outdoor Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Outdoor Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| Soil | Soil (0-2 ft bgs) | NFA | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.6E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ANTIMONY | 1.0E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ARSENIC | 4.3E+01 | mg/kg | 1.5E-06 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 2.2E-06 |
| | | | Dermal | BARIUM | 4.5E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CHROMIUM, HEXAVALENT | 7.5E+00 | mg/kg | NA | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | NA |
| | | | Dermal | COBALT | 2.3E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | COPPER | 2.7E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CYANIDE | 4.5E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 7.3E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | LEAD | 3.0E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MANGANESE | 1.0E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | THALLIUM | 3.4E-01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | VANADIUM | 1.5E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1248 | 4.8E-02 | mg/kg | 7.8E-09 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 1.6E-08 |
| | | | Dermal | AROCLOR-1254 | 4.0E-02 | mg/kg | 6.6E-09 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 1.3E-08 |
| | | | Dermal | AROCLOR-1260 | 3.2E+00 | mg/kg | 5.2E-07 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 1.0E-06 |
| | | | Dermal | DIELDRIN | 3.6E-02 | mg/kg | 4.1E-09 | mg/kg-d | 1.6E+01 | (mg/kg-d)-1 | 6.6E-08 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 2.1E+00 | mg/kg | 3.2E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 3.2E-08 |
| | | | Dermal | BENZO(A)PYRENE | 1.0E+00 | mg/kg | 1.6E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.6E-07 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 2.3E+00 | mg/kg | 3.5E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 3.5E-08 |
| | | | Dermal | BENZO(K)FLUORANTHENE | 1.9E+00 | mg/kg | 2.9E-07 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 2.9E-09 |
| | | | Dermal | CHRYSENE | 7.6E-01 | mg/kg | 1.1E-07 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 1.1E-10 |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 6.9E-01 | mg/kg | 1.0E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.0E-07 |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 9.9E-01 | mg/kg | 1.5E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.5E-08 |
| | | | Dermal | NAPHTHALENE | 1.1E+00 | mg/kg | 1.7E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **VOCs** | | | | | | | |
| | | | Dermal | BENZENE | 4.2E-01 | mg/kg | NA | mg/kg-d | 5.5E-02 | (mg/kg-d)-1 | NA |
| | | | Dermal | ETHYLBENZENE | 4.2E+01 | mg/kg | NA | mg/kg-d | 1.1E-02 | (mg/kg-d)-1 | NA |
| | | | Dermal | METHYLCYCLOHEXANE | 6.7E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | TRICHLOROETHYLENE (TCE) | 5.1E-02 | mg/kg | NA | mg/kg-d | 4.6E-02 | (mg/kg-d)-1 | NA |

**Table 7.3**
**Calculation of Chemical Cancer Risks for Outdoor Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Outdoor Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | **TICs** | | | | | | | |
| | | | Dermal | 1,1-BIPHENYL, 2,3,4,4,5,5-HEXACHLORO | 2.1E+00 | mg/kg | 3.5E-07 | mg/kg-d | 3.9E+00 | (mg/kg-d)-1 | 1.4E-06 |
| | | | Dermal | BENZO[J]FLUORANTHENE | 3.2E+00 | mg/kg | 4.8E-07 | mg/kg-d | 1.2E+00 | (mg/kg-d)-1 | 5.7E-07 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Dermal]** | | | | | | | | **5.7E-06** |
| Soil | Particulates in Air (s | NFA | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ALUMINUM | 1.1E-06 | mg/m3 | 8.4E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ANTIMONY | 3.2E-10 | mg/m3 | 2.3E-08 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ARSENIC | 1.3E-08 | mg/m3 | 9.8E-07 | µg/m3 | 4.3E-03 | (µg/m3)-1 | 4.2E-09 |
| | | | Inhalation | BARIUM | 1.4E-07 | mg/m3 | 1.0E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.3E-09 | mg/m3 | 1.7E-07 | µg/m3 | 8.4E-02 | (µg/m3)-1 | 1.4E-08 |
| | | | Inhalation | COBALT | 7.3E-10 | mg/m3 | 5.4E-08 | µg/m3 | 9.0E-03 | (µg/m3)-1 | 4.8E-10 |
| | | | Inhalation | COPPER | 8.5E-09 | mg/m3 | 6.3E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | CYANIDE | 6.0E-05 | mg/m3 | 4.4E-03 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | IRON | 2.3E-06 | mg/m3 | 1.7E-04 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | LEAD | 9.5E-08 | mg/m3 | 7.0E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | MANGANESE | 3.2E-08 | mg/m3 | 2.3E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | THALLIUM | 1.1E-10 | mg/m3 | 7.8E-09 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | VANADIUM | 4.5E-09 | mg/m3 | 3.3E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | AROCLOR-1248 | 6.0E-08 | mg/m3 | 4.4E-06 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 2.5E-09 |
| | | | Inhalation | AROCLOR-1254 | 3.7E-08 | mg/m3 | 2.7E-06 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 1.6E-09 |
| | | | Inhalation | AROCLOR-1260 | 1.9E-06 | mg/m3 | 1.4E-04 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 7.9E-08 |
| | | | Inhalation | DIELDRIN | 1.1E-11 | mg/m3 | 8.2E-10 | µg/m3 | 4.6E-03 | (µg/m3)-1 | 3.8E-12 |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | BENZO(A)ANTHRACENE | 3.7E-07 | mg/m3 | 2.7E-05 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 1.6E-09 |
| | | | Inhalation | BENZO(A)PYRENE | 3.3E-10 | mg/m3 | 2.4E-08 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 1.4E-11 |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 7.2E-10 | mg/m3 | 5.3E-08 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 3.2E-12 |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 6.1E-10 | mg/m3 | 4.5E-08 | µg/m3 | 6.0E-06 | (µg/m3)-1 | 2.7E-13 |
| | | | Inhalation | CHRYSENE | 2.4E-10 | mg/m3 | 1.7E-08 | µg/m3 | 6.0E-07 | (µg/m3)-1 | 1.0E-14 |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 2.1E-10 | mg/m3 | 1.6E-08 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 9.5E-12 |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 3.1E-10 | mg/m3 | 2.3E-08 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 1.4E-12 |
| | | | Inhalation | NAPHTHALENE | 1.9E-05 | mg/m3 | 1.4E-03 | µg/m3 | 3.4E-05 | (µg/m3)-1 | 4.6E-08 |
| | | | Inhalation | **VOCs** | | | | | | | |
| | | | Inhalation | BENZENE | 9.3E-05 | mg/m3 | 6.8E-03 | µg/m3 | 7.8E-06 | (µg/m3)-1 | 5.3E-08 |
| | | | Inhalation | ETHYLBENZENE | 5.8E-03 | mg/m3 | 4.2E-01 | µg/m3 | 2.5E-06 | (µg/m3)-1 | 1.1E-06 |

**Table 7.3**
**Calculation of Chemical Cancer Risks for Outdoor Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Outdoor Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | METHYLCYCLOHEXANE | 5.0E-01 | mg/m3 | 3.7E+01 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | TRICHLOROETHYLENE (TCE) | 1.8E-05 | mg/m3 | 1.3E-03 | µg/m3 | 4.1E-06 | (µg/m3)-1 | 5.4E-09 |
| | | | Inhalation | **TICs** | | | | | | | |
| | | | Inhalation | 1,1-BIPHENYL, 2,3,4,4,5,5-HEXACHLORO | 7.6E-07 | mg/m3 | 5.6E-05 | µg/m3 | 1.1E-03 | (µg/m3)-1 | 6.1E-08 |
| | | | Inhalation | BENZO[J]FLUORANTHENE | 9.9E-10 | mg/m3 | 7.3E-08 | µg/m3 | 1.1E-04 | (µg/m3)-1 | 8.0E-12 |
| | | | **Exposure Route Total [Particulates in Air (soil 0-2)-Inhalation]** | | | | | | | | **1.3E-06** |
| **Exposure Point Total (NFA)** | | | | | | | | | | | **2E-05** |
| Soil | Soil (0-2 ft bgs) | SFA | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 2.8E+03 | mg/kg | 7.8E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ANTIMONY | 1.2E+02 | mg/kg | 3.3E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ARSENIC | 3.0E+01 | mg/kg | 4.9E-06 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 7.3E-06 |
| | | | Ingestion | BARIUM | 6.2E+02 | mg/kg | 1.7E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CADMIUM | 1.2E+00 | mg/kg | 3.4E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 2.1E+00 | mg/kg | 5.7E-07 | mg/kg-d | 5.0E-01 | (mg/kg-d)-1 | 2.9E-07 |
| | | | Ingestion | COBALT | 2.2E+00 | mg/kg | 6.1E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CYANIDE | 7.8E+00 | mg/kg | 2.1E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | IRON | 8.5E+03 | mg/kg | 2.3E-03 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | LEAD | 1.9E+03 | mg/kg | 5.2E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | MANGANESE | 9.1E+01 | mg/kg | 2.5E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | THALLIUM | 3.5E-01 | mg/kg | 9.6E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | VANADIUM | 1.3E+01 | mg/kg | 3.5E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ZINC | 4.4E+02 | mg/kg | 1.2E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 5.4E-02 | mg/kg | 1.5E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 3.0E-08 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 1.1E+01 | mg/kg | 3.0E-06 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 3.0E-07 |
| | | | Ingestion | BENZO(A)PYRENE | 1.2E+01 | mg/kg | 3.3E-06 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 3.3E-06 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 1.8E+01 | mg/kg | 5.1E-06 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 5.1E-07 |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 8.7E+00 | mg/kg | 2.4E-06 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 2.4E-08 |
| | | | Ingestion | CHRYSENE | 1.5E+01 | mg/kg | 4.1E-06 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 4.1E-09 |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 1.6E+00 | mg/kg | 4.4E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 4.4E-07 |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 5.6E+00 | mg/kg | 1.5E-06 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.5E-07 |
| | | | Ingestion | NAPHTHALENE | 5.3E+00 | mg/kg | 1.5E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |

**Table 7.3**
**Calculation of Chemical Cancer Risks for Outdoor Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Outdoor Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | **VOCs** | | | | | | | |
| | | | Ingestion | BENZENE | 2.8E-01 | mg/kg | 7.7E-08 | mg/kg-d | 5.5E-02 | (mg/kg-d)-1 | 4.2E-09 |
| | | | Ingestion | ETHYLBENZENE | 6.9E+00 | mg/kg | 1.9E-06 | mg/kg-d | 1.1E-02 | (mg/kg-d)-1 | 2.1E-08 |
| | | | Ingestion | XYLENES (TOTAL) | 9.6E+01 | mg/kg | 2.6E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **TICs** | | | | | | | |
| | | | Ingestion | BENZO[J]FLUORANTHENE | 7.0E-01 | mg/kg | 1.9E-07 | mg/kg-d | 1.2E+00 | (mg/kg-d)-1 | 2.3E-07 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Ingestion]** | | | | | | | | **1.3E-05** |
| Soil | Soil (0-2 ft bgs) | SFA | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 2.8E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ANTIMONY | 1.2E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ARSENIC | 3.0E+01 | mg/kg | 1.0E-06 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 1.6E-06 |
| | | | Dermal | BARIUM | 6.2E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CADMIUM | 1.2E+00 | mg/kg | 1.4E-09 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CHROMIUM, HEXAVALENT | 2.1E+00 | mg/kg | NA | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | NA |
| | | | Dermal | COBALT | 2.2E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CYANIDE | 7.8E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 8.5E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | LEAD | 1.9E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MANGANESE | 9.1E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | THALLIUM | 3.5E-01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | VANADIUM | 1.3E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ZINC | 4.4E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 5.4E-02 | mg/kg | 8.9E-09 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 1.8E-08 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 1.1E+01 | mg/kg | 1.6E-06 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.6E-07 |
| | | | Dermal | BENZO(A)PYRENE | 1.2E+01 | mg/kg | 1.8E-06 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.8E-06 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 1.8E+01 | mg/kg | 2.8E-06 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 2.8E-07 |
| | | | Dermal | BENZO(K)FLUORANTHENE | 8.7E+00 | mg/kg | 1.3E-06 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 1.3E-08 |
| | | | Dermal | CHRYSENE | 1.5E+01 | mg/kg | 2.3E-06 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 2.3E-09 |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 1.6E+00 | mg/kg | 2.4E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 2.4E-07 |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 5.6E+00 | mg/kg | 8.4E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 8.4E-08 |
| | | | Dermal | NAPHTHALENE | 5.3E+00 | mg/kg | 8.0E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |

**Table 7.3**
**Calculation of Chemical Cancer Risks for Outdoor Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Outdoor Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | **VOCs** | | | | | | | |
| | | | Dermal | BENZENE | 2.8E-01 | mg/kg | NA | mg/kg-d | 5.5E-02 | (mg/kg-d)-1 | NA |
| | | | Dermal | ETHYLBENZENE | 6.9E+00 | mg/kg | NA | mg/kg-d | 1.1E-02 | (mg/kg-d)-1 | NA |
| | | | Dermal | XYLENES (TOTAL) | 9.6E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **TICs** | | | | | | | |
| | | | Dermal | BENZO[J]FLUORANTHENE | 7.0E-01 | mg/kg | 1.1E-07 | mg/kg-d | 1.2E+00 | (mg/kg-d)-1 | 1.3E-07 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Dermal]** | | | | | | | | **4.3E-06** |
| Soil | Particulates in Air (s | SFA | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ALUMINUM | 8.8E-07 | mg/m3 | 6.5E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ANTIMONY | 3.7E-08 | mg/m3 | 2.7E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ARSENIC | 9.3E-09 | mg/m3 | 6.8E-07 | µg/m3 | 4.3E-03 | (µg/m3)-1 | 2.9E-09 |
| | | | Inhalation | BARIUM | 2.0E-07 | mg/m3 | 1.4E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | CADMIUM | 3.9E-10 | mg/m3 | 2.8E-08 | µg/m3 | 1.8E-03 | (µg/m3)-1 | 5.1E-11 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 6.5E-10 | mg/m3 | 4.8E-08 | µg/m3 | 8.4E-02 | (µg/m3)-1 | 4.0E-09 |
| | | | Inhalation | COBALT | 7.0E-10 | mg/m3 | 5.1E-08 | µg/m3 | 9.0E-03 | (µg/m3)-1 | 4.6E-10 |
| | | | Inhalation | CYANIDE | 1.0E-04 | mg/m3 | 7.6E-03 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | IRON | 2.7E-06 | mg/m3 | 1.9E-04 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | LEAD | 5.9E-07 | mg/m3 | 4.3E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | MANGANESE | 2.9E-08 | mg/m3 | 2.1E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | THALLIUM | 1.1E-10 | mg/m3 | 8.0E-09 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | VANADIUM | 3.9E-09 | mg/m3 | 2.9E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ZINC | 1.4E-07 | mg/m3 | 1.0E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | AROCLOR-1254 | 5.0E-08 | mg/m3 | 3.7E-06 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 2.1E-09 |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | BENZO(A)ANTHRACENE | 1.9E-06 | mg/m3 | 1.4E-04 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 8.5E-09 |
| | | | Inhalation | BENZO(A)PYRENE | 3.8E-09 | mg/m3 | 2.8E-07 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 1.7E-10 |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 5.7E-09 | mg/m3 | 4.2E-07 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 2.5E-11 |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 2.7E-09 | mg/m3 | 2.0E-07 | µg/m3 | 6.0E-06 | (µg/m3)-1 | 1.2E-12 |
| | | | Inhalation | CHRYSENE | 4.7E-09 | mg/m3 | 3.4E-07 | µg/m3 | 6.0E-07 | (µg/m3)-1 | 2.1E-13 |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 5.0E-10 | mg/m3 | 3.7E-08 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 2.2E-11 |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 1.7E-09 | mg/m3 | 1.3E-07 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 7.7E-12 |
| | | | Inhalation | NAPHTHALENE | 8.9E-05 | mg/m3 | 6.6E-03 | µg/m3 | 3.4E-05 | (µg/m3)-1 | 2.2E-07 |

**Table 7.3**
**Calculation of Chemical Cancer Risks for Outdoor Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Outdoor Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | **VOCs** | | | | | | | |
| | | | Inhalation | BENZENE | 6.2E-05 | mg/m3 | 4.5E-03 | µg/m3 | 7.8E-06 | (µg/m3)-1 | 3.5E-08 |
| | | | Inhalation | ETHYLBENZENE | 9.6E-04 | mg/m3 | 7.0E-02 | µg/m3 | 2.5E-06 | (µg/m3)-1 | 1.8E-07 |
| | | | Inhalation | XYLENES (TOTAL) | 1.3E-02 | mg/m3 | 9.6E-01 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | **TICs** | | | | | | | |
| | | | Inhalation | BENZO[J]FLUORANTHENE | 2.2E-10 | mg/m3 | 1.6E-08 | µg/m3 | 1.1E-04 | (µg/m3)-1 | 1.8E-12 |
| | | | **Exposure Route Total [Particulates in Air (soil 0-2)-Inhalation]** | | | | | | | | **4.5E-07** |
| **Exposure Point Total (SFA)** | | | | | | | | | | | **2E-05** |
| Soil | Soil (0-2 ft bgs) | UNDV | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.5E+03 | mg/kg | 9.6E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ANTIMONY | 1.2E+01 | mg/kg | 3.3E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ARSENIC | 1.2E+02 | mg/kg | 2.1E-05 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 3.1E-05 |
| | | | Ingestion | BARIUM | 1.3E+03 | mg/kg | 3.5E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CADMIUM | 1.5E+00 | mg/kg | 4.0E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | 2.3E-07 | mg/kg-d | 5.0E-01 | (mg/kg-d)-1 | 1.2E-07 |
| | | | Ingestion | COBALT | 8.3E+00 | mg/kg | 2.3E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | COPPER | 1.3E+02 | mg/kg | 3.6E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CYANIDE | 8.8E+01 | mg/kg | 2.4E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | IRON | 1.5E+04 | mg/kg | 4.1E-03 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | LEAD | 6.6E+02 | mg/kg | 1.8E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | MANGANESE | 1.8E+02 | mg/kg | 5.1E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | MERCURY | 1.6E+00 | mg/kg | 4.5E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | THALLIUM | 5.2E-01 | mg/kg | 1.4E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | VANADIUM | 1.9E+01 | mg/kg | 5.3E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ZINC | 6.5E+02 | mg/kg | 1.8E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 7.4E-02 | mg/kg | 2.0E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 4.1E-08 |
| | | | Ingestion | AROCLOR-1260 | 4.2E-01 | mg/kg | 1.1E-07 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 2.3E-07 |
| | | | Ingestion | DIELDRIN | 1.0E-02 | mg/kg | 2.9E-09 | mg/kg-d | 1.6E+01 | (mg/kg-d)-1 | 4.6E-08 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 3.1E+00 | mg/kg | 8.6E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 8.6E-08 |
| | | | Ingestion | BENZO(A)PYRENE | 3.8E+00 | mg/kg | 1.0E-06 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.0E-06 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 4.5E+00 | mg/kg | 1.2E-06 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.2E-07 |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 3.1E+00 | mg/kg | 8.5E-07 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 8.5E-09 |
| | | | Ingestion | CHRYSENE | 4.5E+00 | mg/kg | 1.2E-06 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 1.2E-09 |

**Table 7.3**
**Calculation of Chemical Cancer Risks for Outdoor Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Outdoor Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 1.6E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.6E-07 |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 5.2E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 5.2E-08 |
| | | | Ingestion | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 1.5E-07 | mg/kg-d | 4.0E-01 | (mg/kg-d)-1 | 5.8E-08 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Ingestion]** | | | | | | | | **3.3E-05** |
| Soil | Soil (0-2 ft bgs) | UNDV | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.5E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ANTIMONY | 1.2E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ARSENIC | 1.2E+02 | mg/kg | 4.3E-06 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 6.5E-06 |
| | | | Dermal | BARIUM | 1.3E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CADMIUM | 1.5E+00 | mg/kg | 1.7E-09 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | NA | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | NA |
| | | | Dermal | COBALT | 8.3E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | COPPER | 1.3E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CYANIDE | 8.8E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 1.5E+04 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | LEAD | 6.6E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MANGANESE | 1.8E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MERCURY | 1.6E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | THALLIUM | 5.2E-01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | VANADIUM | 1.9E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ZINC | 6.5E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 7.4E-02 | mg/kg | 1.2E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 2.4E-08 |
| | | | Dermal | AROCLOR-1260 | 4.2E-01 | mg/kg | 6.8E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 1.4E-07 |
| | | | Dermal | DIELDRIN | 1.0E-02 | mg/kg | 1.2E-09 | mg/kg-d | 1.6E+01 | (mg/kg-d)-1 | 1.9E-08 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 3.1E+00 | mg/kg | 4.8E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 4.8E-08 |
| | | | Dermal | BENZO(A)PYRENE | 3.8E+00 | mg/kg | 5.7E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 5.7E-07 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 4.5E+00 | mg/kg | 6.8E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 6.8E-08 |
| | | | Dermal | BENZO(K)FLUORANTHENE | 3.1E+00 | mg/kg | 4.7E-07 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 4.7E-09 |
| | | | Dermal | CHRYSENE | 4.5E+00 | mg/kg | 6.9E-07 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 6.9E-10 |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 8.9E-08 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 8.9E-08 |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 2.9E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 2.9E-08 |
| | | | Dermal | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 1.5E-07 | mg/kg-d | 4.0E-01 | (mg/kg-d)-1 | 6.2E-08 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Dermal]** | | | | | | | | **7.6E-06** |

**Table 7.3**
**Calculation of Chemical Cancer Risks for Outdoor Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Outdoor Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| Soil | Particulates in Air (s | UNDV | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ALUMINUM | 1.1E-06 | mg/m3 | 8.0E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ANTIMONY | 3.7E-09 | mg/m3 | 2.7E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ARSENIC | 3.9E-08 | mg/m3 | 2.8E-06 | µg/m3 | 4.3E-03 | (µg/m3)-1 | 1.2E-08 |
| | | | Inhalation | BARIUM | 4.0E-07 | mg/m3 | 3.0E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | CADMIUM | 4.5E-10 | mg/m3 | 3.3E-08 | µg/m3 | 1.8E-03 | (µg/m3)-1 | 6.0E-11 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.6E-10 | mg/m3 | 1.9E-08 | µg/m3 | 8.4E-02 | (µg/m3)-1 | 1.6E-09 |
| | | | Inhalation | COBALT | 2.6E-09 | mg/m3 | 1.9E-07 | µg/m3 | 9.0E-03 | (µg/m3)-1 | 1.7E-09 |
| | | | Inhalation | COPPER | 4.0E-08 | mg/m3 | 3.0E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | CYANIDE | 1.2E-03 | mg/m3 | 8.6E-02 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | IRON | 4.7E-06 | mg/m3 | 3.4E-04 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | LEAD | 2.1E-07 | mg/m3 | 1.5E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | MANGANESE | 5.7E-08 | mg/m3 | 4.2E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | MERCURY | 5.1E-10 | mg/m3 | 3.7E-08 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | THALLIUM | 1.6E-10 | mg/m3 | 1.2E-08 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | VANADIUM | 6.0E-09 | mg/m3 | 4.4E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ZINC | 2.0E-07 | mg/m3 | 1.5E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | AROCLOR-1254 | 6.8E-08 | mg/m3 | 5.0E-06 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 2.9E-09 |
| | | | Inhalation | AROCLOR-1260 | 2.5E-07 | mg/m3 | 1.8E-05 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 1.0E-08 |
| | | | Inhalation | DIELDRIN | 3.3E-12 | mg/m3 | 2.4E-10 | µg/m3 | 4.6E-03 | (µg/m3)-1 | 1.1E-12 |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | BENZO(A)ANTHRACENE | 5.6E-07 | mg/m3 | 4.1E-05 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 2.5E-09 |
| | | | Inhalation | BENZO(A)PYRENE | 1.2E-09 | mg/m3 | 8.7E-08 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 5.2E-11 |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 1.4E-09 | mg/m3 | 1.0E-07 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 6.2E-12 |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 9.7E-10 | mg/m3 | 7.1E-08 | µg/m3 | 6.0E-06 | (µg/m3)-1 | 4.3E-13 |
| | | | Inhalation | CHRYSENE | 1.4E-09 | mg/m3 | 1.0E-07 | µg/m3 | 6.0E-07 | (µg/m3)-1 | 6.2E-14 |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 1.8E-10 | mg/m3 | 1.4E-08 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 8.1E-12 |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 5.9E-10 | mg/m3 | 4.4E-08 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 2.6E-12 |
| | | | Inhalation | PENTACHLOROPHENOL | 1.7E-10 | mg/m3 | 1.2E-08 | µg/m3 | 5.1E-06 | (µg/m3)-1 | 6.2E-14 |
| | | | **Exposure Route Total [Particulates in Air (soil 0-2)-Inhalation]** | | | | | | | | **3.1E-08** |
| **Exposure Point Total (UNDV)** | | | | | | | | | | | **4E-05** |

Notes:
NA – Not Available.

## Table 7.3
## Calculation of Chemical Cancer Risks for Outdoor Worker
## Reasonable Maximum Exposure

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Outdoor Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |

**Ingestion-Soil**

$$\text{Intake Factor (IF)} = \frac{IR \times FS \times EF \times ED \times CF}{BW \times AT} = 2.8E\text{-}07 \text{ (Adult)}$$

| | | |
|---|---|---|
| IR | Ingestion Rate (mg/day) | 100 |
| FS | Fraction from Contaminated Source | 1 |
| EF | Soil Ingestion Exposure Frequency (days/yr) | 225 |
| ED | Soil Ingestion Exposure Duration (yrs) | 25 |
| CF | Conversion Factor (kg/mg) | 1E-06 |
| BW | Body Weight (kg) | 80 |
| AT | Averaging Time (d) | 25,550 |

Intake = EPC x Bioavailability (B) x IF
(B) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Dermal-Soil**

$$\text{Intake Factor (IF)} = \frac{SA \times AF \times EF \times ED \times CF}{BW \times AT} = 1.2E\text{-}06 \text{ (Adult)}$$

| | | |
|---|---|---|
| SA | Surface Area Exposed to Soil ($cm^2$/day) | 3,527 |
| AF | Soil Skin Adherence Factor (mg/$cm^2$) | 0.12 |
| EF | Soil Dermal Exposure Frequency (days/yr) | 225 |
| ED | Soil Dermal Exposure Duration (yrs) | 25 |
| CF | Conversion Factor (kg/mg) | 1E-06 |
| BW | Body Weight (kg) | 80 |
| AT | Averaging Time (d) | 25,550 |

Intake = EPC x Dermal Absorption (ABS) x IF
(ABS) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Inhalation-Soil**

$$\text{Intake Factor (IF)} = \frac{EF \times ED \times ET \times CF1 \times CF2}{AT} = 7.3E+01 \text{ (Adult)}$$

| | | |
|---|---|---|
| EF | Soil Exposure Frequency (days/yr) | 225 |
| ED | Soil Exposure Duration (yrs) | 25 |
| ET | Soil Exposure Time (hours/day) | 8 |
| CF1 | Conversion Factor (day/hour) | 0.042 |
| CF2 | Conversion Factor (µg/mg) | 1000 |
| AT | Averaging Time (d) | 25,550 |

EPCair = EPCsoil x [1/Volatilization Factor (VF) + 1/Particulate Emissions Factor (PEF)]
Exposure = EPCair x IF
Cancer risk = Exposure x Inhalation Unit Risk (IUR)

**Table 7.4**
**Calculation of Chemical Cancer Risks for Resident**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Resident |
| Receptor Age: | Child/Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | | |
| | | | | | | | Value | Units | Value | Units | | |
| Soil | Soil (0-2 ft bgs) | EUSA | Ingestion | **Metals** | | | | | | | | |
| | | | Ingestion | ARSENIC | 2.5E+00 | mg/kg | 2.1E-06 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 3.2E-06 | |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 6.1E-01 | mg/kg | 5.5E-06 | mg/kg-d | 5.0E-01 | (mg/kg-d)-1 | 2.8E-06 | (a) |
| | | | Ingestion | COBALT | 3.1E+00 | mg/kg | 4.5E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Ingestion | IRON | 6.8E+03 | mg/kg | 9.8E-03 | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Ingestion | THALLIUM | 3.3E-01 | mg/kg | 4.7E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Ingestion | **SVOCs** | | | | | | | | |
| | | | Ingestion | BENZO(A)PYRENE | 7.3E-02 | mg/kg | 6.6E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 6.6E-07 | (a) |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 2.1E-02 | mg/kg | 1.9E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.9E-07 | (a) |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Ingestion]** | | | | | | | | **6.8E-06** | |
| Soil | Soil (0-2 ft bgs) | EUSA | Dermal | **Metals** | | | | | | | | |
| | | | Dermal | ARSENIC | 2.5E+00 | mg/kg | 3.0E-07 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 4.5E-07 | |
| | | | Dermal | CHROMIUM, HEXAVALENT | 6.1E-01 | mg/kg | NA | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | NA | |
| | | | Dermal | COBALT | 3.1E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | IRON | 6.8E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | THALLIUM | 3.3E-01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | **SVOCs** | | | | | | | | |
| | | | Dermal | BENZO(A)PYRENE | 7.3E-02 | mg/kg | 2.0E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 2.0E-07 | (a) |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 2.1E-02 | mg/kg | 5.6E-08 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 5.6E-08 | (a) |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Dermal]** | | | | | | | | **7.0E-07** | |
| Soil | Particulates in Air (soil 0-2) | EUSA | Inhalation | **Metals** | | | | | | | | |
| | | | Inhalation | ARSENIC | 7.7E-10 | mg/m3 | 2.7E-07 | µg/m3 | 4.3E-03 | (µg/m3)-1 | 1.2E-09 | |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 1.9E-10 | mg/m3 | 1.9E-07 | µg/m3 | 8.4E-02 | (µg/m3)-1 | 1.6E-08 | (a) |
| | | | Inhalation | COBALT | 9.7E-10 | mg/m3 | 3.5E-07 | µg/m3 | 9.0E-03 | (µg/m3)-1 | 3.1E-09 | |
| | | | Inhalation | IRON | 2.1E-06 | mg/m3 | 7.6E-04 | µg/m3 | NA | (µg/m3)-1 | NA | |
| | | | Inhalation | THALLIUM | 1.0E-10 | mg/m3 | 3.7E-08 | µg/m3 | NA | (µg/m3)-1 | NA | |
| | | | Inhalation | **SVOCs** | | | | | | | | |
| | | | Inhalation | BENZO(A)PYRENE | 2.3E-11 | mg/m3 | 2.3E-08 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 1.4E-11 | (a) |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 6.6E-12 | mg/m3 | 6.5E-09 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 3.9E-12 | (a) |
| | | | **Exposure Route Total [Particulates in Air (soil 0-2)-Inhalation]** | | | | | | | | **2.0E-08** | |
| **Exposure Point Total (EUSA)** | | | | | | | | | | | **8E-06** | |
| Soil | Soil (0-2 ft bgs) | NFA | Ingestion | **Metals** | | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.6E+03 | mg/kg | 5.2E-03 | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Ingestion | ANTIMONY | 1.0E+00 | mg/kg | 1.5E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Ingestion | ARSENIC | 4.3E+01 | mg/kg | 3.7E-05 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 5.5E-05 | |
| | | | Ingestion | BARIUM | 4.5E+02 | mg/kg | 6.5E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 7.5E+00 | mg/kg | 6.8E-05 | mg/kg-d | 5.0E-01 | (mg/kg-d)-1 | 3.4E-05 | (a) |
| | | | Ingestion | COBALT | 2.3E+00 | mg/kg | 3.4E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Ingestion | COPPER | 2.7E+01 | mg/kg | 3.9E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Ingestion | CYANIDE | 4.5E+00 | mg/kg | 6.5E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA | |

**Table 7.4**
**Calculation of Chemical Cancer Risks for Resident**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Resident |
| Receptor Age: | Child/Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | IRON | 7.3E+03 | mg/kg | 1.1E-02 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | LEAD | 3.0E+02 | mg/kg | 4.4E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | MANGANESE | 1.0E+02 | mg/kg | 1.5E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | THALLIUM | 3.4E-01 | mg/kg | 4.9E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | VANADIUM | 1.5E+01 | mg/kg | 2.1E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1248 | 4.8E-02 | mg/kg | 6.9E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 1.4E-07 |
| | | | Ingestion | AROCLOR-1254 | 4.0E-02 | mg/kg | 5.8E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 1.2E-07 |
| | | | Ingestion | AROCLOR-1260 | 3.2E+00 | mg/kg | 4.6E-06 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 9.2E-06 |
| | | | Ingestion | DIELDRIN | 3.6E-02 | mg/kg | 5.1E-08 | mg/kg-d | 1.6E+01 | (mg/kg-d)-1 | 8.2E-07 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 2.1E+00 | mg/kg | 1.9E-05 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.9E-06 (a) |
| | | | Ingestion | BENZO(A)PYRENE | 1.0E+00 | mg/kg | 9.5E-06 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 9.5E-06 (a) |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 2.3E+00 | mg/kg | 2.1E-05 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 2.1E-06 (a) |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 1.9E+00 | mg/kg | 1.8E-05 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 1.8E-07 (a) |
| | | | Ingestion | CHRYSENE | 7.6E-01 | mg/kg | 6.9E-06 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 6.9E-09 (a) |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 6.9E-01 | mg/kg | 6.2E-06 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 6.2E-06 (a) |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 9.9E-01 | mg/kg | 9.0E-06 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 9.0E-07 (a) |
| | | | Ingestion | NAPHTHALENE | 1.1E+00 | mg/kg | 1.6E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **VOCs** | | | | | | | |
| | | | Ingestion | BENZENE | 4.2E-01 | mg/kg | 6.1E-07 | mg/kg-d | 5.5E-02 | (mg/kg-d)-1 | 3.3E-08 |
| | | | Ingestion | ETHYLBENZENE | 4.2E+01 | mg/kg | 6.0E-05 | mg/kg-d | 1.1E-02 | (mg/kg-d)-1 | 6.6E-07 |
| | | | Ingestion | METHYLCYCLOHEXANE | 6.7E+02 | mg/kg | 9.6E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | TRICHLOROETHYLENE (TCE) | 5.1E-02 | mg/kg | 1.5E-07 | mg/kg-d | 4.6E-02 | (mg/kg-d)-1 | 7.1E-09 (b) |
| | | | Ingestion | **TICs** | | | | | | | |
| | | | Ingestion | 1,1-BIPHENYL, 2,3,4,4,5,5-HEXACHLORO | 2.1E+00 | mg/kg | 3.1E-06 | mg/kg-d | 3.9E+00 | (mg/kg-d)-1 | 1.2E-05 |
| | | | Ingestion | BENZO[J]FLUORANTHENE | 3.2E+00 | mg/kg | 4.5E-06 | mg/kg-d | 1.2E+00 | (mg/kg-d)-1 | 5.5E-06 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Ingestion]** | | | | | | | | **1.4E-04** |
| Soil | Soil (0-2 ft bgs) | NFA | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.6E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ANTIMONY | 1.0E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ARSENIC | 4.3E+01 | mg/kg | 5.2E-06 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 7.8E-06 |
| | | | Dermal | BARIUM | 4.5E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CHROMIUM, HEXAVALENT | 7.5E+00 | mg/kg | NA | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | NA |
| | | | Dermal | COBALT | 2.3E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | COPPER | 2.7E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CYANIDE | 4.5E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 7.3E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | LEAD | 3.0E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MANGANESE | 1.0E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |

**Table 7.4**
**Calculation of Chemical Cancer Risks for Resident**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Resident |
| Receptor Age: | Child/Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | | |
| | | | | | | | Value | Units | Value | Units | | |
| | | | Dermal | THALLIUM | 3.4E-01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | VANADIUM | 1.5E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | **PEST/PCB** | | | | | | | | |
| | | | Dermal | AROCLOR-1248 | 4.8E-02 | mg/kg | 2.7E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 5.4E-08 | |
| | | | Dermal | AROCLOR-1254 | 4.0E-02 | mg/kg | 2.3E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 4.6E-08 | |
| | | | Dermal | AROCLOR-1260 | 3.2E+00 | mg/kg | 1.8E-06 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 3.6E-06 | |
| | | | Dermal | DIELDRIN | 3.6E-02 | mg/kg | 1.4E-08 | mg/kg-d | 1.6E+01 | (mg/kg-d)-1 | 2.3E-07 | |
| | | | Dermal | **SVOCs** | | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 2.1E+00 | mg/kg | 5.6E-06 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 5.6E-07 | (a) |
| | | | Dermal | BENZO(A)PYRENE | 1.0E+00 | mg/kg | 2.8E-06 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 2.8E-06 | (a) |
| | | | Dermal | BENZO(B)FLUORANTHENE | 2.3E+00 | mg/kg | 6.2E-06 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 6.2E-07 | (a) |
| | | | Dermal | BENZO(K)FLUORANTHENE | 1.9E+00 | mg/kg | 5.2E-06 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 5.2E-08 | (a) |
| | | | Dermal | CHRYSENE | 7.6E-01 | mg/kg | 2.0E-06 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 2.0E-09 | (a) |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 6.9E-01 | mg/kg | 1.8E-06 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.8E-06 | (a) |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 9.9E-01 | mg/kg | 2.7E-06 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 2.7E-07 | (a) |
| | | | Dermal | NAPHTHALENE | 1.1E+00 | mg/kg | 5.8E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | **VOCs** | | | | | | | | |
| | | | Dermal | BENZENE | 4.2E-01 | mg/kg | NA | mg/kg-d | 5.5E-02 | (mg/kg-d)-1 | NA | |
| | | | Dermal | ETHYLBENZENE | 4.2E+01 | mg/kg | NA | mg/kg-d | 1.1E-02 | (mg/kg-d)-1 | NA | |
| | | | Dermal | METHYLCYCLOHEXANE | 6.7E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | TRICHLOROETHYLENE (TCE) | 5.1E-02 | mg/kg | NA | mg/kg-d | 4.6E-02 | (mg/kg-d)-1 | NA | |
| | | | Dermal | **TICs** | | | | | | | | |
| | | | Dermal | 1,1-BIPHENYL, 2,3,4,4,5,5-HEXACHLORO | 2.1E+00 | mg/kg | 1.2E-06 | mg/kg-d | 3.9E+00 | (mg/kg-d)-1 | 4.7E-06 | |
| | | | Dermal | BENZO[J]FLUORANTHENE | 3.2E+00 | mg/kg | 1.7E-06 | mg/kg-d | 1.2E+00 | (mg/kg-d)-1 | 2.0E-06 | |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Dermal]** | | | | | | | | **2.5E-05** | |
| Soil | Particulates in Air (soil 0-2) | NFA | Inhalation | **Metals** | | | | | | | | |
| | | | Inhalation | ALUMINUM | 1.1E-06 | mg/m3 | 4.1E-04 | µg/m3 | NA | (µg/m3)-1 | NA | |
| | | | Inhalation | ANTIMONY | 3.2E-10 | mg/m3 | 1.1E-07 | µg/m3 | NA | (µg/m3)-1 | NA | |
| | | | Inhalation | ARSENIC | 1.3E-08 | mg/m3 | 4.7E-06 | µg/m3 | 4.3E-03 | (µg/m3)-1 | 2.0E-08 | |
| | | | Inhalation | BARIUM | 1.4E-07 | mg/m3 | 5.0E-05 | µg/m3 | NA | (µg/m3)-1 | NA | |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.3E-09 | mg/m3 | 2.3E-06 | µg/m3 | 8.4E-02 | (µg/m3)-1 | 1.9E-07 | (a) |
| | | | Inhalation | COBALT | 7.3E-10 | mg/m3 | 2.6E-07 | µg/m3 | 9.0E-03 | (µg/m3)-1 | 2.3E-09 | |
| | | | Inhalation | COPPER | 8.5E-09 | mg/m3 | 3.0E-06 | µg/m3 | NA | (µg/m3)-1 | NA | |
| | | | Inhalation | CYANIDE | 6.0E-05 | mg/m3 | 2.1E-02 | µg/m3 | NA | (µg/m3)-1 | NA | |
| | | | Inhalation | IRON | 2.3E-06 | mg/m3 | 8.2E-04 | µg/m3 | NA | (µg/m3)-1 | NA | |
| | | | Inhalation | LEAD | 9.5E-08 | mg/m3 | 3.4E-05 | µg/m3 | NA | (µg/m3)-1 | NA | |
| | | | Inhalation | MANGANESE | 3.2E-08 | mg/m3 | 1.1E-05 | µg/m3 | NA | (µg/m3)-1 | NA | |
| | | | Inhalation | THALLIUM | 1.1E-10 | mg/m3 | 3.8E-08 | µg/m3 | NA | (µg/m3)-1 | NA | |
| | | | Inhalation | VANADIUM | 4.5E-09 | mg/m3 | 1.6E-06 | µg/m3 | NA | (µg/m3)-1 | NA | |

**Table 7.4**
**Calculation of Chemical Cancer Risks for Resident**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Resident |
| Receptor Age: | Child/Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | | |
| | | | | | | | Value | Units | Value | Units | | |
| | | | Inhalation | **PEST/PCB** | | | | | | | | |
| | | | Inhalation | AROCLOR-1248 | 6.0E-08 | mg/m3 | 2.1E-05 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 1.2E-08 | |
| | | | Inhalation | AROCLOR-1254 | 3.7E-08 | mg/m3 | 1.3E-05 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 7.6E-09 | |
| | | | Inhalation | AROCLOR-1260 | 1.9E-06 | mg/m3 | 6.7E-04 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 3.8E-07 | |
| | | | Inhalation | DIELDRIN | 1.1E-11 | mg/m3 | 4.0E-09 | µg/m3 | 4.6E-03 | (µg/m3)-1 | 1.8E-11 | |
| | | | Inhalation | **SVOCs** | | | | | | | | |
| | | | Inhalation | BENZO(A)ANTHRACENE | 3.7E-07 | mg/m3 | 3.7E-04 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 2.2E-08 | (a) |
| | | | Inhalation | BENZO(A)PYRENE | 3.3E-10 | mg/m3 | 3.2E-07 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 1.9E-10 | (a) |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 7.2E-10 | mg/m3 | 7.1E-07 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 4.2E-11 | (a) |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 6.1E-10 | mg/m3 | 6.0E-07 | µg/m3 | 6.0E-06 | (µg/m3)-1 | 3.6E-12 | (a) |
| | | | Inhalation | CHRYSENE | 2.4E-10 | mg/m3 | 2.3E-07 | µg/m3 | 6.0E-07 | (µg/m3)-1 | 1.4E-13 | (a) |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 2.1E-10 | mg/m3 | 2.1E-07 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 1.3E-10 | (a) |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 3.1E-10 | mg/m3 | 3.0E-07 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 1.8E-11 | (a) |
| | | | Inhalation | NAPHTHALENE | 1.9E-05 | mg/m3 | 6.6E-03 | µg/m3 | 3.4E-05 | (µg/m3)-1 | 2.2E-07 | |
| | | | Inhalation | **VOCs** | | | | | | | | |
| | | | Inhalation | BENZENE | 9.3E-05 | mg/m3 | 3.3E-02 | µg/m3 | 7.8E-06 | (µg/m3)-1 | 2.6E-07 | |
| | | | Inhalation | ETHYLBENZENE | 5.8E-03 | mg/m3 | 2.1E+00 | µg/m3 | 2.5E-06 | (µg/m3)-1 | 5.1E-06 | |
| | | | Inhalation | METHYLCYCLOHEXANE | 5.0E-01 | mg/m3 | 1.8E+02 | µg/m3 | NA | (µg/m3)-1 | NA | |
| | | | Inhalation | TRICHLOROETHYLENE (TCE) | 1.8E-05 | mg/m3 | 9.2E-03 | µg/m3 | 4.1E-06 | (µg/m3)-1 | 3.8E-08 | (b) |
| | | | Inhalation | **TICs** | | | | | | | | |
| | | | Inhalation | 1,1-BIPHENYL, 2,3,4,4,5,5-HEXACHLORO | 7.6E-07 | mg/m3 | 2.7E-04 | µg/m3 | 1.1E-03 | (µg/m3)-1 | 3.0E-07 | |
| | | | Inhalation | BENZO[J]FLUORANTHENE | 9.9E-10 | mg/m3 | 3.5E-07 | µg/m3 | 1.1E-04 | (µg/m3)-1 | 3.9E-11 | |
| | | | **Exposure Route Total [Particulates in Air (soil 0-2)-Inhalation]** | | | | | | | | **6.6E-06** | |
| **Exposure Point Total (NFA)** | | | | | | | | | | | **2E-04** | |
| Soil | Soil (0-2 ft bgs) | SFA | Ingestion | **Metals** | | | | | | | | |
| | | | Ingestion | ALUMINUM | 2.8E+03 | mg/kg | 4.1E-03 | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Ingestion | ANTIMONY | 1.2E+02 | mg/kg | 1.7E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Ingestion | ARSENIC | 3.0E+01 | mg/kg | 2.6E-05 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 3.8E-05 | |
| | | | Ingestion | BARIUM | 6.2E+02 | mg/kg | 9.0E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Ingestion | CADMIUM | 1.2E+00 | mg/kg | 1.8E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 2.1E+00 | mg/kg | 1.9E-05 | mg/kg-d | 5.0E-01 | (mg/kg-d)-1 | 9.4E-06 | (a) |
| | | | Ingestion | COBALT | 2.2E+00 | mg/kg | 3.2E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Ingestion | CYANIDE | 7.8E+00 | mg/kg | 1.1E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Ingestion | IRON | 8.5E+03 | mg/kg | 1.2E-02 | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Ingestion | LEAD | 1.9E+03 | mg/kg | 2.7E-03 | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Ingestion | MANGANESE | 9.1E+01 | mg/kg | 1.3E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Ingestion | THALLIUM | 3.5E-01 | mg/kg | 5.0E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Ingestion | VANADIUM | 1.3E+01 | mg/kg | 1.8E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Ingestion | ZINC | 4.4E+02 | mg/kg | 6.4E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA | |

**Table 7.4**
**Calculation of Chemical Cancer Risks for Resident**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Resident |
| Receptor Age: | Child/Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | | |
| | | | | | | | Value | Units | Value | Units | | |
| | | | Ingestion | **PEST/PCB** | | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 5.4E-02 | mg/kg | 7.8E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 1.6E-07 | |
| | | | Ingestion | **SVOCs** | | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 1.1E+01 | mg/kg | 9.9E-05 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 9.9E-06 | (a) |
| | | | Ingestion | BENZO(A)PYRENE | 1.2E+01 | mg/kg | 1.1E-04 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.1E-04 | (a) |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 1.8E+01 | mg/kg | 1.7E-04 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.7E-05 | (a) |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 8.7E+00 | mg/kg | 7.9E-05 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 7.9E-07 | (a) |
| | | | Ingestion | CHRYSENE | 1.5E+01 | mg/kg | 1.4E-04 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 1.4E-07 | (a) |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 1.6E+00 | mg/kg | 1.5E-05 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.5E-05 | (a) |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 5.6E+00 | mg/kg | 5.1E-05 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 5.1E-06 | (a) |
| | | | Ingestion | NAPHTHALENE | 5.3E+00 | mg/kg | 7.6E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Ingestion | **VOCs** | | | | | | | | |
| | | | Ingestion | BENZENE | 2.8E-01 | mg/kg | 4.0E-07 | mg/kg-d | 5.5E-02 | (mg/kg-d)-1 | 2.2E-08 | |
| | | | Ingestion | ETHYLBENZENE | 6.9E+00 | mg/kg | 1.0E-05 | mg/kg-d | 1.1E-02 | (mg/kg-d)-1 | 1.1E-07 | |
| | | | Ingestion | XYLENES (TOTAL) | 9.6E+01 | mg/kg | 1.4E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Ingestion | **TICs** | | | | | | | | |
| | | | Ingestion | BENZO[J]FLUORANTHENE | 7.0E-01 | mg/kg | 1.0E-06 | mg/kg-d | 1.2E+00 | (mg/kg-d)-1 | 1.2E-06 | |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Ingestion]** | | | | | | | | **2.1E-04** | |
| Soil | Soil (0-2 ft bgs) | SFA | Dermal | **Metals** | | | | | | | | |
| | | | Dermal | ALUMINUM | 2.8E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | ANTIMONY | 1.2E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | ARSENIC | 3.0E+01 | mg/kg | 3.6E-06 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 5.4E-06 | |
| | | | Dermal | BARIUM | 6.2E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | CADMIUM | 1.2E+00 | mg/kg | 5.0E-09 | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | CHROMIUM, HEXAVALENT | 2.1E+00 | mg/kg | NA | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | NA | |
| | | | Dermal | COBALT | 2.2E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | CYANIDE | 7.8E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | IRON | 8.5E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | LEAD | 1.9E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | MANGANESE | 9.1E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | THALLIUM | 3.5E-01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | VANADIUM | 1.3E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | ZINC | 4.4E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | **PEST/PCB** | | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 5.4E-02 | mg/kg | 3.1E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 6.2E-08 | |
| | | | Dermal | **SVOCs** | | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 1.1E+01 | mg/kg | 2.9E-05 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 2.9E-06 | (a) |
| | | | Dermal | BENZO(A)PYRENE | 1.2E+01 | mg/kg | 3.2E-05 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 3.2E-05 | (a) |
| | | | Dermal | BENZO(B)FLUORANTHENE | 1.8E+01 | mg/kg | 4.9E-05 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 4.9E-06 | (a) |
| | | | Dermal | BENZO(K)FLUORANTHENE | 8.7E+00 | mg/kg | 2.3E-05 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 2.3E-07 | (a) |

**Table 7.4**
**Calculation of Chemical Cancer Risks for Resident**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Resident |
| Receptor Age: | Child/Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | | |
| | | | | | | | Value | Units | Value | Units | | |
| | | | Dermal | CHRYSENE | 1.5E+01 | mg/kg | 4.0E-05 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 4.0E-08 | (a) |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 1.6E+00 | mg/kg | 4.3E-06 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 4.3E-06 | (a) |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 5.6E+00 | mg/kg | 1.5E-05 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.5E-06 | (a) |
| | | | Dermal | NAPHTHALENE | 5.3E+00 | mg/kg | 2.8E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | **VOCs** | | | | | | | | |
| | | | Dermal | BENZENE | 2.8E-01 | mg/kg | NA | mg/kg-d | 5.5E-02 | (mg/kg-d)-1 | NA | |
| | | | Dermal | ETHYLBENZENE | 6.9E+00 | mg/kg | NA | mg/kg-d | 1.1E-02 | (mg/kg-d)-1 | NA | |
| | | | Dermal | XYLENES (TOTAL) | 9.6E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | **TICs** | | | | | | | | |
| | | | Dermal | BENZO[J]FLUORANTHENE | 7.0E-01 | mg/kg | 3.7E-07 | mg/kg-d | 1.2E+00 | (mg/kg-d)-1 | 4.4E-07 | |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Dermal]** | | | | | | | | **5.2E-05** | |
| Soil | Particulates in Air (soil 0-2) | SFA | Inhalation | **Metals** | | | | | | | | |
| | | | Inhalation | ALUMINUM | 8.8E-07 | mg/m3 | 3.1E-04 | µg/m3 | NA | (µg/m3)-1 | NA | |
| | | | Inhalation | ANTIMONY | 3.7E-08 | mg/m3 | 1.3E-05 | µg/m3 | NA | (µg/m3)-1 | NA | |
| | | | Inhalation | ARSENIC | 9.3E-09 | mg/m3 | 3.3E-06 | µg/m3 | 4.3E-03 | (µg/m3)-1 | 1.4E-08 | |
| | | | Inhalation | BARIUM | 2.0E-07 | mg/m3 | 7.0E-05 | µg/m3 | NA | (µg/m3)-1 | NA | |
| | | | Inhalation | CADMIUM | 3.9E-10 | mg/m3 | 1.4E-07 | µg/m3 | 1.8E-03 | (µg/m3)-1 | 2.5E-10 | |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 6.5E-10 | mg/m3 | 6.4E-07 | µg/m3 | 8.4E-02 | (µg/m3)-1 | 5.4E-08 | (a) |
| | | | Inhalation | COBALT | 7.0E-10 | mg/m3 | 2.5E-07 | µg/m3 | 9.0E-03 | (µg/m3)-1 | 2.2E-09 | |
| | | | Inhalation | CYANIDE | 1.0E-04 | mg/m3 | 3.7E-02 | µg/m3 | NA | (µg/m3)-1 | NA | |
| | | | Inhalation | IRON | 2.7E-06 | mg/m3 | 9.4E-04 | µg/m3 | NA | (µg/m3)-1 | NA | |
| | | | Inhalation | LEAD | 5.9E-07 | mg/m3 | 2.1E-04 | µg/m3 | NA | (µg/m3)-1 | NA | |
| | | | Inhalation | MANGANESE | 2.9E-08 | mg/m3 | 1.0E-05 | µg/m3 | NA | (µg/m3)-1 | NA | |
| | | | Inhalation | THALLIUM | 1.1E-10 | mg/m3 | 3.9E-08 | µg/m3 | NA | (µg/m3)-1 | NA | |
| | | | Inhalation | VANADIUM | 3.9E-09 | mg/m3 | 1.4E-06 | µg/m3 | NA | (µg/m3)-1 | NA | |
| | | | Inhalation | ZINC | 1.4E-07 | mg/m3 | 5.0E-05 | µg/m3 | NA | (µg/m3)-1 | NA | |
| | | | Inhalation | **PEST/PCB** | | | | | | | | |
| | | | Inhalation | AROCLOR-1254 | 5.0E-08 | mg/m3 | 1.8E-05 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 1.0E-08 | |
| | | | Inhalation | **SVOCs** | | | | | | | | |
| | | | Inhalation | BENZO(A)ANTHRACENE | 1.9E-06 | mg/m3 | 1.9E-03 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 1.1E-07 | (a) |
| | | | Inhalation | BENZO(A)PYRENE | 3.8E-09 | mg/m3 | 3.7E-06 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 2.2E-09 | (a) |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 5.7E-09 | mg/m3 | 5.7E-06 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 3.4E-10 | (a) |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 2.7E-09 | mg/m3 | 2.7E-06 | µg/m3 | 6.0E-06 | (µg/m3)-1 | 1.6E-11 | (a) |
| | | | Inhalation | CHRYSENE | 4.7E-09 | mg/m3 | 4.6E-06 | µg/m3 | 6.0E-07 | (µg/m3)-1 | 2.8E-12 | (a) |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 5.0E-10 | mg/m3 | 4.9E-07 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 3.0E-10 | (a) |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 1.7E-09 | mg/m3 | 1.7E-06 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 1.0E-10 | (a) |
| | | | Inhalation | NAPHTHALENE | 8.9E-05 | mg/m3 | 3.2E-02 | µg/m3 | 3.4E-05 | (µg/m3)-1 | 1.1E-06 | |
| | | | Inhalation | **VOCs** | | | | | | | | |
| | | | Inhalation | BENZENE | 6.2E-05 | mg/m3 | 2.2E-02 | µg/m3 | 7.8E-06 | (µg/m3)-1 | 1.7E-07 | |
| | | | Inhalation | ETHYLBENZENE | 9.6E-04 | mg/m3 | 3.4E-01 | µg/m3 | 2.5E-06 | (µg/m3)-1 | 8.5E-07 | |

**Table 7.4**
**Calculation of Chemical Cancer Risks for Resident**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Resident |
| Receptor Age: | Child/Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | XYLENES (TOTAL) | 1.3E-02 | mg/m3 | 4.6E+00 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | **TICs** | | | | | | | |
| | | | Inhalation | BENZO[J]FLUORANTHENE | 2.2E-10 | mg/m3 | 7.8E-08 | µg/m3 | 1.1E-04 | (µg/m3)-1 | 8.6E-12 |
| | | | **Exposure Route Total [Particulates in Air (soil 0-2)-Inhalation]** | | | | | | | | **2.3E-06** |
| **Exposure Point Total (SFA)** | | | | | | | | | | | **3E-04** |
| Soil | Soil (0-2 ft bgs) | UNDV | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.5E+03 | mg/kg | 5.0E-03 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ANTIMONY | 1.2E+01 | mg/kg | 1.7E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ARSENIC | 1.2E+02 | mg/kg | 1.1E-04 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 1.6E-04 |
| | | | Ingestion | BARIUM | 1.3E+03 | mg/kg | 1.9E-03 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CADMIUM | 1.5E+00 | mg/kg | 2.1E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | 7.6E-06 | mg/kg-d | 5.0E-01 | (mg/kg-d)-1 | 3.8E-06 (a) |
| | | | Ingestion | COBALT | 8.3E+00 | mg/kg | 1.2E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | COPPER | 1.3E+02 | mg/kg | 1.9E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CYANIDE | 8.8E+01 | mg/kg | 1.3E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | IRON | 1.5E+04 | mg/kg | 2.1E-02 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | LEAD | 6.6E+02 | mg/kg | 9.6E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | MANGANESE | 1.8E+02 | mg/kg | 2.6E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | MERCURY | 1.6E+00 | mg/kg | 2.3E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | THALLIUM | 5.2E-01 | mg/kg | 7.5E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | VANADIUM | 1.9E+01 | mg/kg | 2.8E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ZINC | 6.5E+02 | mg/kg | 9.3E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 7.4E-02 | mg/kg | 1.1E-07 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 2.1E-07 |
| | | | Ingestion | AROCLOR-1260 | 4.2E-01 | mg/kg | 6.0E-07 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 1.2E-06 |
| | | | Ingestion | DIELDRIN | 1.0E-02 | mg/kg | 1.5E-08 | mg/kg-d | 1.6E+01 | (mg/kg-d)-1 | 2.4E-07 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 3.1E+00 | mg/kg | 2.9E-05 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 2.9E-06 (a) |
| | | | Ingestion | BENZO(A)PYRENE | 3.8E+00 | mg/kg | 3.4E-05 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 3.4E-05 (a) |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 4.5E+00 | mg/kg | 4.1E-05 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 4.1E-06 (a) |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 3.1E+00 | mg/kg | 2.8E-05 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 2.8E-07 (a) |
| | | | Ingestion | CHRYSENE | 4.5E+00 | mg/kg | 4.1E-05 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 4.1E-08 (a) |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 5.4E-06 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 5.4E-06 (a) |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 1.7E-05 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.7E-06 (a) |
| | | | Ingestion | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 7.6E-07 | mg/kg-d | 4.0E-01 | (mg/kg-d)-1 | 3.0E-07 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Ingestion]** | | | | | | | | **2.2E-04** |
| Soil | Soil (0-2 ft bgs) | UNDV | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.5E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ANTIMONY | 1.2E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ARSENIC | 1.2E+02 | mg/kg | 1.5E-05 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 2.3E-05 |

**Table 7.4**
**Calculation of Chemical Cancer Risks for Resident**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Resident |
| Receptor Age: | Child/Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | | |
| | | | | | | | Value | Units | Value | Units | | |
| | | | Dermal | BARIUM | 1.3E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | CADMIUM | 1.5E+00 | mg/kg | 5.9E-09 | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | NA | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | NA | |
| | | | Dermal | COBALT | 8.3E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | COPPER | 1.3E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | CYANIDE | 8.8E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | IRON | 1.5E+04 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | LEAD | 6.6E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | MANGANESE | 1.8E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | MERCURY | 1.6E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | THALLIUM | 5.2E-01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | VANADIUM | 1.9E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | ZINC | 6.5E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA | |
| | | | Dermal | **PEST/PCB** | | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 7.4E-02 | mg/kg | 4.2E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 8.3E-08 | |
| | | | Dermal | AROCLOR-1260 | 4.2E-01 | mg/kg | 2.4E-07 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 4.7E-07 | |
| | | | Dermal | DIELDRIN | 1.0E-02 | mg/kg | 4.2E-09 | mg/kg-d | 1.6E+01 | (mg/kg-d)-1 | 6.7E-08 | |
| | | | Dermal | **SVOCs** | | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 3.1E+00 | mg/kg | 8.4E-06 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 8.4E-07 | (a) |
| | | | Dermal | BENZO(A)PYRENE | 3.8E+00 | mg/kg | 1.0E-05 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.0E-05 | (a) |
| | | | Dermal | BENZO(B)FLUORANTHENE | 4.5E+00 | mg/kg | 1.2E-05 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.2E-06 | (a) |
| | | | Dermal | BENZO(K)FLUORANTHENE | 3.1E+00 | mg/kg | 8.3E-06 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 8.3E-08 | (a) |
| | | | Dermal | CHRYSENE | 4.5E+00 | mg/kg | 1.2E-05 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 1.2E-08 | (a) |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 1.6E-06 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.6E-06 | (a) |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 5.1E-06 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 5.1E-07 | (a) |
| | | | Dermal | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 5.4E-07 | mg/kg-d | 4.0E-01 | (mg/kg-d)-1 | 2.1E-07 | |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Dermal]** | | | | | | | | **3.8E-05** | |
| Soil | Particulates in Air (soil 0-2) | UNDV | Inhalation | **Metals** | | | | | | | | |
| | | | Inhalation | ALUMINUM | 1.1E-06 | mg/m3 | 3.9E-04 | µg/m3 | NA | (µg/m3)-1 | NA | |
| | | | Inhalation | ANTIMONY | 3.7E-09 | mg/m3 | 1.3E-06 | µg/m3 | NA | (µg/m3)-1 | NA | |
| | | | Inhalation | ARSENIC | 3.9E-08 | mg/m3 | 1.4E-05 | µg/m3 | 4.3E-03 | (µg/m3)-1 | 5.9E-08 | |
| | | | Inhalation | BARIUM | 4.0E-07 | mg/m3 | 1.4E-04 | µg/m3 | NA | (µg/m3)-1 | NA | |
| | | | Inhalation | CADMIUM | 4.5E-10 | mg/m3 | 1.6E-07 | µg/m3 | 1.8E-03 | (µg/m3)-1 | 2.9E-10 | |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.6E-10 | mg/m3 | 2.6E-07 | µg/m3 | 8.4E-02 | (µg/m3)-1 | 2.2E-08 | (a) |
| | | | Inhalation | COBALT | 2.6E-09 | mg/m3 | 9.3E-07 | µg/m3 | 9.0E-03 | (µg/m3)-1 | 8.3E-09 | |
| | | | Inhalation | COPPER | 4.0E-08 | mg/m3 | 1.4E-05 | µg/m3 | NA | (µg/m3)-1 | NA | |
| | | | Inhalation | CYANIDE | 1.2E-03 | mg/m3 | 4.2E-01 | µg/m3 | NA | (µg/m3)-1 | NA | |
| | | | Inhalation | IRON | 4.7E-06 | mg/m3 | 1.7E-03 | µg/m3 | NA | (µg/m3)-1 | NA | |
| | | | Inhalation | LEAD | 2.1E-07 | mg/m3 | 7.4E-05 | µg/m3 | NA | (µg/m3)-1 | NA | |
| | | | Inhalation | MANGANESE | 5.7E-08 | mg/m3 | 2.0E-05 | µg/m3 | NA | (µg/m3)-1 | NA | |

**Table 7.4**
**Calculation of Chemical Cancer Risks for Resident**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Resident |
| Receptor Age: | Child/Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | MERCURY | 5.1E-10 | mg/m3 | 1.8E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | THALLIUM | 1.6E-10 | mg/m3 | 5.8E-08 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | VANADIUM | 6.0E-09 | mg/m3 | 2.2E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ZINC | 2.0E-07 | mg/m3 | 7.2E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | AROCLOR-1254 | 6.8E-08 | mg/m3 | 2.4E-05 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 1.4E-08 |
| | | | Inhalation | AROCLOR-1260 | 2.5E-07 | mg/m3 | 8.8E-05 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 5.0E-08 |
| | | | Inhalation | DIELDRIN | 3.3E-12 | mg/m3 | 1.2E-09 | µg/m3 | 4.6E-03 | (µg/m3)-1 | 5.3E-12 |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | BENZO(A)ANTHRACENE | 5.6E-07 | mg/m3 | 5.5E-04 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 3.3E-08 (a) |
| | | | Inhalation | BENZO(A)PYRENE | 1.2E-09 | mg/m3 | 1.2E-06 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 7.0E-10 (a) |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 1.4E-09 | mg/m3 | 1.4E-06 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 8.3E-11 (a) |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 9.7E-10 | mg/m3 | 9.6E-07 | µg/m3 | 6.0E-06 | (µg/m3)-1 | 5.7E-12 (a) |
| | | | Inhalation | CHRYSENE | 1.4E-09 | mg/m3 | 1.4E-06 | µg/m3 | 6.0E-07 | (µg/m3)-1 | 8.4E-13 (a) |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 1.8E-10 | mg/m3 | 1.8E-07 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 1.1E-10 (a) |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 5.9E-10 | mg/m3 | 5.9E-07 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 3.5E-11 (a) |
| | | | Inhalation | PENTACHLOROPHENOL | 1.7E-10 | mg/m3 | 5.9E-08 | µg/m3 | 5.1E-06 | (µg/m3)-1 | 3.0E-13 |
| | | | **Exposure Route Total [Particulates in Air (soil 0-2)-Inhalation]** | | | | | | | | **1.9E-07** |
| **Exposure Point Total (UNDV)** | | | | | | | | | | | **3E-04** |

Notes:
NA – Not Available.
(a) The mutagen risks were calculated for COPCs identified as having a mutagenic mode of action. The mutagen risks for separate age groups are added together to calculate the total risk.
(b) To calculate cancer risks for trichloroethylene (TCE), the standard cancer and mutagen equations needed to be combined. Since TCE requires the use of different toxicity values for cancer and mutagen equations, toxicity value adjustment factors for cancer (CAF) and mutagens (MAF) are used, in accordance with US EPA guidance (US EPA, 2016e). The calculation of these adjustment factors and TCE intake values are presented at the bottom of this spreadsheet.

**Ingestion - Soil**

$$\text{Intake Factor (IF)} = \frac{IR \times FS \times EF \times ED \times CF \times TAF}{BW \times AT} =$$

| | | Non-Mutagen | | Mutagens[a] | | | |
|---|---|---|---|---|---|---|---|
| | | 1.1E-06 (Child) | 3.4E-07 (Adult) | 6.1E-06 (0-2 yrs) | 1.9E-06 (2-6 yrs) | 9.3E-07 (6-16 yrs) | 1.8E-07 (16-26 yrs) |
| IR | Ingestion Rate (mg/day) | 200 | 100 | 200 | 200 | 100 | 100 |
| FS | Fraction from Contaminated Source | 1 | 1 | 1 | 1 | 1 | 1 |
| EF | Soil Ingestion Exposure Frequency (days/yr) | 350 | 350 | 350 | 350 | 350 | 350 |
| ED | Soil Ingestion Exposure Duration (yrs) | 6 | 20 | 2 | 4 | 10 | 10 |
| CF | Conversion Factor (kg/mg) | 0.000001 | 0.000001 | 0.000001 | 0.000001 | 0.000001 | 0.000001 |
| BW | Body Weight (kg) | 15 | 80 | 9 | 17 | 44 | 76 |
| AT | Averaging Time (d) | 25,550 | 25,550 | 25,550 | 25,550 | 25,550 | 25,550 |
| TAF | Toxicity Adjustment Factor | -- | -- | 10 | 3 | 3 | 1 |

$Intake_{ing}(mg/kg{\cdot}d) = EPC_{soil}*IF*B$
(B) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Table 7.4**
**Calculation of Chemical Cancer Risks for Resident**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Resident |
| Receptor Age: | Child/Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |

**Dermal - Soil**

| | | Non-Mutagens | | Mutagens[a] | | | |
|---|---|---|---|---|---|---|---|
| Intake Factor (IF) = $\frac{SA \times AF \times EF \times ED \times CF \times TAF}{BW \times AT}$ = | | 2.6E-06 (Child) | 1.4E-06 (Adult) | 1.2E-05 (0-2 yrs) | 4.9E-06 (2-6 yrs) | 3.0E-06 (6-16 yrs) | 8.5E-07 (16-26 yrs) |
| SA | Surface Area Exposed to Soil ($cm^2$/day) | 2,373 | 6,032 | 1,954 | 2,591 | 4,639 | 6,709 |
| AF | Soil Skin Adherence Factor (mg/$cm^2$) | 0.2 | 0.07 | 0.2 | 0.2 | 0.07 | 0.07 |
| EF | Soil Dermal Exposure Frequency (days/yr) | 350 | 350 | 350 | 350 | 350 | 350 |
| ED | Soil Dermal Exposure Duration (yrs) | 6 | 20 | 2 | 4 | 10 | 10 |
| CF | Conversion Factor (kg/mg) | 0.000001 | 0.000001 | 0.000001 | 0.000001 | 0.000001 | 0.000001 |
| BW | Body Weight (kg) | 15 | 80 | 9 | 17 | 44 | 76 |
| AT | Averaging Time (d) | 25,550 | 25,550 | 25,550 | 25,550 | 25,550 | 25,550 |
| TAF | Toxicity Adjustment Factor | -- | -- | 10 | 3 | 3 | 1 |

$Intake_{derm}$(mg/kg·d) = $EPC_{soil}$*IF*ABS

(ABS) presented in Table 5.1

Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Table 7.4**
**Calculation of Chemical Cancer Risks for Resident**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Resident |
| Receptor Age: | Child/Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |

**Inhalation - Soil**

$$\text{Intake Factor (IF)} = \frac{\text{EF x ED x ET x CF1 x CF2 x TAF}}{\text{AT}} =$$

| | | Non-Mutagens | | Mutagens[a] | | | |
|---|---|---|---|---|---|---|---|
| | | 8.2E+01 (Child) | 2.7E+02 (Adult) | 2.7E+02 (0-2 yrs) | 1.6E+02 (2-6 yrs) | 4.1E+02 (6-16 yrs) | 1.4E+02 (16-26 yrs) |
| EF | Soil Exposure Frequency (days/yr) | 350 | 350 | 350 | 350 | 350 | 350 |
| ED | Soil Exposure Duration (yrs) | 6 | 20 | 2 | 4 | 10 | 10 |
| ET | Soil Exposure Time (hours/day) | 24 | 24 | 24 | 24 | 24 | 24 |
| CF1 | Conversion Factor (day/hour) | 0.042 | 0.042 | 0.042 | 0.042 | 0.042 | 0.042 |
| CF2 | Conversion Factor (µg/mg) | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 |
| AT | Averaging Time (d) | 25,550 | 25,550 | 25,550 | 25,550 | 25,550 | 25,550 |
| TAF | Toxicity Adjustment Factor | -- | -- | 10 | 3 | 3 | 1 |

EPCair = EPCsoil x [1/Volatilization Factor (VF) + 1/Particulate Emissions Factor (PEF)]
Exposure Conc = EPCair x IF
Cancer risk = Exposure Conc x Inhalation Unit Risk (IUR)

**Calculation of Lifetime Average Daily Dose for Resident - Trichloroethylene in Soil**

$Intake_{ing} = [(CAF_o*(IF_{child}+IF_{adult}))+(MAF_o*(IF_{0-2}+IF_{2-6}+IF_{6-16}+IFchild_{16-26}))]$

Toxicity adjustment factor for carcinogens - oral slope factor — $CAF_o$ — 0.804

$CAF_o$ = NHL+Liver $CSF_o$ [3.7E-02 $\{mg/kg\text{-}day\}^{-1}$] / Adult-based $CSF_o$ [4.6E-02 $(mg/kg\text{-}day)^{-1}$]

Toxicity adjustment factor for mutagens - oral slope factor — $MAF_o$ — 0.202

$MAF_o$ = Kidney $CSF_o$ [9.3E-03 $(mg/kg\text{-}day)^{-1}$] / Adult-based $CSF_o$ [4.6E-02 $(mg/kg\text{-}day)^{-1}$]

$Intake_{derm} = [(CAF_o*(IF_{child}+IF_{adult})+MAF_o*(IF_{0-2}+IF_{2-6}+IF_{6-16}+IF_{16-26}))]$

$Exposure_{inh} = [(CAF_i*(IF_{child}+IF_{adult})+(MAF_i*(IF_{0-2}+IF_{2-6}+IF_{6-16}+IF_{16-26}))]$

Toxicity adjustment factor for carcinogens - inhalation unit risk — $CAF_i$ — 0.756

$CAF_i$ = NHL+Liver IUR [3.1E-06 $(\mu g/m^3)^{-1}$] / Adult-based IUR [4.1E-06 $(\mu g/m^3)^{-1}$]

Toxicity adjustment factor for mutagens - inhalation unit risk — $MAF_i$ — 0.244

$MAF_i$ = Kidney IUR [1.0E-06 $(\mu g/m^3)^{-1}$] / Adult-based IUR [4.1E-06 $(\mu g/m^3)^{-1}$]

**Table 7.5**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Receptor Population: | Recreator |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| Soil | Soil (0-2 ft bgs) | UNDV | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.5E+03 | mg/kg | 1.6E-03 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ANTIMONY | 1.2E+01 | mg/kg | 5.6E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ARSENIC | 1.2E+02 | mg/kg | 3.5E-05 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 5.2E-05 |
| | | | Ingestion | BARIUM | 1.3E+03 | mg/kg | 6.1E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CADMIUM | 1.5E+00 | mg/kg | 6.8E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | 2.9E-06 | mg/kg-d | 5.0E-01 | (mg/kg-d)-1 | 1.4E-06 (a) |
| | | | Ingestion | COBALT | 8.3E+00 | mg/kg | 3.9E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | COPPER | 1.3E+02 | mg/kg | 6.1E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CYANIDE | 8.8E+01 | mg/kg | 4.2E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | IRON | 1.5E+04 | mg/kg | 7.0E-03 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | LEAD | 6.6E+02 | mg/kg | 3.1E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | MANGANESE | 1.8E+02 | mg/kg | 8.6E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | MERCURY | 1.6E+00 | mg/kg | 7.6E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | THALLIUM | 5.2E-01 | mg/kg | 2.5E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | VANADIUM | 1.9E+01 | mg/kg | 9.1E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ZINC | 6.5E+02 | mg/kg | 3.0E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 7.4E-02 | mg/kg | 3.5E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 6.9E-08 |
| | | | Ingestion | AROCLOR-1260 | 4.2E-01 | mg/kg | 2.0E-07 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 3.9E-07 |
| | | | Ingestion | DIELDRIN | 1.0E-02 | mg/kg | 4.9E-09 | mg/kg-d | 1.6E+01 | (mg/kg-d)-1 | 7.8E-08 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 3.1E+00 | mg/kg | 1.1E-05 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.1E-06 (a) |
| | | | Ingestion | BENZO(A)PYRENE | 3.8E+00 | mg/kg | 1.3E-05 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.3E-05 (a) |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 4.5E+00 | mg/kg | 1.5E-05 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.5E-06 (a) |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 3.1E+00 | mg/kg | 1.1E-05 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 1.1E-07 (a) |
| | | | Ingestion | CHRYSENE | 4.5E+00 | mg/kg | 1.6E-05 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 1.6E-08 (a) |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 2.0E-06 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 2.0E-06 (a) |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 6.5E-06 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 6.5E-07 (a) |
| | | | Ingestion | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 2.5E-07 | mg/kg-d | 4.0E-01 | (mg/kg-d)-1 | 9.9E-08 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Ingestion]** | | | | | | | | **7.3E-05** |
| Soil | Soil (0-2 ft bgs) | UNDV | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.5E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ANTIMONY | 1.2E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ARSENIC | 1.2E+02 | mg/kg | 4.2E-06 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 6.2E-06 |
| | | | Dermal | BARIUM | 1.3E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CADMIUM | 1.5E+00 | mg/kg | 1.6E-09 | mg/kg-d | NA | (mg/kg-d)-1 | NA |

**Table 7.5**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Receptor Population: | Recreator |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | NA | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | NA |
| | | | Dermal | COBALT | 8.3E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | COPPER | 1.3E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CYANIDE | 8.8E+01 | | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 1.5E+04 | | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | LEAD | 6.6E+02 | | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MANGANESE | 1.8E+02 | | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MERCURY | 1.6E+00 | | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | THALLIUM | 5.2E-01 | | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | VANADIUM | 1.9E+01 | | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ZINC | 6.5E+02 | | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 7.4E-02 | | 1.1E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 2.3E-08 |
| | | | Dermal | AROCLOR-1260 | 4.2E-01 | | 6.5E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 1.3E-07 |
| | | | Dermal | DIELDRIN | 1.0E-02 | | 1.2E-09 | mg/kg-d | 1.6E+01 | (mg/kg-d)-1 | 1.9E-08 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 3.1E+00 | | 2.9E-06 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 2.9E-07 (a) |
| | | | Dermal | BENZO(A)PYRENE | 3.8E+00 | | 3.5E-06 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 3.5E-06 (a) |
| | | | Dermal | BENZO(B)FLUORANTHENE | 4.5E+00 | | 4.2E-06 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 4.2E-07 (a) |
| | | | Dermal | BENZO(K)FLUORANTHENE | 3.1E+00 | | 2.9E-06 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 2.9E-08 (a) |
| | | | Dermal | CHRYSENE | 4.5E+00 | | 4.2E-06 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 4.2E-09 (a) |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 5.5E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 5.5E-07 (a) |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 1.8E-06 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.8E-07 (a) |
| | | | Dermal | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 1.5E-07 | mg/kg-d | 4.0E-01 | (mg/kg-d)-1 | 5.9E-08 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Dermal]** | | | | | | | | **1.1E-05** |
| Soil | Particulates in Air (sc | UNDV | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ALUMINUM | 1.1E-06 | mg/m3 | 1.3E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ANTIMONY | 3.7E-09 | mg/m3 | 4.4E-08 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ARSENIC | 3.9E-08 | mg/m3 | 4.6E-07 | µg/m3 | 4.3E-03 | (µg/m3)-1 | 2.0E-09 |
| | | | Inhalation | BARIUM | 4.0E-07 | mg/m3 | 4.7E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | CADMIUM | 4.5E-10 | mg/m3 | 5.3E-09 | µg/m3 | 1.8E-03 | (µg/m3)-1 | 9.6E-12 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.6E-10 | mg/m3 | 1.6E-08 | µg/m3 | 8.4E-02 | (µg/m3)-1 | 1.4E-09 (a) |
| | | | Inhalation | COBALT | 2.6E-09 | mg/m3 | 3.1E-08 | µg/m3 | 9.0E-03 | (µg/m3)-1 | 2.7E-10 |
| | | | Inhalation | COPPER | 4.0E-08 | mg/m3 | 4.7E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | CYANIDE | 1.2E-03 | mg/m3 | 1.4E-02 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | IRON | 4.7E-06 | mg/m3 | 5.5E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | LEAD | 2.1E-07 | mg/m3 | 2.4E-06 | µg/m3 | NA | (µg/m3)-1 | NA |

**Table 7.5**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Receptor Population: | Recreator |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | MANGANESE | 5.7E-08 | mg/m3 | 6.7E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | MERCURY | 5.1E-10 | mg/m3 | 6.0E-09 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | THALLIUM | 1.6E-10 | mg/m3 | 1.9E-09 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | VANADIUM | 6.0E-09 | mg/m3 | 7.1E-08 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ZINC | 2.0E-07 | mg/m3 | 2.4E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | AROCLOR-1254 | 6.8E-08 | mg/m3 | 8.0E-07 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 4.6E-10 |
| | | | Inhalation | AROCLOR-1260 | 2.5E-07 | mg/m3 | 2.9E-06 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 1.7E-09 |
| | | | Inhalation | DIELDRIN | 3.3E-12 | mg/m3 | 3.8E-11 | µg/m3 | 4.6E-03 | (µg/m3)-1 | 1.8E-13 |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | BENZO(A)ANTHRACENE | 5.6E-07 | mg/m3 | 3.5E-05 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 2.1E-09 (a) |
| | | | Inhalation | BENZO(A)PYRENE | 1.2E-09 | mg/m3 | 7.4E-08 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 4.4E-11 (a) |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 1.4E-09 | mg/m3 | 8.8E-08 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 5.3E-12 (a) |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 9.7E-10 | mg/m3 | 6.1E-08 | µg/m3 | 6.0E-06 | (µg/m3)-1 | 3.6E-13 (a) |
| | | | Inhalation | CHRYSENE | 1.4E-09 | mg/m3 | 8.9E-08 | µg/m3 | 6.0E-07 | (µg/m3)-1 | 5.3E-14 (a) |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 1.8E-10 | mg/m3 | 1.2E-08 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 6.9E-12 (a) |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 5.9E-10 | mg/m3 | 3.7E-08 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 2.2E-12 (a) |
| | | | Inhalation | PENTACHLOROPHENOL | 1.7E-10 | mg/m3 | 1.9E-09 | µg/m3 | 5.1E-06 | (µg/m3)-1 | 9.9E-15 |
| | | | **Exposure Route Total [Particulates in Air (soil 0-2)-Inhalation]** | | | | | | | | **7.9E-09** |
| Sediment | Sediment | UHC | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.3E+03 | mg/kg | 1.6E-03 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ANTIMONY | 1.7E+01 | mg/kg | 7.9E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ARSENIC | 1.7E+03 | mg/kg | 4.8E-04 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 7.2E-04 |
| | | | Ingestion | BARIUM | 2.4E+03 | mg/kg | 1.1E-03 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CHROMIUM | 9.1E+01 | mg/kg | 3.1E-04 | mg/kg-d | 5.0E-01 | (mg/kg-d)-1 | 1.6E-04 (a) |
| | | | Ingestion | COBALT | 5.4E+00 | mg/kg | 2.5E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | COPPER | 1.6E+02 | mg/kg | 7.7E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CYANIDE | 6.5E+02 | mg/kg | 3.1E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | IRON | 7.3E+03 | mg/kg | 3.4E-03 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | LEAD | 1.8E+03 | mg/kg | 8.4E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | THALLIUM | 2.4E+00 | mg/kg | 1.1E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 2.6E-01 | mg/kg | 1.2E-07 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 2.4E-07 |
| | | | Ingestion | AROCLOR-1260 | 1.5E-01 | mg/kg | 7.1E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 1.4E-07 |

**Table 7.5**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Receptor Population: | Recreator |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 6.1E+00 | mg/kg | 2.1E-05 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 2.1E-06 (a) |
| | | | Ingestion | BENZO(A)PYRENE | 6.2E+00 | mg/kg | 2.1E-05 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 2.1E-05 (a) |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 6.0E+00 | mg/kg | 2.0E-05 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 2.0E-06 (a) |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 8.3E+00 | mg/kg | 2.8E-05 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 2.8E-07 (a) |
| | | | Ingestion | CHRYSENE | 9.9E+00 | mg/kg | 3.4E-05 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 3.4E-08 (a) |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 1.2E+00 | mg/kg | 4.2E-06 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 4.2E-06 (a) |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 4.2E+00 | mg/kg | 1.4E-05 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.4E-06 (a) |
| | | | Ingestion | **TICs** | | | | | | | |
| | | | Ingestion | BENZO[J]FLUORANTHENE | 1.1E+00 | mg/kg | 5.2E-07 | mg/kg-d | 1.2E+00 | (mg/kg-d)-1 | 6.2E-07 |
| | | | **Exposure Route Total [Sediment-Ingestion]** | | | | | | | | **9.1E-04** |
| Sediment | Sediment | UHC | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.3E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ANTIMONY | 1.7E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ARSENIC | 1.7E+03 | mg/kg | 5.7E-05 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 8.5E-05 |
| | | | Dermal | BARIUM | 2.4E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CHROMIUM | 9.1E+01 | mg/kg | NA | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | NA |
| | | | Dermal | COBALT | 5.4E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | COPPER | 1.6E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CYANIDE | 6.5E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 7.3E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | LEAD | 1.8E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | THALLIUM | 2.4E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 2.6E-01 | mg/kg | 4.0E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 8.0E-08 |
| | | | Dermal | AROCLOR-1260 | 1.5E-01 | mg/kg | 2.4E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 4.7E-08 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 6.1E+00 | mg/kg | 5.7E-06 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 5.7E-07 (a) |
| | | | Dermal | BENZO(A)PYRENE | 6.2E+00 | mg/kg | 5.8E-06 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 5.8E-06 (a) |
| | | | Dermal | BENZO(B)FLUORANTHENE | 6.0E+00 | mg/kg | 5.6E-06 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 5.6E-07 (a) |
| | | | Dermal | BENZO(K)FLUORANTHENE | 8.3E+00 | mg/kg | 7.8E-06 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 7.8E-08 (a) |
| | | | Dermal | CHRYSENE | 9.9E+00 | mg/kg | 9.2E-06 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 9.2E-09 (a) |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 1.2E+00 | mg/kg | 1.1E-06 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.1E-06 (a) |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 4.2E+00 | mg/kg | 3.9E-06 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 3.9E-07 (a) |
| | | | Dermal | **TICs** | | | | | | | |
| | | | Dermal | BENZO[J]FLUORANTHENE | 1.1E+00 | mg/kg | 1.6E-07 | mg/kg-d | 1.2E+00 | (mg/kg-d)-1 | 1.9E-07 |
| | | | **Exposure Route Total [Sediment-Dermal]** | | | | | | | | **9.4E-05** |

**Table 7.5**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Receptor Population: | Recreator |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| Surface Water | Surface Water | UHC | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ANTIMONY | 2.9E-03 | mg/L | 3.3E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ARSENIC | 5.7E-02 | mg/L | 5.0E-07 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 7.6E-07 |
| | | | Dermal | BARIUM | 2.8E-01 | mg/L | 3.5E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CHROMIUM | 3.8E-03 | mg/L | 1.9E-07 | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | 3.9E-06 (a) |
| | | | Dermal | CYANIDE | 9.7E-03 | mg/L | 7.0E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 6.2E+00 | mg/L | 5.0E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | LEAD | 9.8E-03 | mg/L | 1.9E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MANGANESE | 2.9E-01 | mg/L | 2.3E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | THALLIUM | 3.6E-03 | mg/L | 6.7E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | VANADIUM | 2.8E-03 | mg/L | 2.2E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)PYRENE | 1.0E-03 | mg/L | 1.2E-04 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.2E-04 (a) |
| | | | Dermal | BENZO(B)FLUORANTHENE | 2.0E-03 | mg/L | 1.4E-04 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.4E-05 (a) |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.0E-03 | mg/L | 2.4E-04 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 2.4E-05 (a) |
| | | | Dermal | NAPHTHALENE | 5.0E-04 | mg/L | 2.7E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **VOCs** | | | | | | | |
| | | | Dermal | 1,4-DICHLOROBENZENE | 7.0E-04 | mg/L | 4.1E-07 | mg/kg-d | 5.4E-03 | (mg/kg-d)-1 | 2.2E-09 |
| | | | Dermal | BENZENE | 5.3E-03 | mg/L | 6.9E-07 | mg/kg-d | 5.5E-02 | (mg/kg-d)-1 | 3.8E-08 |
| | | | Dermal | DICHLOROMETHANE | 7.1E-03 | mg/L | 1.5E-06 | mg/kg-d | 2.0E-03 | (mg/kg-d)-1 | 2.9E-09 (a) |
| | | | Dermal | VINYL CHLORIDE | 1.0E-03 | mg/L | 2.0E-06 | mg/kg-d | 7.2E-01 | (mg/kg-d)-1 | 1.4E-06 (a) |
| | | | **Exposure Route Total [Surface Water-Dermal]** | | | | | | | | **2E-04** |
| **Exposure Point Total (UNDV+UHC)** | | | | | | | | | | | **1E-03** |

Notes:

NA – Not Available.

Chromium risks in sediment and surface water were calculated using toxicity values for hexavalent chromium.

(a) The mutagen risks were calculated for COPCs identified as having a mutagenic mode of action.

**Table 7.5**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Receptor Population: | Recreator |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |

**Ingestion- Soil**

| Intake Factor (IF) = IR x FS x EF x ED x CF x TAF / BW x AT | | Non-mutagens | Mutagens[a] | |
|---|---|---|---|---|
| = | | 4.7E-07 (Child) | 2.6E-06 (0-2 yrs) | 8.1E-07 (2-6 yrs) |
| IR | Ingestion Rate (mg/day) | 200 | 200 | 200 |
| FS | Fraction from Contaminated Source | 1 | 1 | 1 |
| EF | Soil Ingestion Exposure Frequency (days/yr) | 150 | 150 | 150 |
| ED | Soil Ingestion Exposure Duration (yrs) | 6 | 2 | 4 |
| CF | Conversion Factor (kg/mg) | 0.000001 | 0.000001 | 0.000001 |
| BW | Body Weight (kg) | 15 | 9 | 17 |
| AT | Averaging Time (d) | 25,550 | 25,550 | 25,550 |
| TAF | Toxicity Adjustment Factor | -- | 10 | 3 |

$Intake_{ing}$(mg/kg·d) = $EPC_{soil}$*IF*B
(B) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Dermal- Soil**

| Intake Factor (IF) = SA x AF x EF x ED x CF x TAF / BW x AT | | Non-mutagens | Mutagens[a] | |
|---|---|---|---|---|
| = | | 1.1E-06 (Child) | 5.1E-06 (0-2 yrs) | 2.1E-06 (2-6 yrs) |
| SA | Surface Area Exposed to Soil (cm²/day) | 2,373 | 1,954 | 2,591 |
| AF | Soil Skin Adherence Factor (mg/cm²) | 0.2 | 0.2 | 0.2 |
| EF | Soil Dermal Exposure Frequency (days/yr) | 150 | 150 | 150 |
| ED | Soil Dermal Exposure Duration (yrs) | 6 | 2 | 4 |
| CF | Conversion Factor (kg/mg) | 0.000001 | 0.000001 | 0.000001 |
| BW | Body Weight (kg) | 15 | 9 | 17 |
| AT | Averaging Time (d) | 25,550 | 25,550 | 25,550 |
| TAF | Toxicity Adjustment Factor | -- | 10 | 3 |

$Intake_{derm}$(mg/kg·d) = $EPC_{soil}$*IF*ABS
(ABS) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Table 7.5**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Receptor Population: | Recreator |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |

**Inhalation - Soil**

| | | | Non-mutagens | Mutagens[a] | |
|---|---|---|---|---|---|
| Intake Factor (IF) = | $\frac{EF \times ED \times ET \times CF1 \times CF2 \times TAF}{AT}$ | = | 1.2E+01 (Child) | 3.9E+01 (0-2 yrs) | 2.3E+01 (2-6 yrs) |
| EF | Soil Exposure Frequency (days/yr) | | 150 | 150 | 150 |
| ED | Soil Exposure Duration (yrs) | | 6 | 2 | 4 |
| ET | Soil Exposure Time (hours/day) | | 8 | 8 | 8 |
| CF1 | Conversion Factor (day/hour) | | 0.042 | 0.042 | 0.042 |
| CF2 | Conversion Factor (µg/mg) | | 1000 | 1000 | 1000 |
| AT | Averaging Time (d) | | 25,550 | 25,550 | 25,550 |
| TAF | Toxicity Adjustment Factor | | -- | 10 | 3 |

EPCair = EPCsoil x [1/Volatilization Factor (VF) + 1/Particulate Emissions Factor (PEF)]
Exposure = EPCair x IF
Cancer risk = Exposure x Inhalation Unit Risk (IUR)

**Ingestion- Sediment (SD)**

| | | | Non-mutagens | Mutagens[a] | |
|---|---|---|---|---|---|
| Intake Factor (IF) = | $\frac{IR \times FS \times EF \times ED \times CF \times TAF}{BW \times AT}$ | = | 4.7E-07 (Child) | 2.6E-06 (0-2 yrs) | 8.1E-07 (2-6 yrs) |
| IR | Ingestion Rate (mg/day) | | 200 | 200 | 200 |
| FS | Fraction from Contaminated Source | | 1 | 1 | 1 |
| EF | Sediment Ingestion Exposure Frequency (days/yr) | | 150 | 150 | 150 |
| ED | Sediment Ingestion Exposure Duration (yrs) | | 6 | 2 | 4 |
| CF | Conversion Factor (kg/mg) | | 0.000001 | 0.000001 | 0.000001 |
| BW | Body Weight (kg) | | 15 | 9 | 17 |
| AT | Averaging Time (d) | | 25,550 | 25,550 | 25,550 |
| TAF | Toxicity Adjustment Factor | | -- | 10 | 3 |

$Intake_{ing}$(mg/kg·d) = $EPC_{sd}$*IF*B
(B) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Table 7.5**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Receptor Population: | Recreator |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |

**Dermal- Sediment (SD)**

$$\text{Intake Factor (IF)} = \frac{SA \times AF \times EF \times ED \times CF \times TAF}{BW \times AT} =$$

| | | Non-mutagens | Mutagens[a] | |
|---|---|---|---|---|
| | | 1.1E-06 (Child) | 5.1E-06 (0-2 yrs) | 2.1E-06 (2-6 yrs) |
| SA | Surface Area Exposed to Sediment (cm²/day) | 2,373 | 1,954 | 2,591 |
| AF | Sediment Skin Adherence Factor (mg/cm²) | 0.2 | 0.2 | 0.2 |
| EF | Sediment Dermal Exposure Frequency (days/yr) | 150 | 150 | 150 |
| ED | Sediment Dermal Exposure Duration (yrs) | 6 | 2 | 4 |
| CF | Conversion Factor (kg/mg) | 0.000001 | 0.000001 | 0.000001 |
| BW | Body Weight (kg) | 15 | 9 | 17 |
| AT | Averaging Time (d) | 25,550 | 25,550 | 25,550 |
| TAF | Toxicity Adjustment Factor | -- | 10 | 3 |

$Intake_{derm}$(mg/kg·d) = $EPC_{sd}$*IF*ABS
(ABS) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Dermal- Surface water (SW)**

$$\text{Intake Factor (IF)} = \frac{SA \times EV \times EF \times ED \times TAF}{BW \times AT} =$$

| | | Non-mutagens | Mutagens[a] | |
|---|---|---|---|---|
| | | 5.6E+00 (Child) | 2.6E+01 (0-2 yrs) | 1.0E+01 (2-6 yrs) |
| SA | Surface Area Exposed to Surface Water (cm²) | 2,373 | 1,954 | 2,591 |
| EF | Surface Water Dermal Exposure Frequency (days/yr) | 150 | 150 | 150 |
| ED | Surface Water Dermal Exposure Duration (yrs) | 6 | 2 | 4 |
| EV | Event per day (ev/d) | 1 | 1 | 1 |
| BW | Body Weight (kg) | 15 | 9 | 17 |
| AT | Averaging Time (d) | 25,550 | 25,550 | 25,550 |
| TAF | Toxicity Adjustment Factor | -- | 10 | 3 |

$Intake_{derm}$(mg/kg·d) = IF x Absorbed Dose per event ($DA_{event}$)
($DA_{event}$) presented in Table 4.5.
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**For Vinyl Chloride**

$Intake_{derm} = DA_{event} * [(IF_{child})+(EV_{child}*SA_{child}/BW_{child})]$

**Table 7.6**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adolescent |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| Soil | Soil (0-2 ft bgs) | UNDV | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.5E+03 | mg/kg | 4.6E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ANTIMONY | 1.2E+01 | mg/kg | 1.6E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ARSENIC | 1.2E+02 | mg/kg | 9.9E-06 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 1.5E-05 |
| | | | Ingestion | BARIUM | 1.3E+03 | mg/kg | 1.7E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CADMIUM | 1.5E+00 | mg/kg | 1.9E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | 3.3E-07 | mg/kg-d | 5.0E-01 | (mg/kg-d)-1 | 1.7E-07 (a) |
| | | | Ingestion | COBALT | 8.3E+00 | mg/kg | 1.1E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | COPPER | 1.3E+02 | mg/kg | 1.7E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CYANIDE | 8.8E+01 | mg/kg | 1.2E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | IRON | 1.5E+04 | mg/kg | 2.0E-03 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | LEAD | 6.6E+02 | mg/kg | 8.8E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | MANGANESE | 1.8E+02 | mg/kg | 2.4E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | MERCURY | 1.6E+00 | mg/kg | 2.2E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | THALLIUM | 5.2E-01 | mg/kg | 6.9E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | VANADIUM | 1.9E+01 | mg/kg | 2.6E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ZINC | 6.5E+02 | mg/kg | 8.6E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 7.4E-02 | mg/kg | 9.8E-09 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 2.0E-08 |
| | | | Ingestion | AROCLOR-1260 | 4.2E-01 | mg/kg | 5.5E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 1.1E-07 |
| | | | Ingestion | DIELDRIN | 1.0E-02 | mg/kg | 1.4E-09 | mg/kg-d | 1.6E+01 | (mg/kg-d)-1 | 2.2E-08 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 3.1E+00 | mg/kg | 1.2E-06 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.2E-07 (a) |
| | | | Ingestion | BENZO(A)PYRENE | 3.8E+00 | mg/kg | 1.5E-06 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.5E-06 (a) |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 4.5E+00 | mg/kg | 1.8E-06 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.8E-07 (a) |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 3.1E+00 | mg/kg | 1.2E-06 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 1.2E-08 (a) |
| | | | Ingestion | CHRYSENE | 4.5E+00 | mg/kg | 1.8E-06 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 1.8E-09 (a) |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 2.3E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 2.3E-07 (a) |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 7.6E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 7.6E-08 (a) |
| | | | Ingestion | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 7.0E-08 | mg/kg-d | 4.0E-01 | (mg/kg-d)-1 | 2.8E-08 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Ingestion]** | | | | | | | | **1.7E-05** |
| Soil | Soil (0-2 ft bgs) | UNDV | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.5E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ANTIMONY | 1.2E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ARSENIC | 1.2E+02 | mg/kg | 1.6E-06 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 2.4E-06 |
| | | | Dermal | BARIUM | 1.3E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CADMIUM | 1.5E+00 | mg/kg | 6.2E-10 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | NA | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | NA |

**Table 7.6**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adolescent |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | COBALT | 8.3E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | COPPER | 1.3E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CYANIDE | 8.8E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 1.5E+04 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | LEAD | 6.6E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MANGANESE | 1.8E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MERCURY | 1.6E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | THALLIUM | 5.2E-01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | VANADIUM | 1.9E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ZINC | 6.5E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 7.4E-02 | mg/kg | 4.4E-09 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 8.9E-09 |
| | | | Dermal | AROCLOR-1260 | 4.2E-01 | mg/kg | 2.5E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 5.0E-08 |
| | | | Dermal | DIELDRIN | 1.0E-02 | mg/kg | 4.5E-10 | mg/kg-d | 1.6E+01 | (mg/kg-d)-1 | 7.2E-09 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 3.1E+00 | mg/kg | 5.3E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 5.3E-08 (a) |
| | | | Dermal | BENZO(A)PYRENE | 3.8E+00 | mg/kg | 6.3E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 6.3E-07 (a) |
| | | | Dermal | BENZO(B)FLUORANTHENE | 4.5E+00 | mg/kg | 7.5E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 7.5E-08 (a) |
| | | | Dermal | BENZO(K)FLUORANTHENE | 3.1E+00 | mg/kg | 5.2E-07 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 5.2E-09 (a) |
| | | | Dermal | CHRYSENE | 4.5E+00 | mg/kg | 7.6E-07 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 7.6E-10 (a) |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 9.9E-08 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 9.9E-08 (a) |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 3.2E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 3.2E-08 (a) |
| | | | Dermal | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 5.7E-08 | mg/kg-d | 4.0E-01 | (mg/kg-d)-1 | 2.3E-08 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Dermal]** | | | | | | | | **3.4E-06** |
| Soil | Particulates in Air (s | UNDV | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ALUMINUM | 1.1E-06 | mg/m3 | 2.1E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ANTIMONY | 3.7E-09 | mg/m3 | 7.3E-08 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ARSENIC | 3.9E-08 | mg/m3 | 7.6E-07 | µg/m3 | 4.3E-03 | (µg/m3)-1 | 3.3E-09 |
| | | | Inhalation | BARIUM | 4.0E-07 | mg/m3 | 7.9E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | CADMIUM | 4.5E-10 | mg/m3 | 8.9E-09 | µg/m3 | 1.8E-03 | (µg/m3)-1 | 1.6E-11 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.6E-10 | mg/m3 | 1.5E-08 | µg/m3 | 8.4E-02 | (µg/m3)-1 | 1.3E-09 (a) |
| | | | Inhalation | COBALT | 2.6E-09 | mg/m3 | 5.1E-08 | µg/m3 | 9.0E-03 | (µg/m3)-1 | 4.6E-10 |
| | | | Inhalation | COPPER | 4.0E-08 | mg/m3 | 7.9E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | CYANIDE | 1.2E-03 | mg/m3 | 2.3E-02 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | IRON | 4.7E-06 | mg/m3 | 9.1E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | LEAD | 2.1E-07 | mg/m3 | 4.1E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | MANGANESE | 5.7E-08 | mg/m3 | 1.1E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | MERCURY | 5.1E-10 | mg/m3 | 9.9E-09 | µg/m3 | NA | (µg/m3)-1 | NA |

**Table 7.6**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adolescent |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | THALLIUM | 1.6E-10 | mg/m3 | 3.2E-09 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | VANADIUM | 6.0E-09 | mg/m3 | 1.2E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ZINC | 2.0E-07 | mg/m3 | 4.0E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | AROCLOR-1254 | 6.8E-08 | mg/m3 | 1.3E-06 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 7.6E-10 |
| | | | Inhalation | AROCLOR-1260 | 2.5E-07 | mg/m3 | 4.8E-06 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 2.8E-09 |
| | | | Inhalation | DIELDRIN | 3.3E-12 | mg/m3 | 6.4E-11 | µg/m3 | 4.6E-03 | (µg/m3)-1 | 2.9E-13 |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | BENZO(A)ANTHRACENE | 5.6E-07 | mg/m3 | 3.3E-05 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 2.0E-09 (a) |
| | | | Inhalation | BENZO(A)PYRENE | 1.2E-09 | mg/m3 | 6.9E-08 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 4.2E-11 (a) |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 1.4E-09 | mg/m3 | 8.2E-08 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 4.9E-12 (a) |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 9.7E-10 | mg/m3 | 5.7E-08 | µg/m3 | 6.0E-06 | (µg/m3)-1 | 3.4E-13 (a) |
| | | | Inhalation | CHRYSENE | 1.4E-09 | mg/m3 | 8.3E-08 | µg/m3 | 6.0E-07 | (µg/m3)-1 | 5.0E-14 (a) |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 1.8E-10 | mg/m3 | 1.1E-08 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 6.5E-12 (a) |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 5.9E-10 | mg/m3 | 3.5E-08 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 2.1E-12 (a) |
| | | | Inhalation | PENTACHLOROPHENOL | 1.7E-10 | mg/m3 | 3.2E-09 | µg/m3 | 5.1E-06 | (µg/m3)-1 | 1.6E-14 |
| | | | **Exposure Route Total [Particulates in Air (soil 0-2)-Inhalation]** | | | | | | | | **1.1E-08** |
| Sediment | Sediment | UHC | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.3E+03 | mg/kg | 1.3E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ANTIMONY | 1.7E+01 | mg/kg | 6.6E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ARSENIC | 1.7E+03 | mg/kg | 4.0E-05 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 5.9E-05 |
| | | | Ingestion | BARIUM | 2.4E+03 | mg/kg | 9.3E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CHROMIUM | 9.1E+01 | mg/kg | 1.1E-05 | mg/kg-d | 5.0E-01 | (mg/kg-d)-1 | 5.3E-06 (a) |
| | | | Ingestion | COBALT | 5.4E+00 | mg/kg | 2.1E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | COPPER | 1.6E+02 | mg/kg | 6.4E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CYANIDE | 6.5E+02 | mg/kg | 2.5E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | IRON | 7.3E+03 | mg/kg | 2.8E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | LEAD | 1.8E+03 | mg/kg | 7.0E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | THALLIUM | 2.4E+00 | mg/kg | 9.4E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 2.6E-01 | mg/kg | 9.9E-09 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 2.0E-08 |
| | | | Ingestion | AROCLOR-1260 | 1.5E-01 | mg/kg | 5.9E-09 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 1.2E-08 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 6.1E+00 | mg/kg | 7.1E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 7.1E-08 (a) |
| | | | Ingestion | BENZO(A)PYRENE | 6.2E+00 | mg/kg | 7.2E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 7.2E-07 (a) |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 6.0E+00 | mg/kg | 7.0E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 7.0E-08 (a) |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 8.3E+00 | mg/kg | 9.7E-07 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 9.7E-09 (a) |
| | | | Ingestion | CHRYSENE | 9.9E+00 | mg/kg | 1.2E-06 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 1.2E-09 (a) |

**Table 7.6**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adolescent |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 1.2E+00 | mg/kg | 1.4E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.4E-07 (a) |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 4.2E+00 | mg/kg | 4.9E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 4.9E-08 (a) |
| | | | Ingestion | **TICs** | | | | | | | |
| | | | Ingestion | BENZO[J]FLUORANTHENE | 1.1E+00 | mg/kg | 4.3E-08 | mg/kg-d | 1.2E+00 | (mg/kg-d)-1 | 5.1E-08 |
| | | | **Exposure Route Total [Sediment-Ingestion]** | | | | | | | | **6.6E-05** |
| Sediment | Sediment | UHC | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.3E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ANTIMONY | 1.7E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ARSENIC | 1.7E+03 | mg/kg | 1.8E-05 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 2.8E-05 |
| | | | Dermal | BARIUM | 2.4E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CHROMIUM | 9.1E+01 | mg/kg | NA | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | NA |
| | | | Dermal | COBALT | 5.4E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | COPPER | 1.6E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CYANIDE | 6.5E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 7.3E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | LEAD | 1.8E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | THALLIUM | 2.4E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 2.6E-01 | mg/kg | 1.3E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 2.6E-08 |
| | | | Dermal | AROCLOR-1260 | 1.5E-01 | mg/kg | 7.6E-09 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 1.5E-08 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 6.1E+00 | mg/kg | 8.6E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 8.6E-08 (a) |
| | | | Dermal | BENZO(A)PYRENE | 6.2E+00 | mg/kg | 8.7E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 8.7E-07 (a) |
| | | | Dermal | BENZO(B)FLUORANTHENE | 6.0E+00 | mg/kg | 8.4E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 8.4E-08 (a) |
| | | | Dermal | BENZO(K)FLUORANTHENE | 8.3E+00 | mg/kg | 1.2E-06 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 1.2E-08 (a) |
| | | | Dermal | CHRYSENE | 9.9E+00 | mg/kg | 1.4E-06 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 1.4E-09 (a) |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 1.2E+00 | mg/kg | 1.7E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.7E-07 (a) |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 4.2E+00 | mg/kg | 5.9E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 5.9E-08 (a) |
| | | | Dermal | **TICs** | | | | | | | |
| | | | Dermal | BENZO[J]FLUORANTHENE | 1.1E+00 | mg/kg | 5.2E-08 | mg/kg-d | 1.2E+00 | (mg/kg-d)-1 | 6.2E-08 |
| | | | **Exposure Route Total [Sediment-Dermal]** | | | | | | | | **2.9E-05** |
| Surface Water | Surface Water | UHC | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ANTIMONY | 2.9E-03 | mg/L | 1.1E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ARSENIC | 5.7E-02 | mg/L | 1.6E-07 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 2.4E-07 |
| | | | Dermal | BARIUM | 2.8E-01 | mg/L | 1.1E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CHROMIUM | 3.8E-03 | mg/L | 2.9E-08 | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | 5.8E-07 (a) |
| | | | Dermal | CYANIDE | 9.7E-03 | mg/L | 2.3E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 6.2E+00 | mg/L | 1.6E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |

**Table 7.6**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adolescent |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | LEAD | 9.8E-03 | mg/L | 6.1E-09 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MANGANESE | 2.9E-01 | mg/L | 7.4E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | THALLIUM | 3.6E-03 | mg/L | 2.2E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | VANADIUM | 2.8E-03 | mg/L | 7.0E-09 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)PYRENE | 1.0E-03 | mg/L | 1.8E-05 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.8E-05 (a) |
| | | | Dermal | BENZO(B)FLUORANTHENE | 2.0E-03 | mg/L | 2.1E-05 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 2.1E-06 (a) |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.0E-03 | mg/L | 3.6E-05 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 3.6E-06 (a) |
| | | | Dermal | NAPHTHALENE | 5.0E-04 | mg/L | 8.7E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **VOCs** | | | | | | | |
| | | | Dermal | 1,4-DICHLOROBENZENE | 7.0E-04 | mg/L | 1.3E-07 | mg/kg-d | 5.4E-03 | (mg/kg-d)-1 | 7.2E-10 |
| | | | Dermal | BENZENE | 5.3E-03 | mg/L | 2.2E-07 | mg/kg-d | 5.5E-02 | (mg/kg-d)-1 | 1.2E-08 |
| | | | Dermal | DICHLOROMETHANE | 7.1E-03 | mg/L | 2.2E-07 | mg/kg-d | 2.0E-03 | (mg/kg-d)-1 | 4.4E-10 (a) |
| | | | Dermal | VINYL CHLORIDE | 1.0E-03 | mg/L | 1.3E-06 | mg/kg-d | 7.2E-01 | (mg/kg-d)-1 | 9.4E-07 (a) |
| | | | **Exposure Route Total [Surface Water-Dermal]** | | | | | | | | **2.5E-05** |
| **Exposure Point Total (UNDV+UHC)** | | | | | | | | | | | **1E-04** |

Notes:
NA – Not Available.
Chromium risks in sediment and surface water were calculated using toxicity values for hexavalent chromium.
(a) The mutagen risks were calculated for COPCs identified as having a mutagenic mode of action.

**Ingestion- Soil**

$$\text{Intake Factor (IF)} = \frac{IR \times FS \times EF \times ED \times CF \times TAF}{BW \times AT} =$$

| | Non-mutagens | Mutagens[a] |
|---|---|---|
| Intake Factor (IF) = | 1.3E-07 (Adolescent) | 4.0E-07 (6-16 yrs) |
| IR Ingestion Rate (mg/day) | 100 | 100 |
| FS Fraction from Contaminated Source | 1 | 1 |
| EF Soil Ingestion Exposure Frequency (days/yr) | 150 | 150 |
| ED Soil Ingestion Exposure Duration (yrs) | 10 | 10 |
| CF Conversion Factor (kg/mg) | 0.000001 | 0.000001 |
| BW Body Weight (kg) | 44 | 44 |
| AT Averaging Time (d) | 25,550 | 25,550 |
| TAF Toxicity Adjustment Factor | -- | 3 |

$Intake_{ing}(mg/kg{\cdot}d) = EPC_{soil}*IF*B$
(B) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Table 7.6**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adolescent |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |

**Dermal- Soil**

| | | | Non-mutagens | Mutagens[a] |
|---|---|---|---|---|
| Intake Factor (IF) = | $\frac{SA \times AF \times EF \times ED \times CF \times TAF}{BW \times AT}$ | = | 4.3E-07 (Adolescent) | 1.3E-06 (6-16 yrs) |
| SA | Surface Area Exposed to Soil (cm²/day) | | 4,639 | 4,639 |
| AF | Soil Skin Adherence Factor (mg/cm²) | | 0.07 | 0.07 |
| EF | Soil Dermal Exposure Frequency (days/yr) | | 150 | 150 |
| ED | Soil Dermal Exposure Duration (yrs) | | 10 | 10 |
| CF | Conversion Factor (kg/mg) | | 0.000001 | 0.000001 |
| BW | Body Weight (kg) | | 44 | 44 |
| AT | Averaging Time (d) | | 25,550 | 25,550 |
| TAF | Toxicity Adjustment Factor | | -- | 3 |

$Intake_{derm}$(mg/kg·d) = $EPC_{soil}$*IF*ABS
(ABS) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Inhalation - Soil**

| | | | Non-mutagens | Mutagens[a] |
|---|---|---|---|---|
| Intake Factor (IF) = | $\frac{EF \times ED \times ET \times CF1 \times CF2 \times TAF}{AT}$ | = | 2.0E+01 (Adolescent) | 5.9E+01 (6-16 yrs) |
| EF | Soil Exposure Frequency (days/yr) | | 150 | 150 |
| ED | Soil Exposure Duration (yrs) | | 10 | 10 |
| ET | Soil Exposure Time (hours/day) | | 8 | 8 |
| CF1 | Conversion Factor (day/hour) | | 0.042 | 0.042 |
| CF2 | Conversion Factor (µg/mg) | | 1000 | 1000 |
| AT | Averaging Time (d) | | 25,550 | 25,550 |
| TAF | Toxicity Adjustment Factor | | -- | 3 |

EPCair = EPCsoil x [1/Volatilization Factor (VF) + 1/Particulate Emissions Factor (PEF)]
Exposure = EPCair x IF
Cancer risk = Exposure x Inhalation Unit Risk (IUR)

**Table 7.6**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adolescent |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | Value | Units | Value | Units | Value | Units | |

**Ingestion- Sediment (SD)**

| | | Non-mutagens | Mutagens[a] |
|---|---|---|---|
| Intake Factor (IF) = $\frac{IR \times FS \times EF \times ED \times CF \times TAF}{BW \times AT}$ | = | 3.9E-08 (Adolescent) | 1.2E-07 (6-16 yrs) |
| IR | Ingestion Rate (mg/day) | 100 | 100 |
| FS | Fraction from Contaminated Source | 1 | 1 |
| EF | Sediment Ingestion Exposure Frequency (days/yr) | 44 | 44 |
| ED | Sediment Ingestion Exposure Duration (yrs) | 10 | 10 |
| CF | Conversion Factor (kg/mg) | 0.000001 | 0.000001 |
| BW | Body Weight (kg) | 44 | 44 |
| AT | Averaging Time (d) | 25,550 | 25,550 |
| TAF | Toxicity Adjustment Factor | -- | 3 |

$Intake_{ing}$(mg/kg·d) = $EPC_{sd}$*IF*B
(B) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Dermal- Sediment (SD)**

| | | Non-mutagens | Mutagens[a] |
|---|---|---|---|
| Intake Factor (IF) = $\frac{SA \times AF \times EF \times ED \times CF \times TAF}{BW \times AT}$ | = | 3.6E-07 (Adolescent) | 1.1E-06 (6-16 yrs) |
| SA | Surface Area Exposed to Sediment ($cm^2$/day) | 4,639 | 4,639 |
| AF | Sediment Skin Adherence Factor (mg/$cm^2$) | 0.2 | 0.2 |
| EF | Sediment Dermal Exposure Frequency (days/yr) | 44 | 44 |
| ED | Sediment Dermal Exposure Duration (yrs) | 10 | 10 |
| CF | Conversion Factor (kg/mg) | 0.000001 | 0.000001 |
| BW | Body Weight (kg) | 44 | 44 |
| AT | Averaging Time (d) | 25,550 | 25,550 |
| TAF | Toxicity Adjustment Factor | -- | 3 |

$Intake_{derm}$(mg/kg·d) = $EPC_{sd}$*IF*ABS
(ABS) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Table 7.6**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adolescent |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |

**Dermal- Surface water (SW)**

| | | Non-mutagens | Mutagens[a] |
|---|---|---|---|
| Intake Factor (IF) = $\frac{SA \times EV \times EF \times ED \times TAF}{BW \times AT}$ | = | 1.8E+00 (Adolescent) | 5.4E+00 (6-16 yrs) |
| SA | Surface Area Exposed to Surface Water ($cm^2$) | 4,639 | 4,639 |
| EF | Surface Water Dermal Exposure Frequency (days/yr) | 44 | 44 |
| ED | Surface Water Dermal Exposure Duration (yrs) | 10 | 10 |
| EV | Event per day (ev/d) | 1 | 1 |
| BW | Body Weight (kg) | 44 | 44 |
| AT | Averaging Time (d) | 25,550 | 25,550 |
| TAF | Toxicity Adjustment Factor | -- | 3 |

$Intake_{derm}$(mg/kg·d) = IF x Absorbed Dose per event ($DA_{event}$)
($DA_{event}$) presented in Table 4.5.
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**For Vinyl Chloride**

$Intake_{derm} = DA_{event} * [(IF_{adolescent})+(EV_{adolescent}*SA_{adolescent}/BW_{adolescent})]$

**Table 7.7**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| Soil | Soil (0-2 ft bgs) | UNDV | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.5E+03 | mg/kg | 6.6E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ANTIMONY | 1.2E+01 | mg/kg | 2.3E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ARSENIC | 1.2E+02 | mg/kg | 1.4E-05 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 2.1E-05 |
| | | | Ingestion | BARIUM | 1.3E+03 | mg/kg | 2.5E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CADMIUM | 1.5E+00 | mg/kg | 2.8E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | 1.6E-07 | mg/kg-d | 5.0E-01 | (mg/kg-d)-1 | 8.0E-08 |
| | | | Ingestion | COBALT | 8.3E+00 | mg/kg | 1.6E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | COPPER | 1.3E+02 | mg/kg | 2.5E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CYANIDE | 8.8E+01 | mg/kg | 1.7E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | IRON | 1.5E+04 | mg/kg | 2.8E-03 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | LEAD | 6.6E+02 | mg/kg | 1.3E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | MANGANESE | 1.8E+02 | mg/kg | 3.5E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | MERCURY | 1.6E+00 | mg/kg | 3.1E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | THALLIUM | 5.2E-01 | mg/kg | 1.0E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | VANADIUM | 1.9E+01 | mg/kg | 3.7E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ZINC | 6.5E+02 | mg/kg | 1.2E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 7.4E-02 | mg/kg | 1.4E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 2.8E-08 |
| | | | Ingestion | AROCLOR-1260 | 4.2E-01 | mg/kg | 8.0E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 1.6E-07 |
| | | | Ingestion | DIELDRIN | 1.0E-02 | mg/kg | 2.0E-09 | mg/kg-d | 1.6E+01 | (mg/kg-d)-1 | 3.2E-08 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 3.1E+00 | mg/kg | 6.0E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 6.0E-08 |
| | | | Ingestion | BENZO(A)PYRENE | 3.8E+00 | mg/kg | 7.2E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 7.2E-07 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 4.5E+00 | mg/kg | 8.5E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 8.5E-08 |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 3.1E+00 | mg/kg | 5.9E-07 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 5.9E-09 |
| | | | Ingestion | CHRYSENE | 4.5E+00 | mg/kg | 8.6E-07 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 8.6E-10 |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 1.1E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.1E-07 |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 3.6E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 3.6E-08 |
| | | | Ingestion | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 1.0E-07 | mg/kg-d | 4.0E-01 | (mg/kg-d)-1 | 4.0E-08 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Ingestion]** | | | | | | | | **2.3E-05** |
| Soil | Soil (0-2 ft bgs) | UNDV | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.5E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ANTIMONY | 1.2E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ARSENIC | 1.2E+02 | mg/kg | 3.0E-06 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 4.5E-06 |
| | | | Dermal | BARIUM | 1.3E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CADMIUM | 1.5E+00 | mg/kg | 1.2E-09 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | NA | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | NA |
| | | | Dermal | COBALT | 8.3E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | COPPER | 1.3E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |

**Table 7.7**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | CYANIDE | 8.8E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 1.5E+04 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | LEAD | 6.6E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MANGANESE | 1.8E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MERCURY | 1.6E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | THALLIUM | 5.2E-01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | VANADIUM | 1.9E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ZINC | 6.5E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 7.4E-02 | mg/kg | 8.3E-09 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 1.7E-08 |
| | | | Dermal | AROCLOR-1260 | 4.2E-01 | mg/kg | 4.7E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 9.4E-08 |
| | | | Dermal | DIELDRIN | 1.0E-02 | mg/kg | 8.4E-10 | mg/kg-d | 1.6E+01 | (mg/kg-d)-1 | 1.3E-08 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 3.1E+00 | mg/kg | 3.3E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 3.3E-08 |
| | | | Dermal | BENZO(A)PYRENE | 3.8E+00 | mg/kg | 4.0E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 4.0E-07 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 4.5E+00 | mg/kg | 4.7E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 4.7E-08 |
| | | | Dermal | BENZO(K)FLUORANTHENE | 3.1E+00 | mg/kg | 3.3E-07 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 3.3E-09 |
| | | | Dermal | CHRYSENE | 4.5E+00 | mg/kg | 4.7E-07 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 4.7E-10 |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 6.2E-08 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 6.2E-08 |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 2.0E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 2.0E-08 |
| | | | Dermal | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 1.1E-07 | mg/kg-d | 4.0E-01 | (mg/kg-d)-1 | 4.3E-08 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Dermal]** | | | | | | | | **5.2E-06** |
| Soil | Particulates in Air (soil 0-2) | UNDV | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ALUMINUM | 1.1E-06 | mg/m3 | 5.5E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ANTIMONY | 3.7E-09 | mg/m3 | 1.9E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ARSENIC | 3.9E-08 | mg/m3 | 2.0E-06 | µg/m3 | 4.3E-03 | (µg/m3)-1 | 8.5E-09 |
| | | | Inhalation | BARIUM | 4.0E-07 | mg/m3 | 2.0E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | CADMIUM | 4.5E-10 | mg/m3 | 2.3E-08 | µg/m3 | 1.8E-03 | (µg/m3)-1 | 4.2E-11 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.6E-10 | mg/m3 | 1.3E-08 | µg/m3 | 8.4E-02 | (µg/m3)-1 | 1.1E-09 |
| | | | Inhalation | COBALT | 2.6E-09 | mg/m3 | 1.3E-07 | µg/m3 | 9.0E-03 | (µg/m3)-1 | 1.2E-09 |
| | | | Inhalation | COPPER | 4.0E-08 | mg/m3 | 2.1E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | CYANIDE | 1.2E-03 | mg/m3 | 6.0E-02 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | IRON | 4.7E-06 | mg/m3 | 2.4E-04 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | LEAD | 2.1E-07 | mg/m3 | 1.1E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | MANGANESE | 5.7E-08 | mg/m3 | 2.9E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | MERCURY | 5.1E-10 | mg/m3 | 2.6E-08 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | THALLIUM | 1.6E-10 | mg/m3 | 8.3E-09 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | VANADIUM | 6.0E-09 | mg/m3 | 3.1E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ZINC | 2.0E-07 | mg/m3 | 1.0E-05 | µg/m3 | NA | (µg/m3)-1 | NA |

**Table 7.7**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | AROCLOR-1254 | 6.8E-08 | mg/m3 | 3.5E-06 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 2.0E-09 |
| | | | Inhalation | AROCLOR-1260 | 2.5E-07 | mg/m3 | 1.3E-05 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 7.2E-09 |
| | | | Inhalation | DIELDRIN | 3.3E-12 | mg/m3 | 1.7E-10 | µg/m3 | 4.6E-03 | (µg/m3)-1 | 7.6E-13 |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | BENZO(A)ANTHRACENE | 5.6E-07 | mg/m3 | 2.8E-05 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 1.7E-09 |
| | | | Inhalation | BENZO(A)PYRENE | 1.2E-09 | mg/m3 | 6.0E-08 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 3.6E-11 |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 1.4E-09 | mg/m3 | 7.1E-08 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 4.3E-12 |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 9.7E-10 | mg/m3 | 4.9E-08 | µg/m3 | 6.0E-06 | (µg/m3)-1 | 3.0E-13 |
| | | | Inhalation | CHRYSENE | 1.4E-09 | mg/m3 | 7.2E-08 | µg/m3 | 6.0E-07 | (µg/m3)-1 | 4.3E-14 |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 1.8E-10 | mg/m3 | 9.4E-09 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 5.6E-12 |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 5.9E-10 | mg/m3 | 3.0E-08 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 1.8E-12 |
| | | | Inhalation | PENTACHLOROPHENOL | 1.7E-10 | mg/m3 | 8.4E-09 | µg/m3 | 5.1E-06 | (µg/m3)-1 | 4.3E-14 |
| | | | **Exposure Route Total [Particulates in Air (soil 0-2)-Inhalation]** | | | | | | | | **2.2E-08** |
| Sediment | Sediment | UHC | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.3E+03 | mg/kg | 1.9E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ANTIMONY | 1.7E+01 | mg/kg | 9.4E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ARSENIC | 1.7E+03 | mg/kg | 5.7E-05 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 8.6E-05 |
| | | | Ingestion | BARIUM | 2.4E+03 | mg/kg | 1.3E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CHROMIUM | 9.1E+01 | mg/kg | 5.1E-06 | mg/kg-d | 5.0E-01 | (mg/kg-d)-1 | 2.6E-06 |
| | | | Ingestion | COBALT | 5.4E+00 | mg/kg | 3.0E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | COPPER | 1.6E+02 | mg/kg | 9.2E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CYANIDE | 6.5E+02 | mg/kg | 3.6E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | IRON | 7.3E+03 | mg/kg | 4.1E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | LEAD | 1.8E+03 | mg/kg | 1.0E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | THALLIUM | 2.4E+00 | mg/kg | 1.4E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 2.6E-01 | mg/kg | 1.4E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 2.9E-08 |
| | | | Ingestion | AROCLOR-1260 | 1.5E-01 | mg/kg | 8.5E-09 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 1.7E-08 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 6.1E+00 | mg/kg | 3.4E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 3.4E-08 |
| | | | Ingestion | BENZO(A)PYRENE | 6.2E+00 | mg/kg | 3.4E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 3.4E-07 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 6.0E+00 | mg/kg | 3.3E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 3.3E-08 |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 8.3E+00 | mg/kg | 4.7E-07 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 4.7E-09 |
| | | | Ingestion | CHRYSENE | 9.9E+00 | mg/kg | 5.5E-07 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 5.5E-10 |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 1.2E+00 | mg/kg | 6.8E-08 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 6.8E-08 |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 4.2E+00 | mg/kg | 2.4E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 2.4E-08 |

**Table 7.7**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | **TICs** | | | | | | | |
| | | | Ingestion | BENZO[J]FLUORANTHENE | 1.1E+00 | mg/kg | 6.2E-08 | mg/kg-d | 1.2E+00 | (mg/kg-d)-1 | 7.4E-08 |
| | | | **Exposure Route Total [Sediment-Ingestion]** | | | | | | | | **8.9E-05** |
| Sediment | Sediment | UHC | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.3E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ANTIMONY | 1.7E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ARSENIC | 1.7E+03 | mg/kg | 3.4E-05 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 5.2E-05 |
| | | | Dermal | BARIUM | 2.4E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CHROMIUM | 9.1E+01 | mg/kg | NA | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | NA |
| | | | Dermal | COBALT | 5.4E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | COPPER | 1.6E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CYANIDE | 6.5E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 7.3E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | LEAD | 1.8E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | THALLIUM | 2.4E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 2.6E-01 | mg/kg | 2.4E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 4.8E-08 |
| | | | Dermal | AROCLOR-1260 | 1.5E-01 | mg/kg | 1.4E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 2.9E-08 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 6.1E+00 | mg/kg | 5.4E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 5.4E-08 |
| | | | Dermal | BENZO(A)PYRENE | 6.2E+00 | mg/kg | 5.4E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 5.4E-07 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 6.0E+00 | mg/kg | 5.3E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 5.3E-08 |
| | | | Dermal | BENZO(K)FLUORANTHENE | 8.3E+00 | mg/kg | 7.3E-07 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 7.3E-09 |
| | | | Dermal | CHRYSENE | 9.9E+00 | mg/kg | 8.7E-07 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 8.7E-10 |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 1.2E+00 | mg/kg | 1.1E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.1E-07 |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 4.2E+00 | mg/kg | 3.7E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 3.7E-08 |
| | | | Dermal | **TICs** | | | | | | | |
| | | | Dermal | BENZO[J]FLUORANTHENE | 1.1E+00 | mg/kg | 9.7E-08 | mg/kg-d | 1.2E+00 | (mg/kg-d)-1 | 1.2E-07 |
| | | | **Exposure Route Total [Sediment-Dermal]** | | | | | | | | **5.3E-05** |
| Surface Water | Surface Water | UHC | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ANTIMONY | 2.9E-03 | mg/L | 2.0E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ARSENIC | 5.7E-02 | mg/L | 3.1E-07 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 4.6E-07 |
| | | | Dermal | BARIUM | 2.8E-01 | mg/L | 2.1E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CHROMIUM | 3.8E-03 | mg/L | 1.8E-08 | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | 3.6E-07 |
| | | | Dermal | CYANIDE | 9.7E-03 | mg/L | 4.2E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 6.2E+00 | mg/L | 3.0E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | LEAD | 9.8E-03 | mg/L | 1.1E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MANGANESE | 2.9E-01 | mg/L | 1.4E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | THALLIUM | 3.6E-03 | mg/L | 4.1E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | VANADIUM | 2.8E-03 | mg/L | 1.3E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |

**Table 7.7**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)PYRENE | 1.0E-03 | mg/L | 1.1E-05 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.1E-05 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 2.0E-03 | mg/L | 1.3E-05 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.3E-06 |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.0E-03 | mg/L | 2.3E-05 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 2.3E-06 |
| | | | Dermal | NAPHTHALENE | 5.0E-04 | mg/L | 1.6E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **VOCs** | | | | | | | |
| | | | Dermal | 1,4-DICHLOROBENZENE | 7.0E-04 | mg/L | 2.5E-07 | mg/kg-d | 5.4E-03 | (mg/kg-d)-1 | 1.3E-09 |
| | | | Dermal | BENZENE | 5.3E-03 | mg/L | 4.2E-07 | mg/kg-d | 5.5E-02 | (mg/kg-d)-1 | 2.3E-08 |
| | | | Dermal | DICHLOROMETHANE | 7.1E-03 | mg/L | 1.4E-07 | mg/kg-d | 2.0E-03 | (mg/kg-d)-1 | 2.8E-10 |
| | | | Dermal | VINYL CHLORIDE | 1.0E-03 | mg/L | 4.1E-08 | mg/kg-d | 7.2E-01 | (mg/kg-d)-1 | 3.0E-08 |
| | | | **Exposure Route Total [Surface Water-Dermal]** | | | | | | | | **1.6E-05** |
| **Exposure Point Total (UNDV+UHC)** | | | | | | | | | | | **2E-04** |

Notes:
NA – Not Available.
Chromium risks in sediment and surface water were calculated using toxicity values for hexavalent chromium.

**Ingestion- Soil**

$$\text{Intake Factor (IF)} = \frac{IR \times EF \times ED \times CF \times FR}{BW \times AT} = 1.9E\text{-}07 \text{ (Adult)}$$

$Intake_{ing}(mg/kg{\cdot}d) = EPC_{soil}*IF*B$
(B) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

| | | |
|---|---|---|
| IR | Ingestion Rate (mg/day) | 100 |
| FR | Fraction from Contaminated Source | 1 |
| EF | Soil Ingestion Exposure Frequency (days/yr) | 150 |
| ED | Soil Ingestion Exposure Duration (yrs) | 26 |
| CF | Conversion Factor (kg/mg) | 0.000001 |
| BW | Body Weight (kg) | 80 |
| AT | Averaging Time (d) | 25,550 |

**Dermal- Soil**

$$\text{Intake Factor (IF)} = \frac{SA \times AF \times EF \times ED \times CF}{BW \times AT} = 8.1E\text{-}07 \text{ (Adult)}$$

$Intake_{derm}(mg/kg{\cdot}d) = EPC_{soil}*IF*ABS$
(ABS) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

| | | |
|---|---|---|
| SA | Surface Area Exposed to Soil ($cm^2$/day) | 6,032 |
| AF | Soil Skin Adherence Factor ($mg/cm^2$) | 0.07 |
| EF | Soil Dermal Exposure Frequency (days/yr) | 150 |
| ED | Soil Dermal Exposure Duration (yrs) | 26 |
| CF | Conversion Factor (kg/mg) | 0.000001 |
| BW | Body Weight (kg) | 80 |
| AT | Averaging Time (d) | 25,550 |

**Table 7.7**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |

**Inhalation - Soil**

| | | | |
|---|---|---|---|
| Intake Factor (IF) = | EF x ED x ET x CF1 x CF2 x TAF / AT | = | 5.1E+01 (Adult) |
| | EF | Soil Exposure Frequency (days/yr) | 150 |
| | ED | Soil Exposure Duration (yrs) | 26 |
| | ET | Soil Exposure Time (hours/day) | 8 |
| | CF1 | Conversion Factor (day/hour) | 0.042 |
| | CF2 | Conversion Factor (µg/mg) | 1000 |
| | AT | Averaging Time (d) | 25,550 |

EPCair = EPCsoil x [1/Volatilization Factor (VF) + 1/Particulate Emissions Factor (PEF)]
Exposure = EPCair x IF
Cancer risk = Exposure x Inhalation Unit Risk (IUR)

**Ingestion- Sediment (SD)**

| | | | |
|---|---|---|---|
| Intake Factor (IF) = | IR x EF x ED x CF x FR / BW x AT | = | 5.6E-08 (Adult) |
| | IR | Ingestion Rate (mg/day) | 100 |
| | FR | Fraction from Contaminated Source | 1 |
| | EF | Sediment Ingestion Exposure Frequency (days/yr) | 44 |
| | ED | Sediment Ingestion Exposure Duration (yrs) | 26 |
| | CF | Conversion Factor (kg/mg) | 0.000001 |
| | BW | Body Weight (kg) | 80 |
| | AT | Averaging Time (d) | 25,550 |

$Intake_{ing}$(mg/kg·d) = $EPC_{sd}$*IF*B
(B) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Dermal- Sediment (SD)**

| | | | |
|---|---|---|---|
| Intake Factor (IF) = | SA x AF x EF x ED x CF / BW x AT | = | 6.8E-07 (Adult) |
| | SA | Surface Area Exposed to Sediment (cm²/day) | 6,032 |
| | AF | Sediment Skin Adherence Factor (mg/cm²) | 0.2 |
| | EF | Sediment Dermal Exposure Frequency (days/yr) | 44 |
| | ED | Sediment Dermal Exposure Duration (yrs) | 26 |
| | CF | Conversion Factor (kg/mg) | 0.000001 |
| | BW | Body Weight (kg) | 80 |
| | AT | Averaging Time (d) | 25,550 |

$Intake_{derm}$(mg/kg·d) = $EPC_{sd}$*IF*ABS
(ABS) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Table 7.7**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |

**Dermal- Surface Water (SW)**

$$\text{Intake Factor (IF)} = \frac{SA \times EV \times EF \times ED}{BW \times AT} = 3.4E+00 \text{ (Adult)}$$

| | | |
|---|---|---|
| SA | Surface Area Exposed to Surface Water (cm²) | 6,032 |
| EF | Surface Water Dermal Exposure Frequency (days/yr) | 44 |
| ED | Surface Water Dermal Exposure Duration (yrs) | 26 |
| EV | Event per day (ev/d) | 1 |
| BW | Body Weight (kg) | 80 |
| AT | Averaging Time (d) | 25,550 |

$Intake_{derm}$(mg/kg·d) = IF x Absorbed Dose per event ($DA_{event}$)
($DA_{event}$) presented in Table 4.5.
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Table 7.8**
**Calculation of Chemical Non-cancer Hazards for Utility Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Utility Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| Soil | Soil (0-10 ft bgs) | EUSA | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ARSENIC | 2.4E+00 | mg/kg | 1.6E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 5.5E-04 |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 7.3E-01 | mg/kg | 8.2E-08 | mg/kg-d | 3.0E-03 | mg/kg-d | 2.7E-05 |
| | | | Ingestion | COBALT | 3.1E+00 | mg/kg | 3.4E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.1E-03 |
| | | | Ingestion | IRON | 6.6E+03 | mg/kg | 7.5E-04 | mg/kg-d | 7.0E-01 | mg/kg-d | 1.1E-03 |
| | | | Ingestion | THALLIUM | 3.3E-01 | mg/kg | 3.7E-08 | mg/kg-d | 1.0E-05 | mg/kg-d | 3.7E-03 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)PYRENE | 7.3E-02 | mg/kg | 8.3E-09 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.8E-05 |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 2.1E-02 | mg/kg | 2.4E-09 | mg/kg-d | NA | mg/kg-d | NA |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Ingestion]** | | | | | | | | **6.5E-03** |
| Soil | Soil (0-10 ft bgs) | EUSA | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ARSENIC | 2.4E+00 | mg/kg | 2.6E-08 | mg/kg-d | 3.0E-04 | mg/kg-d | 8.8E-05 |
| | | | Dermal | CHROMIUM, HEXAVALENT | 7.3E-01 | mg/kg | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA |
| | | | Dermal | COBALT | 3.1E+00 | mg/kg | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA |
| | | | Dermal | IRON | 6.6E+03 | mg/kg | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA |
| | | | Dermal | THALLIUM | 3.3E-01 | mg/kg | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)PYRENE | 7.3E-02 | mg/kg | 3.4E-09 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.1E-05 |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 2.1E-02 | mg/kg | 9.9E-10 | mg/kg-d | NA | mg/kg-d | NA |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Dermal]** | | | | | | | | **9.9E-05** |
| Soil | Particulates in Air | EUSA | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ARSENIC | 7.5E-10 | mg/m3 | 6.9E-12 | µg/m3 | 1.5E-05 | mg/m3 | 4.6E-07 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.3E-10 | mg/m3 | 2.1E-12 | µg/m3 | 1.0E-04 | mg/m3 | 2.1E-08 |
| | | | Inhalation | COBALT | 9.5E-10 | mg/m3 | 8.7E-12 | µg/m3 | 6.0E-06 | mg/m3 | 1.5E-06 |
| | | | Inhalation | IRON | 2.1E-06 | mg/m3 | 1.9E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | THALLIUM | 1.0E-10 | mg/m3 | 9.4E-13 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | BENZO(A)PYRENE | 2.3E-11 | mg/m3 | 2.1E-13 | µg/m3 | 2.0E-06 | mg/m3 | 1.0E-07 |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 6.6E-12 | mg/m3 | 6.0E-14 | µg/m3 | NA | mg/m3 | NA |
| | | | **Exposure Route Total [Particulates in Air (soil 0-10)-Inhalation]** | | | | | | | | **2.0E-06** |
| **Exposure Point Total (EUSA)** | | | | | | | | | | | **7E-03** |
| Soil | Soil (0-10 ft bgs) | NFA | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.3E+03 | mg/kg | 3.8E-04 | mg/kg-d | 1.0E+00 | mg/kg-d | 3.8E-04 |
| | | | Ingestion | ANTIMONY | 1.3E+00 | mg/kg | 1.5E-07 | mg/kg-d | 4.0E-04 | mg/kg-d | 3.7E-04 |

**Table 7.8**
**Calculation of Chemical Non-cancer Hazards for Utility Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Utility Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | ARSENIC | 2.3E+01 | mg/kg | 1.6E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 5.3E-03 |
| | | | Ingestion | BARIUM | 3.8E+02 | mg/kg | 4.3E-05 | mg/kg-d | 2.0E-01 | mg/kg-d | 2.1E-04 |
| | | | Ingestion | CADMIUM | 3.4E-01 | mg/kg | 3.8E-08 | mg/kg-d | 1.0E-03 | mg/kg-d | 3.8E-05 |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 3.5E+01 | mg/kg | 3.9E-06 | mg/kg-d | 3.0E-03 | mg/kg-d | 1.3E-03 |
| | | | Ingestion | COBALT | 1.8E+00 | mg/kg | 2.1E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 6.8E-04 |
| | | | Ingestion | COPPER | 2.5E+01 | mg/kg | 2.8E-06 | mg/kg-d | 4.0E-02 | mg/kg-d | 7.0E-05 |
| | | | Ingestion | CYANIDE | 4.6E+00 | mg/kg | 5.2E-07 | mg/kg-d | 6.0E-04 | mg/kg-d | 8.7E-04 |
| | | | Ingestion | IRON | 7.2E+03 | mg/kg | 8.1E-04 | mg/kg-d | 7.0E-01 | mg/kg-d | 1.2E-03 |
| | | | Ingestion | LEAD | 3.0E+02 | mg/kg | 3.3E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | MANGANESE | 1.1E+02 | mg/kg | 1.2E-05 | mg/kg-d | 2.4E-02 | mg/kg-d | 5.0E-04 |
| | | | Ingestion | THALLIUM | 2.9E-01 | mg/kg | 3.2E-08 | mg/kg-d | 1.0E-05 | mg/kg-d | 3.2E-03 |
| | | | Ingestion | VANADIUM | 1.2E+01 | mg/kg | 1.4E-06 | mg/kg-d | 5.0E-03 | mg/kg-d | 2.7E-04 |
| | | | Ingestion | ZINC | 1.9E+02 | mg/kg | 2.1E-05 | mg/kg-d | 3.0E-01 | mg/kg-d | 7.1E-05 |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | ALDRIN | 1.2E-02 | mg/kg | 1.3E-09 | mg/kg-d | 3.0E-05 | mg/kg-d | 4.4E-05 |
| | | | Ingestion | AROCLOR-1254 | 2.7E-02 | mg/kg | 3.0E-09 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.5E-04 |
| | | | Ingestion | AROCLOR-1260 | 2.5E+01 | mg/kg | 2.8E-06 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.4E-01 |
| | | | Ingestion | DIELDRIN | 1.7E-02 | mg/kg | 2.0E-09 | mg/kg-d | 5.0E-05 | mg/kg-d | 3.9E-05 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | 1,1'-BIPHENYL | 6.2E-01 | mg/kg | 7.1E-08 | mg/kg-d | 5.0E-01 | mg/kg-d | 1.4E-07 |
| | | | Ingestion | 2-METHYLNAPHTHALENE | 4.4E+00 | mg/kg | 5.0E-07 | mg/kg-d | 4.0E-03 | mg/kg-d | 1.3E-04 |
| | | | Ingestion | BENZO(A)ANTHRACENE | 2.4E+00 | mg/kg | 2.7E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(A)PYRENE | 2.1E+00 | mg/kg | 2.4E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 8.0E-04 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 2.3E+00 | mg/kg | 2.6E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 1.6E+00 | mg/kg | 1.8E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | CARBAZOLE | 8.9E-01 | mg/kg | 1.0E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | CHRYSENE | 2.3E+00 | mg/kg | 2.6E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 4.5E-01 | mg/kg | 5.0E-08 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | DIBENZOFURAN | 7.9E-01 | mg/kg | 8.9E-08 | mg/kg-d | 1.0E-03 | mg/kg-d | 8.9E-05 |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 1.2E+00 | mg/kg | 1.3E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | NAPHTHALENE | 1.1E+01 | mg/kg | 1.3E-06 | mg/kg-d | 2.0E-02 | mg/kg-d | 6.4E-05 |
| | | | Ingestion | **VOCs** | | | | | | | |
| | | | Ingestion | BENZENE | 3.7E-02 | mg/kg | 4.2E-09 | mg/kg-d | 4.0E-03 | mg/kg-d | 1.1E-06 |
| | | | Ingestion | ETHYLBENZENE | 2.5E+01 | mg/kg | 2.8E-06 | mg/kg-d | 1.0E-01 | mg/kg-d | 2.8E-05 |

**Table 7.8**
**Calculation of Chemical Non-cancer Hazards for Utility Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Utility Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | METHYLCYCLOHEXANE | 2.9E+03 | mg/kg | 3.3E-04 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | TRICHLOROETHYLENE (TCE) | 3.5E-02 | mg/kg | 3.9E-09 | mg/kg-d | 5.0E-04 | mg/kg-d | 7.8E-06 |
| | | | Ingestion | XYLENES (TOTAL) | 4.1E+02 | mg/kg | 4.6E-05 | mg/kg-d | 2.0E-01 | mg/kg-d | 2.3E-04 |
| | | | Ingestion | **TICs** | | | | | | | |
| | | | Ingestion | 1,2,4-TRIMETHYLBENZENE | 1.6E+02 | mg/kg | 1.8E-05 | mg/kg-d | 1.0E-02 | mg/kg-d | 1.8E-03 |
| | | | Ingestion | BENZENE, 1,2,3-TRIMETHYL- | 1.7E+02 | mg/kg | 1.9E-05 | mg/kg-d | 1.0E-02 | mg/kg-d | 1.9E-03 |
| | | | Ingestion | BENZENE, 1,3,5-TRIMETHYL- | 3.7E+02 | mg/kg | 4.2E-05 | mg/kg-d | 1.0E-02 | mg/kg-d | 4.2E-03 |
| | | | Ingestion | NAPHTHALENE, 1-METHYL- | 4.1E+00 | mg/kg | 4.6E-07 | mg/kg-d | 7.0E-02 | mg/kg-d | 6.5E-06 |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Ingestion]** | | | | | | | | **1.7E-01** |
| Soil | Soil (0-10 ft bgs) | NFA | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.3E+03 | mg/kg | NA | mg/kg-d | 1.0E+00 | mg/kg-d | NA |
| | | | Dermal | ANTIMONY | 1.3E+00 | mg/kg | NA | mg/kg-d | 6.0E-05 | mg/kg-d | NA |
| | | | Dermal | ARSENIC | 2.3E+01 | mg/kg | 2.5E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 8.5E-04 |
| | | | Dermal | BARIUM | 3.8E+02 | mg/kg | NA | mg/kg-d | 1.4E-02 | mg/kg-d | NA |
| | | | Dermal | CADMIUM | 3.4E-01 | mg/kg | 1.2E-10 | mg/kg-d | 2.5E-05 | mg/kg-d | 4.9E-06 |
| | | | Dermal | CHROMIUM, HEXAVALENT | 3.5E+01 | mg/kg | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA |
| | | | Dermal | COBALT | 1.8E+00 | mg/kg | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA |
| | | | Dermal | COPPER | 2.5E+01 | mg/kg | NA | mg/kg-d | 4.0E-02 | mg/kg-d | NA |
| | | | Dermal | CYANIDE | 4.6E+00 | mg/kg | NA | mg/kg-d | 6.0E-04 | mg/kg-d | NA |
| | | | Dermal | IRON | 7.2E+03 | mg/kg | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA |
| | | | Dermal | LEAD | 3.0E+02 | mg/kg | NA | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | MANGANESE | 1.1E+02 | mg/kg | NA | mg/kg-d | 9.6E-04 | mg/kg-d | NA |
| | | | Dermal | THALLIUM | 2.9E-01 | mg/kg | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA |
| | | | Dermal | VANADIUM | 1.2E+01 | mg/kg | NA | mg/kg-d | 1.3E-04 | mg/kg-d | NA |
| | | | Dermal | ZINC | 1.9E+02 | mg/kg | NA | mg/kg-d | 3.0E-01 | mg/kg-d | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | ALDRIN | 1.2E-02 | mg/kg | NA | mg/kg-d | 3.0E-05 | mg/kg-d | NA |
| | | | Dermal | AROCLOR-1254 | 2.7E-02 | mg/kg | 1.4E-09 | mg/kg-d | 2.0E-05 | mg/kg-d | 6.8E-05 |
| | | | Dermal | AROCLOR-1260 | 2.5E+01 | mg/kg | 1.3E-06 | mg/kg-d | 2.0E-05 | mg/kg-d | 6.4E-02 |
| | | | Dermal | DIELDRIN | 1.7E-02 | mg/kg | 6.3E-10 | mg/kg-d | 5.0E-05 | mg/kg-d | 1.3E-05 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | 1,1'-BIPHENYL | 6.2E-01 | mg/kg | NA | mg/kg-d | 5.0E-01 | mg/kg-d | NA |
| | | | Dermal | 2-METHYLNAPHTHALENE | 4.4E+00 | mg/kg | 2.1E-07 | mg/kg-d | 4.0E-03 | mg/kg-d | 5.2E-05 |
| | | | Dermal | BENZO(A)ANTHRACENE | 2.4E+00 | mg/kg | 1.1E-07 | mg/kg-d | NA | mg/kg-d | NA |

**Table 7.8**
**Calculation of Chemical Non-cancer Hazards for Utility Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Utility Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | BENZO(A)PYRENE | 2.1E+00 | mg/kg | 1.0E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 3.4E-04 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 2.3E+00 | mg/kg | 1.1E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(K)FLUORANTHENE | 1.6E+00 | mg/kg | 7.5E-08 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | CARBAZOLE | 8.9E-01 | mg/kg | NA | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | CHRYSENE | 2.3E+00 | mg/kg | 1.1E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 4.5E-01 | mg/kg | 2.1E-08 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | DIBENZOFURAN | 7.9E-01 | mg/kg | 8.5E-09 | mg/kg-d | 1.0E-03 | mg/kg-d | 8.5E-06 |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.2E+00 | mg/kg | 5.5E-08 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | NAPHTHALENE | 1.1E+01 | mg/kg | 5.3E-07 | mg/kg-d | 2.0E-02 | mg/kg-d | 2.6E-05 |
| | | | Dermal | **VOCs** | | | | | | | |
| | | | Dermal | BENZENE | 3.7E-02 | mg/kg | NA | mg/kg-d | 4.0E-03 | mg/kg-d | NA |
| | | | Dermal | ETHYLBENZENE | 2.5E+01 | mg/kg | NA | mg/kg-d | 1.0E-01 | mg/kg-d | NA |
| | | | Dermal | METHYLCYCLOHEXANE | 2.9E+03 | mg/kg | NA | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | TRICHLOROETHYLENE (TCE) | 3.5E-02 | mg/kg | NA | mg/kg-d | 5.0E-04 | mg/kg-d | NA |
| | | | Dermal | XYLENES (TOTAL) | 4.1E+02 | mg/kg | NA | mg/kg-d | 2.0E-01 | mg/kg-d | NA |
| | | | Dermal | **TICs** | | | | | | | |
| | | | Dermal | 1,2,4-TRIMETHYLBENZENE | 1.6E+02 | mg/kg | NA | mg/kg-d | 1.0E-02 | mg/kg-d | NA |
| | | | Dermal | BENZENE, 1,2,3-TRIMETHYL- | 1.7E+02 | mg/kg | NA | mg/kg-d | 1.0E-02 | mg/kg-d | NA |
| | | | Dermal | BENZENE, 1,3,5-TRIMETHYL- | 3.7E+02 | mg/kg | NA | mg/kg-d | 1.0E-02 | mg/kg-d | NA |
| | | | Dermal | NAPHTHALENE, 1-METHYL- | 4.1E+00 | mg/kg | 1.9E-07 | mg/kg-d | 7.0E-02 | mg/kg-d | 2.7E-06 |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Dermal]** | | | | | | | | **6.5E-02** |
| Soil | Particulates in Air | NFA | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ALUMINUM | 1.0E-06 | mg/m3 | 9.5E-09 | µg/m3 | 5.0E-03 | mg/m3 | 1.9E-06 |
| | | | Inhalation | ANTIMONY | 4.1E-10 | mg/m3 | 3.7E-12 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | ARSENIC | 7.3E-09 | mg/m3 | 6.7E-11 | µg/m3 | 1.5E-05 | mg/m3 | 4.5E-06 |
| | | | Inhalation | BARIUM | 1.2E-07 | mg/m3 | 1.1E-09 | µg/m3 | 5.0E-04 | mg/m3 | 2.2E-06 |
| | | | Inhalation | CADMIUM | 1.1E-10 | mg/m3 | 9.6E-13 | µg/m3 | 1.0E-05 | mg/m3 | 9.6E-08 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 1.1E-08 | mg/m3 | 9.9E-11 | µg/m3 | 1.0E-04 | mg/m3 | 9.9E-07 |
| | | | Inhalation | COBALT | 5.7E-10 | mg/m3 | 5.2E-12 | µg/m3 | 6.0E-06 | mg/m3 | 8.6E-07 |
| | | | Inhalation | COPPER | 7.7E-09 | mg/m3 | 7.0E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CYANIDE | 6.1E-05 | mg/m3 | 5.6E-07 | µg/m3 | 8.0E-04 | mg/m3 | 7.0E-04 |
| | | | Inhalation | IRON | 2.2E-06 | mg/m3 | 2.1E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | LEAD | 9.2E-08 | mg/m3 | 8.4E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | MANGANESE | 3.3E-08 | mg/m3 | 3.0E-10 | µg/m3 | 5.0E-05 | mg/m3 | 6.1E-06 |

**Table 7.8**
**Calculation of Chemical Non-cancer Hazards for Utility Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Utility Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | THALLIUM | 8.9E-11 | mg/m3 | 8.1E-13 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | VANADIUM | 3.8E-09 | mg/m3 | 3.4E-11 | µg/m3 | 1.0E-04 | mg/m3 | 3.4E-07 |
| | | | Inhalation | ZINC | 5.9E-08 | mg/m3 | 5.4E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | ALDRIN | 5.4E-09 | mg/m3 | 4.9E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | AROCLOR-1254 | 2.5E-08 | mg/m3 | 2.3E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | AROCLOR-1260 | 1.5E-05 | mg/m3 | 1.4E-07 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIELDRIN | 5.4E-12 | mg/m3 | 4.9E-14 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | 1,1'-BIPHENYL | 4.3E-06 | mg/m3 | 3.9E-08 | µg/m3 | 4.0E-04 | mg/m3 | 9.8E-05 |
| | | | Inhalation | 2-METHYLNAPHTHALENE | 6.0E-05 | mg/m3 | 5.5E-07 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(A)ANTHRACENE | 4.2E-07 | mg/m3 | 3.8E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(A)PYRENE | 6.7E-10 | mg/m3 | 6.1E-12 | µg/m3 | 2.0E-06 | mg/m3 | 3.0E-06 |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 7.1E-10 | mg/m3 | 6.5E-12 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 5.0E-10 | mg/m3 | 4.5E-12 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CARBAZOLE | 2.8E-10 | mg/m3 | 2.5E-12 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CHRYSENE | 7.3E-10 | mg/m3 | 6.6E-12 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 1.4E-10 | mg/m3 | 1.3E-12 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIBENZOFURAN | 3.1E-06 | mg/m3 | 2.9E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 3.6E-10 | mg/m3 | 3.3E-12 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | NAPHTHALENE | 1.9E-04 | mg/m3 | 1.7E-06 | µg/m3 | 3.0E-03 | mg/m3 | 5.8E-04 |
| | | | Inhalation | **VOCs** | | | | | | | |
| | | | Inhalation | BENZENE | 8.2E-06 | mg/m3 | 7.5E-08 | µg/m3 | 3.0E-02 | mg/m3 | 2.5E-06 |
| | | | Inhalation | ETHYLBENZENE | 3.5E-03 | mg/m3 | 3.2E-05 | µg/m3 | 1.0E+00 | mg/m3 | 3.2E-05 |
| | | | Inhalation | METHYLCYCLOHEXANE | 2.2E+00 | mg/m3 | 2.0E-02 | µg/m3 | 6.0E+00 | mg/m3 | 3.3E-03 |
| | | | Inhalation | TRICHLOROETHYLENE (TCE) | 1.2E-05 | mg/m3 | 1.1E-07 | µg/m3 | 2.0E-03 | mg/m3 | 5.6E-05 |
| | | | Inhalation | XYLENES (TOTAL) | 5.6E-02 | mg/m3 | 5.1E-04 | µg/m3 | 1.0E-01 | mg/m3 | 5.1E-03 |
| | | | Inhalation | **TICs** | | | | | | | |
| | | | Inhalation | 1,2,4-TRIMETHYLBENZENE | 1.5E-02 | mg/m3 | 1.4E-04 | µg/m3 | 6.0E-02 | mg/m3 | 2.3E-03 |
| | | | Inhalation | BENZENE, 1,2,3-TRIMETHYL- | 1.4E-02 | mg/m3 | 1.3E-04 | µg/m3 | 6.0E-02 | mg/m3 | 2.1E-03 |
| | | | Inhalation | BENZENE, 1,3,5-TRIMETHYL- | 4.4E-02 | mg/m3 | 4.0E-04 | µg/m3 | 6.0E-02 | mg/m3 | 6.7E-03 |
| | | | Inhalation | NAPHTHALENE, 1-METHYL- | 5.4E-05 | mg/m3 | 4.9E-07 | µg/m3 | NA | mg/m3 | NA |
| | | | **Exposure Route Total [Particulates in Air (soil 0-10)-Inhalation]** | | | | | | | | **2.1E-02** |
| **Exposure Point Total (NFA)** | | | | | | | | | | | **3E-01** |

**Table 7.8**
**Calculation of Chemical Non-cancer Hazards for Utility Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Utility Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| Soil | Soil (0-10 ft bgs) | SFA | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 2.7E+03 | mg/kg | 3.1E-04 | mg/kg-d | 1.0E+00 | mg/kg-d | 3.1E-04 |
| | | | Ingestion | ANTIMONY | 5.1E+01 | mg/kg | 5.8E-06 | mg/kg-d | 4.0E-04 | mg/kg-d | 1.4E-02 |
| | | | Ingestion | ARSENIC | 2.6E+01 | mg/kg | 1.7E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 5.8E-03 |
| | | | Ingestion | BARIUM | 4.7E+02 | mg/kg | 5.4E-05 | mg/kg-d | 2.0E-01 | mg/kg-d | 2.7E-04 |
| | | | Ingestion | CADMIUM | 4.7E-01 | mg/kg | 5.3E-08 | mg/kg-d | 1.0E-03 | mg/kg-d | 5.3E-05 |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 9.1E-01 | mg/kg | 1.0E-07 | mg/kg-d | 3.0E-03 | mg/kg-d | 3.4E-05 |
| | | | Ingestion | COBALT | 1.8E+00 | mg/kg | 2.1E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 7.0E-04 |
| | | | Ingestion | CYANIDE | 6.9E+00 | mg/kg | 7.8E-07 | mg/kg-d | 6.0E-04 | mg/kg-d | 1.3E-03 |
| | | | Ingestion | IRON | 6.2E+03 | mg/kg | 7.0E-04 | mg/kg-d | 7.0E-01 | mg/kg-d | 1.0E-03 |
| | | | Ingestion | LEAD | 9.1E+02 | mg/kg | 1.0E-04 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | MANGANESE | 4.7E+01 | mg/kg | 5.3E-06 | mg/kg-d | 2.4E-02 | mg/kg-d | 2.2E-04 |
| | | | Ingestion | MERCURY | 4.1E-01 | mg/kg | 4.7E-08 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.6E-04 |
| | | | Ingestion | THALLIUM | 4.7E-01 | mg/kg | 5.3E-08 | mg/kg-d | 1.0E-05 | mg/kg-d | 5.3E-03 |
| | | | Ingestion | VANADIUM | 1.1E+01 | mg/kg | 1.3E-06 | mg/kg-d | 5.0E-03 | mg/kg-d | 2.6E-04 |
| | | | Ingestion | ZINC | 4.7E+02 | mg/kg | 5.3E-05 | mg/kg-d | 3.0E-01 | mg/kg-d | 1.8E-04 |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 4.2E-02 | mg/kg | 4.8E-09 | mg/kg-d | 2.0E-05 | mg/kg-d | 2.4E-04 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | 2-METHYLNAPHTHALENE | 2.9E+00 | mg/kg | 3.3E-07 | mg/kg-d | 4.0E-03 | mg/kg-d | 8.3E-05 |
| | | | Ingestion | BENZO(A)ANTHRACENE | 3.2E+00 | mg/kg | 3.6E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(A)PYRENE | 2.8E+00 | mg/kg | 3.2E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.1E-03 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 4.6E+00 | mg/kg | 5.2E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 3.0E+00 | mg/kg | 3.4E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | CHRYSENE | 4.4E+00 | mg/kg | 4.9E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 1.4E+00 | mg/kg | 1.6E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 2.5E+00 | mg/kg | 2.9E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | NAPHTHALENE | 7.9E+00 | mg/kg | 8.9E-07 | mg/kg-d | 2.0E-02 | mg/kg-d | 4.5E-05 |
| | | | Ingestion | PENTACHLOROPHENOL | 3.0E-01 | mg/kg | 3.4E-08 | mg/kg-d | 5.0E-03 | mg/kg-d | 6.8E-06 |
| | | | Ingestion | **VOCs** | | | | | | | |
| | | | Ingestion | BENZENE | 2.0E-01 | mg/kg | 2.2E-08 | mg/kg-d | 4.0E-03 | mg/kg-d | 5.6E-06 |
| | | | Ingestion | ETHYLBENZENE | 3.9E+00 | mg/kg | 4.4E-07 | mg/kg-d | 1.0E-01 | mg/kg-d | 4.4E-06 |
| | | | Ingestion | XYLENES (TOTAL) | 3.5E+01 | mg/kg | 4.0E-06 | mg/kg-d | 2.0E-01 | mg/kg-d | 2.0E-05 |

**Table 7.8**
**Calculation of Chemical Non-cancer Hazards for Utility Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Utility Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | **TICs** | | | | | | | |
| | | | Ingestion | 1,2,4-TRIMETHYLBENZENE | 4.8E+02 | mg/kg | 5.4E-05 | mg/kg-d | 1.0E-02 | mg/kg-d | 5.4E-03 |
| | | | Ingestion | BENZENE, 1,2,3-TRIMETHYL- | 1.1E+02 | mg/kg | 1.3E-05 | mg/kg-d | 1.0E-02 | mg/kg-d | 1.3E-03 |
| | | | Ingestion | BENZENE, 1,3,5-TRIMETHYL- | 1.8E+02 | mg/kg | 2.0E-05 | mg/kg-d | 1.0E-02 | mg/kg-d | 2.0E-03 |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Ingestion]** | | | | | | | | **4.0E-02** |
| Soil | Soil (0-10 ft bgs) | SFA | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 2.7E+03 | mg/kg | NA | mg/kg-d | 1.0E+00 | mg/kg-d | NA |
| | | | Dermal | ANTIMONY | 5.1E+01 | mg/kg | NA | mg/kg-d | 6.0E-05 | mg/kg-d | NA |
| | | | Dermal | ARSENIC | 2.6E+01 | mg/kg | 2.8E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 9.3E-04 |
| | | | Dermal | BARIUM | 4.7E+02 | mg/kg | NA | mg/kg-d | 1.4E-02 | mg/kg-d | NA |
| | | | Dermal | CADMIUM | 4.7E-01 | mg/kg | 1.7E-10 | mg/kg-d | 2.5E-05 | mg/kg-d | 6.8E-06 |
| | | | Dermal | CHROMIUM, HEXAVALENT | 9.1E-01 | mg/kg | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA |
| | | | Dermal | COBALT | 1.8E+00 | mg/kg | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA |
| | | | Dermal | CYANIDE | 6.9E+00 | mg/kg | NA | mg/kg-d | 6.0E-04 | mg/kg-d | NA |
| | | | Dermal | IRON | 6.2E+03 | mg/kg | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA |
| | | | Dermal | LEAD | 9.1E+02 | mg/kg | NA | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | MANGANESE | 4.7E+01 | mg/kg | NA | mg/kg-d | 9.6E-04 | mg/kg-d | NA |
| | | | Dermal | MERCURY | 4.1E-01 | mg/kg | NA | mg/kg-d | 2.1E-05 | mg/kg-d | NA |
| | | | Dermal | THALLIUM | 4.7E-01 | mg/kg | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA |
| | | | Dermal | VANADIUM | 1.1E+01 | mg/kg | NA | mg/kg-d | 1.3E-04 | mg/kg-d | NA |
| | | | Dermal | ZINC | 4.7E+02 | mg/kg | NA | mg/kg-d | 3.0E-01 | mg/kg-d | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 4.2E-02 | mg/kg | 2.1E-09 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.1E-04 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | 2-METHYLNAPHTHALENE | 2.9E+00 | mg/kg | 1.4E-07 | mg/kg-d | 4.0E-03 | mg/kg-d | 3.4E-05 |
| | | | Dermal | BENZO(A)ANTHRACENE | 3.2E+00 | mg/kg | 1.5E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(A)PYRENE | 2.8E+00 | mg/kg | 1.3E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 4.4E-04 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 4.6E+00 | mg/kg | 2.1E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(K)FLUORANTHENE | 3.0E+00 | mg/kg | 1.4E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | CHRYSENE | 4.4E+00 | mg/kg | 2.1E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 1.4E+00 | mg/kg | 6.6E-08 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 2.5E+00 | mg/kg | 1.2E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | NAPHTHALENE | 7.9E+00 | mg/kg | 3.7E-07 | mg/kg-d | 2.0E-02 | mg/kg-d | 1.9E-05 |
| | | | Dermal | PENTACHLOROPHENOL | 3.0E-01 | mg/kg | 2.7E-08 | mg/kg-d | 5.0E-03 | mg/kg-d | 5.4E-06 |

**Table 7.8**
**Calculation of Chemical Non-cancer Hazards for Utility Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Utility Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | **VOCs** | | | | | | | |
| | | | Dermal | BENZENE | 2.0E-01 | mg/kg | NA | mg/kg-d | 4.0E-03 | mg/kg-d | NA |
| | | | Dermal | ETHYLBENZENE | 3.9E+00 | mg/kg | NA | mg/kg-d | 1.0E-01 | mg/kg-d | NA |
| | | | Dermal | XYLENES (TOTAL) | 3.5E+01 | mg/kg | NA | mg/kg-d | 2.0E-01 | mg/kg-d | NA |
| | | | Dermal | **TICs** | | | | | | | |
| | | | Dermal | 1,2,4-TRIMETHYLBENZENE | 4.8E+02 | mg/kg | NA | mg/kg-d | 1.0E-02 | mg/kg-d | NA |
| | | | Dermal | BENZENE, 1,2,3-TRIMETHYL- | 1.1E+02 | mg/kg | NA | mg/kg-d | 1.0E-02 | mg/kg-d | NA |
| | | | Dermal | BENZENE, 1,3,5-TRIMETHYL- | 1.8E+02 | mg/kg | NA | mg/kg-d | 1.0E-02 | mg/kg-d | NA |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Dermal]** | | | | | | | | **1.5E-03** |
| Soil | Particulates in Air | SFA | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ALUMINUM | 8.5E-07 | mg/m3 | 7.8E-09 | µg/m3 | 5.0E-03 | mg/m3 | 1.6E-06 |
| | | | Inhalation | ANTIMONY | 1.6E-08 | mg/m3 | 1.5E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | ARSENIC | 8.1E-09 | mg/m3 | 7.4E-11 | µg/m3 | 1.5E-05 | mg/m3 | 4.9E-06 |
| | | | Inhalation | BARIUM | 1.5E-07 | mg/m3 | 1.4E-09 | µg/m3 | 5.0E-04 | mg/m3 | 2.7E-06 |
| | | | Inhalation | CADMIUM | 1.5E-10 | mg/m3 | 1.3E-12 | µg/m3 | 1.0E-05 | mg/m3 | 1.3E-07 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.9E-10 | mg/m3 | 2.6E-12 | µg/m3 | 1.0E-04 | mg/m3 | 2.6E-08 |
| | | | Inhalation | COBALT | 5.8E-10 | mg/m3 | 5.3E-12 | µg/m3 | 6.0E-06 | mg/m3 | 8.8E-07 |
| | | | Inhalation | CYANIDE | 9.1E-05 | mg/m3 | 8.3E-07 | µg/m3 | 8.0E-04 | mg/m3 | 1.0E-03 |
| | | | Inhalation | IRON | 1.9E-06 | mg/m3 | 1.8E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | LEAD | 2.8E-07 | mg/m3 | 2.6E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | MANGANESE | 1.5E-08 | mg/m3 | 1.3E-10 | µg/m3 | 5.0E-05 | mg/m3 | 2.7E-06 |
| | | | Inhalation | MERCURY | 1.3E-10 | mg/m3 | 1.2E-12 | µg/m3 | 3.0E-04 | mg/m3 | 3.9E-09 |
| | | | Inhalation | THALLIUM | 1.5E-10 | mg/m3 | 1.3E-12 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | VANADIUM | 3.6E-09 | mg/m3 | 3.2E-11 | µg/m3 | 1.0E-04 | mg/m3 | 3.2E-07 |
| | | | Inhalation | ZINC | 1.5E-07 | mg/m3 | 1.3E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | AROCLOR-1254 | 3.9E-08 | mg/m3 | 3.6E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | 2-METHYLNAPHTHALENE | 3.9E-05 | mg/m3 | 3.6E-07 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(A)ANTHRACENE | 5.6E-07 | mg/m3 | 5.1E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(A)PYRENE | 8.8E-10 | mg/m3 | 8.0E-12 | µg/m3 | 2.0E-06 | mg/m3 | 4.0E-06 |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 1.4E-09 | mg/m3 | 1.3E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 9.3E-10 | mg/m3 | 8.5E-12 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CHRYSENE | 1.4E-09 | mg/m3 | 1.2E-11 | µg/m3 | NA | mg/m3 | NA |

**Table 7.8**
**Calculation of Chemical Non-cancer Hazards for Utility Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Utility Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 4.4E-10 | mg/m3 | 4.0E-12 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 7.9E-10 | mg/m3 | 7.2E-12 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | NAPHTHALENE | 1.3E-04 | mg/m3 | 1.2E-06 | µg/m3 | 3.0E-03 | mg/m3 | 4.1E-04 |
| | | | Inhalation | PENTACHLOROPHENOL | 9.3E-11 | mg/m3 | 8.5E-13 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **VOCs** | | | | | | | |
| | | | Inhalation | BENZENE | 4.4E-05 | mg/m3 | 4.0E-07 | µg/m3 | 3.0E-02 | mg/m3 | 1.3E-05 |
| | | | Inhalation | ETHYLBENZENE | 5.4E-04 | mg/m3 | 4.9E-06 | µg/m3 | 1.0E+00 | mg/m3 | 4.9E-06 |
| | | | Inhalation | XYLENES (TOTAL) | 4.8E-03 | mg/m3 | 4.4E-05 | µg/m3 | 1.0E-01 | mg/m3 | 4.4E-04 |
| | | | Inhalation | **TICs** | | | | | | | |
| | | | Inhalation | 1,2,4-TRIMETHYLBENZENE | 4.7E-02 | mg/m3 | 4.3E-04 | µg/m3 | 6.0E-02 | mg/m3 | 7.2E-03 |
| | | | Inhalation | BENZENE, 1,2,3-TRIMETHYL- | 9.2E-03 | mg/m3 | 8.4E-05 | µg/m3 | 6.0E-02 | mg/m3 | 1.4E-03 |
| | | | Inhalation | BENZENE, 1,3,5-TRIMETHYL- | 2.1E-02 | mg/m3 | 1.9E-04 | µg/m3 | 6.0E-02 | mg/m3 | 3.2E-03 |
| | | | **Exposure Route Total [Particulates in Air (soil 0-10)-Inhalation]** | | | | | | | | **1.4E-02** |
| **Exposure Point Total (SFA)** | | | | | | | | | | | **6E-02** |
| Soil | Soil (0-10 ft bgs) | UNDV | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.3E+03 | mg/kg | 3.8E-04 | mg/kg-d | 1.0E+00 | mg/kg-d | 3.8E-04 |
| | | | Ingestion | ANTIMONY | 7.2E+00 | mg/kg | 8.1E-07 | mg/kg-d | 4.0E-04 | mg/kg-d | 2.0E-03 |
| | | | Ingestion | ARSENIC | 1.7E+02 | mg/kg | 1.2E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 3.9E-02 |
| | | | Ingestion | BARIUM | 8.3E+02 | mg/kg | 9.4E-05 | mg/kg-d | 2.0E-01 | mg/kg-d | 4.7E-04 |
| | | | Ingestion | CADMIUM | 9.0E-01 | mg/kg | 1.0E-07 | mg/kg-d | 1.0E-03 | mg/kg-d | 1.0E-04 |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | 9.5E-08 | mg/kg-d | 3.0E-03 | mg/kg-d | 3.2E-05 |
| | | | Ingestion | COBALT | 4.2E+00 | mg/kg | 4.7E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.6E-03 |
| | | | Ingestion | COPPER | 8.3E+01 | mg/kg | 9.3E-06 | mg/kg-d | 4.0E-02 | mg/kg-d | 2.3E-04 |
| | | | Ingestion | CYANIDE | 4.7E+01 | mg/kg | 5.3E-06 | mg/kg-d | 6.0E-04 | mg/kg-d | 8.8E-03 |
| | | | Ingestion | IRON | 1.1E+04 | mg/kg | 1.3E-03 | mg/kg-d | 7.0E-01 | mg/kg-d | 1.8E-03 |
| | | | Ingestion | LEAD | 6.8E+02 | mg/kg | 7.7E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | MANGANESE | 1.5E+02 | mg/kg | 1.6E-05 | mg/kg-d | 2.4E-02 | mg/kg-d | 6.9E-04 |
| | | | Ingestion | MERCURY | 1.1E+00 | mg/kg | 1.3E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 4.2E-04 |
| | | | Ingestion | THALLIUM | 4.8E-01 | mg/kg | 5.4E-08 | mg/kg-d | 1.0E-05 | mg/kg-d | 5.4E-03 |
| | | | Ingestion | VANADIUM | 1.5E+01 | mg/kg | 1.6E-06 | mg/kg-d | 5.0E-03 | mg/kg-d | 3.3E-04 |
| | | | Ingestion | ZINC | 4.7E+02 | mg/kg | 5.3E-05 | mg/kg-d | 3.0E-01 | mg/kg-d | 1.8E-04 |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 6.2E-02 | mg/kg | 7.0E-09 | mg/kg-d | 2.0E-05 | mg/kg-d | 3.5E-04 |
| | | | Ingestion | AROCLOR-1260 | 2.7E-01 | mg/kg | 3.0E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.5E-03 |

**Table 7.8**
**Calculation of Chemical Non-cancer Hazards for Utility Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Utility Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | DIELDRIN | 6.4E-03 | mg/kg | 7.2E-10 | mg/kg-d | 5.0E-05 | mg/kg-d | 1.4E-05 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 2.1E+00 | mg/kg | 2.3E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(A)PYRENE | 2.5E+00 | mg/kg | 2.8E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 9.2E-04 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 3.7E+00 | mg/kg | 4.2E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 2.6E+00 | mg/kg | 2.9E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | CHRYSENE | 2.9E+00 | mg/kg | 3.3E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 3.9E-01 | mg/kg | 4.4E-08 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 1.6E+00 | mg/kg | 1.8E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | PENTACHLOROPHENOL | 2.4E+01 | mg/kg | 2.7E-06 | mg/kg-d | 5.0E-03 | mg/kg-d | 5.4E-04 |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Ingestion]** | | | | | | | | **6.4E-02** |
| Soil | Soil (0-10 ft bgs) | UNDV | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.3E+03 | mg/kg | NA | mg/kg-d | 1.0E+00 | mg/kg-d | NA |
| | | | Dermal | ANTIMONY | 7.2E+00 | mg/kg | NA | mg/kg-d | 6.0E-05 | mg/kg-d | NA |
| | | | Dermal | ARSENIC | 1.7E+02 | mg/kg | 1.9E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 6.2E-03 |
| | | | Dermal | BARIUM | 8.3E+02 | mg/kg | NA | mg/kg-d | 1.4E-02 | mg/kg-d | NA |
| | | | Dermal | CADMIUM | 9.0E-01 | mg/kg | 3.3E-10 | mg/kg-d | 2.5E-05 | mg/kg-d | 1.3E-05 |
| | | | Dermal | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA |
| | | | Dermal | COBALT | 4.2E+00 | mg/kg | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA |
| | | | Dermal | COPPER | 8.3E+01 | mg/kg | NA | mg/kg-d | 4.0E-02 | mg/kg-d | NA |
| | | | Dermal | CYANIDE | 4.7E+01 | mg/kg | NA | mg/kg-d | 6.0E-04 | mg/kg-d | NA |
| | | | Dermal | IRON | 1.1E+04 | mg/kg | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA |
| | | | Dermal | LEAD | 6.8E+02 | mg/kg | NA | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | MANGANESE | 1.5E+02 | mg/kg | NA | mg/kg-d | 9.6E-04 | mg/kg-d | NA |
| | | | Dermal | MERCURY | 1.1E+00 | mg/kg | NA | mg/kg-d | 2.1E-05 | mg/kg-d | NA |
| | | | Dermal | THALLIUM | 4.8E-01 | mg/kg | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA |
| | | | Dermal | VANADIUM | 1.5E+01 | mg/kg | NA | mg/kg-d | 1.3E-04 | mg/kg-d | NA |
| | | | Dermal | ZINC | 4.7E+02 | mg/kg | NA | mg/kg-d | 3.0E-01 | mg/kg-d | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 6.2E-02 | mg/kg | 3.1E-09 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.6E-04 |
| | | | Dermal | AROCLOR-1260 | 2.7E-01 | mg/kg | 1.3E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 6.7E-04 |
| | | | Dermal | DIELDRIN | 6.4E-03 | mg/kg | 2.3E-10 | mg/kg-d | 5.0E-05 | mg/kg-d | 4.6E-06 |

**Table 7.8**
**Calculation of Chemical Non-cancer Hazards for Utility Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Utility Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 2.1E+00 | mg/kg | 9.7E-08 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(A)PYRENE | 2.5E+00 | mg/kg | 1.2E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 3.8E-04 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 3.7E+00 | mg/kg | 1.8E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(K)FLUORANTHENE | 2.6E+00 | mg/kg | 1.2E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | CHRYSENE | 2.9E+00 | mg/kg | 1.4E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 3.9E-01 | mg/kg | 1.8E-08 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.6E+00 | mg/kg | 7.5E-08 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | PENTACHLOROPHENOL | 2.4E+01 | mg/kg | 2.1E-06 | mg/kg-d | 5.0E-03 | mg/kg-d | 4.3E-04 |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Dermal]** | | | | | | | | **7.9E-03** |
| Soil | Particulates in Air | UNDV | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ALUMINUM | 1.0E-06 | mg/m3 | 9.5E-09 | µg/m3 | 5.0E-03 | mg/m3 | 1.9E-06 |
| | | | Inhalation | ANTIMONY | 2.2E-09 | mg/m3 | 2.0E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | ARSENIC | 5.4E-08 | mg/m3 | 4.9E-10 | µg/m3 | 1.5E-05 | mg/m3 | 3.3E-05 |
| | | | Inhalation | BARIUM | 2.6E-07 | mg/m3 | 2.4E-09 | µg/m3 | 5.0E-04 | mg/m3 | 4.8E-06 |
| | | | Inhalation | CADMIUM | 2.8E-10 | mg/m3 | 2.6E-12 | µg/m3 | 1.0E-05 | mg/m3 | 2.6E-07 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.6E-10 | mg/m3 | 2.4E-12 | µg/m3 | 1.0E-04 | mg/m3 | 2.4E-08 |
| | | | Inhalation | COBALT | 1.3E-09 | mg/m3 | 1.2E-11 | µg/m3 | 6.0E-06 | mg/m3 | 2.0E-06 |
| | | | Inhalation | COPPER | 2.6E-08 | mg/m3 | 2.4E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CYANIDE | 6.2E-04 | mg/m3 | 5.7E-06 | µg/m3 | 8.0E-04 | mg/m3 | 7.1E-03 |
| | | | Inhalation | IRON | 3.5E-06 | mg/m3 | 3.2E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | LEAD | 2.1E-07 | mg/m3 | 1.9E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | MANGANESE | 4.5E-08 | mg/m3 | 4.2E-10 | µg/m3 | 5.0E-05 | mg/m3 | 8.3E-06 |
| | | | Inhalation | MERCURY | 3.5E-10 | mg/m3 | 3.2E-12 | µg/m3 | 3.0E-04 | mg/m3 | 1.1E-08 |
| | | | Inhalation | THALLIUM | 1.5E-10 | mg/m3 | 1.4E-12 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | VANADIUM | 4.6E-09 | mg/m3 | 4.2E-11 | µg/m3 | 1.0E-04 | mg/m3 | 4.2E-07 |
| | | | Inhalation | ZINC | 1.5E-07 | mg/m3 | 1.3E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | AROCLOR-1254 | 5.7E-08 | mg/m3 | 5.2E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | AROCLOR-1260 | 1.6E-07 | mg/m3 | 1.4E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIELDRIN | 2.0E-12 | mg/m3 | 1.8E-14 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | BENZO(A)ANTHRACENE | 3.7E-07 | mg/m3 | 3.3E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(A)PYRENE | 7.7E-10 | mg/m3 | 7.0E-12 | µg/m3 | 2.0E-06 | mg/m3 | 3.5E-06 |

**Table 7.8**
**Calculation of Chemical Non-cancer Hazards for Utility Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Utility Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 1.2E-09 | mg/m3 | 1.1E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 8.1E-10 | mg/m3 | 7.4E-12 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CHRYSENE | 9.2E-10 | mg/m3 | 8.4E-12 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 1.2E-10 | mg/m3 | 1.1E-12 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 5.0E-10 | mg/m3 | 4.6E-12 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | PENTACHLOROPHENOL | 7.4E-09 | mg/m3 | 6.8E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | **Exposure Route Total [Particulates in Air (soil 0-10)-Inhalation]** | | | | | | | | **7.1E-03** |
| **Exposure Point Total (UNDV)** | | | | | | | | | | | **8E-02** |

Notes:
NA – Not Available.

**Ingestion-Soil**

$$\text{Intake Factor (IF)} = \frac{IR \times FS \times EF \times ED \times CF}{BW \times AT} = 1.1E\text{-}07 \text{ (Adult)}$$

| | | |
|---|---|---|
| IR | Ingestion Rate (mg/day) | 330 |
| FS | Fraction from Contaminated Source | 1 |
| EF | Soil Ingestion Exposure Frequency (days/yr) | 10 |
| ED | Soil Ingestion Exposure Duration (yrs) | 25 |
| CF | Conversion Factor (kg/mg) | 0.000001 |
| BW | Body Weight (kg) | 80 |
| AT | Averaging Time (d) | 9,125 |

Intake = EPC x Bioavailability (B) x IF
(B) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

**Dermal-Soil**

$$\text{Intake Factor (IF)} = \frac{SA \times AF \times EF \times ED \times CF}{BW \times AT} = 3.6E\text{-}07 \text{ (Adult)}$$

| | | |
|---|---|---|
| SA | Surface Area Exposed to Soil ($cm^2$/day) | 3,527 |
| AF | Soil Skin Adherence Factor (mg/$cm^2$) | 0.3 |
| EF | Soil Dermal Exposure Frequency (days/yr) | 10 |
| ED | Soil Dermal Exposure Duration (yrs) | 25 |
| CF | Conversion Factor (kg/mg) | 0.000001 |
| BW | Body Weight (kg) | 80 |
| AT | Averaging Time (d) | 9,125 |

Intake = EPC x Dermal Absorption (ABS) x IF
(ABS) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

**Table 7.8**
**Calculation of Chemical Non-cancer Hazards for Utility Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Utility Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |

**Inhalation-Soil**

$$\text{Intake Factor (IF)} = \frac{EF \times ED \times ET \times CF}{AT} = 9.1E\text{-}03 \text{ (Adult)}$$

| | | |
|---|---|---|
| EF | Soil Exposure Frequency (days/yr) | 10 |
| ED | Soil Exposure Duration (yrs) | 25 |
| ET | Soil Exposure Time (hours/day) | 8 |
| CF | Conversion Factor (day/hour) | 0.042 |
| AT | Averaging Time (d) | 9,125 |

EPCair = EPCsoil x [1/Volatilization Factor (VF) + 1/Particulate Emissions Factor (PEF)]
Exposure = EPCair x IF
Non-cancer Hazard = Exposure/RfC

**Table 7.9**
**Calculation of Chemical Non-cancer Hazards for Construction Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| Soil | Soil (0-10 ft bgs) | EUSA | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ARSENIC | 2.4E+00 | mg/kg | 4.1E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.4E-02 |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 7.3E-01 | mg/kg | 2.0E-06 | mg/kg-d | 3.0E-03 | mg/kg-d | 6.8E-04 |
| | | | Ingestion | COBALT | 3.1E+00 | mg/kg | 8.6E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.9E-02 |
| | | | Ingestion | IRON | 6.6E+03 | mg/kg | 1.9E-02 | mg/kg-d | 7.0E-01 | mg/kg-d | 2.7E-02 |
| | | | Ingestion | THALLIUM | 3.3E-01 | mg/kg | 9.3E-07 | mg/kg-d | 1.0E-05 | mg/kg-d | 9.3E-02 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)PYRENE | 7.3E-02 | mg/kg | 2.1E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 6.9E-04 |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 2.1E-02 | mg/kg | 5.9E-08 | mg/kg-d | NA | mg/kg-d | NA |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Ingestion]** | | | | | | | | **1.6E-01** |
| Soil | Soil (0-10 ft bgs) | EUSA | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ARSENIC | 2.4E+00 | mg/kg | 6.6E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.2E-03 |
| | | | Dermal | CHROMIUM, HEXAVALENT | 7.3E-01 | mg/kg | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA |
| | | | Dermal | COBALT | 3.1E+00 | mg/kg | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA |
| | | | Dermal | IRON | 6.6E+03 | mg/kg | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA |
| | | | Dermal | THALLIUM | 3.3E-01 | mg/kg | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)PYRENE | 7.3E-02 | mg/kg | 8.6E-08 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.9E-04 |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 2.1E-02 | mg/kg | 2.5E-08 | mg/kg-d | NA | mg/kg-d | NA |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Dermal]** | | | | | | | | **2.5E-03** |
| Soil | Particulates in Air | EUSA | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ARSENIC | 7.5E-10 | mg/m3 | 1.7E-10 | µg/m3 | 1.5E-05 | mg/m3 | 1.1E-05 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.3E-10 | mg/m3 | 5.2E-11 | µg/m3 | 1.0E-04 | mg/m3 | 5.2E-07 |
| | | | Inhalation | COBALT | 9.5E-10 | mg/m3 | 2.2E-10 | µg/m3 | 6.0E-06 | mg/m3 | 3.6E-05 |
| | | | Inhalation | IRON | 2.1E-06 | mg/m3 | 4.7E-07 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | THALLIUM | 1.0E-10 | mg/m3 | 2.4E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | BENZO(A)PYRENE | 2.3E-11 | mg/m3 | 5.2E-12 | µg/m3 | 2.0E-06 | mg/m3 | 2.6E-06 |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 6.6E-12 | mg/m3 | 1.5E-12 | µg/m3 | NA | mg/m3 | NA |
| | | | **Exposure Route Total [Particulates in Air (soil 0-10)-Inhalation]** | | | | | | | | **5.1E-05** |
| **Exposure Point Total (EUSA)** | | | | | | | | | | | **2E-01** |
| Soil | Soil (0-10 ft bgs) | NFA | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.3E+03 | mg/kg | 9.4E-03 | mg/kg-d | 1.0E+00 | mg/kg-d | 9.4E-03 |
| | | | Ingestion | ANTIMONY | 1.3E+00 | mg/kg | 3.7E-06 | mg/kg-d | 4.0E-04 | mg/kg-d | 9.2E-03 |
| | | | Ingestion | ARSENIC | 2.3E+01 | mg/kg | 4.0E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.3E-01 |

**Table 7.9**
**Calculation of Chemical Non-cancer Hazards for Construction Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | BARIUM | 3.8E+02 | mg/kg | 1.1E-03 | mg/kg-d | 2.0E-01 | mg/kg-d | 5.4E-03 |
| | | | Ingestion | CADMIUM | 3.4E-01 | mg/kg | 9.5E-07 | mg/kg-d | 1.0E-03 | mg/kg-d | 9.5E-04 |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 3.5E+01 | mg/kg | 9.8E-05 | mg/kg-d | 3.0E-03 | mg/kg-d | 3.3E-02 |
| | | | Ingestion | COBALT | 1.8E+00 | mg/kg | 5.1E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.7E-02 |
| | | | Ingestion | COPPER | 2.5E+01 | mg/kg | 7.0E-05 | mg/kg-d | 4.0E-02 | mg/kg-d | 1.7E-03 |
| | | | Ingestion | CYANIDE | 4.6E+00 | mg/kg | 1.3E-05 | mg/kg-d | 6.0E-04 | mg/kg-d | 2.2E-02 |
| | | | Ingestion | IRON | 7.2E+03 | mg/kg | 2.0E-02 | mg/kg-d | 7.0E-01 | mg/kg-d | 2.9E-02 |
| | | | Ingestion | LEAD | 3.0E+02 | mg/kg | 8.4E-04 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | MANGANESE | 1.1E+02 | mg/kg | 3.0E-04 | mg/kg-d | 2.4E-02 | mg/kg-d | 1.2E-02 |
| | | | Ingestion | THALLIUM | 2.9E-01 | mg/kg | 8.1E-07 | mg/kg-d | 1.0E-05 | mg/kg-d | 8.1E-02 |
| | | | Ingestion | VANADIUM | 1.2E+01 | mg/kg | 3.4E-05 | mg/kg-d | 5.0E-03 | mg/kg-d | 6.8E-03 |
| | | | Ingestion | ZINC | 1.9E+02 | mg/kg | 5.4E-04 | mg/kg-d | 3.0E-01 | mg/kg-d | 1.8E-03 |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | ALDRIN | 1.2E-02 | mg/kg | 3.3E-08 | mg/kg-d | 3.0E-05 | mg/kg-d | 1.1E-03 |
| | | | Ingestion | AROCLOR-1254 | 2.7E-02 | mg/kg | 7.5E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 3.8E-03 |
| | | | Ingestion | AROCLOR-1260 | 2.5E+01 | mg/kg | 7.1E-05 | mg/kg-d | 2.0E-05 | mg/kg-d | 3.6E+00 |
| | | | Ingestion | DIELDRIN | 1.7E-02 | mg/kg | 4.9E-08 | mg/kg-d | 5.0E-05 | mg/kg-d | 9.8E-04 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | 1,1'-BIPHENYL | 6.2E-01 | mg/kg | 1.8E-06 | mg/kg-d | 5.0E-01 | mg/kg-d | 3.5E-06 |
| | | | Ingestion | 2-METHYLNAPHTHALENE | 4.4E+00 | mg/kg | 1.3E-05 | mg/kg-d | 4.0E-03 | mg/kg-d | 3.1E-03 |
| | | | Ingestion | BENZO(A)ANTHRACENE | 2.4E+00 | mg/kg | 6.7E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(A)PYRENE | 2.1E+00 | mg/kg | 6.0E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.0E-02 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 2.3E+00 | mg/kg | 6.4E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 1.6E+00 | mg/kg | 4.5E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | CARBAZOLE | 8.9E-01 | mg/kg | 2.5E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | CHRYSENE | 2.3E+00 | mg/kg | 6.6E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 4.5E-01 | mg/kg | 1.3E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | DIBENZOFURAN | 7.9E-01 | mg/kg | 2.2E-06 | mg/kg-d | 1.0E-03 | mg/kg-d | 2.2E-03 |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 1.2E+00 | mg/kg | 3.3E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | NAPHTHALENE | 1.1E+01 | mg/kg | 3.2E-05 | mg/kg-d | 2.0E-02 | mg/kg-d | 1.6E-03 |
| | | | Ingestion | **VOCs** | | | | | | | |
| | | | Ingestion | BENZENE | 3.7E-02 | mg/kg | 1.1E-07 | mg/kg-d | 4.0E-03 | mg/kg-d | 2.6E-05 |
| | | | Ingestion | ETHYLBENZENE | 2.5E+01 | mg/kg | 7.1E-05 | mg/kg-d | 1.0E-01 | mg/kg-d | 7.1E-04 |
| | | | Ingestion | METHYLCYCLOHEXANE | 2.9E+03 | mg/kg | 8.2E-03 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | TRICHLOROETHYLENE (TCE) | 3.5E-02 | mg/kg | 9.8E-08 | mg/kg-d | 5.0E-04 | mg/kg-d | 2.0E-04 |

**Table 7.9**
**Calculation of Chemical Non-cancer Hazards for Construction Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | XYLENES (TOTAL) | 4.1E+02 | mg/kg | 1.2E-03 | mg/kg-d | 2.0E-01 | mg/kg-d | 5.8E-03 |
| | | | Ingestion | **TICs** | | | | | | | |
| | | | Ingestion | 1,2,4-TRIMETHYLBENZENE | 1.6E+02 | mg/kg | 4.4E-04 | mg/kg-d | 1.0E-02 | mg/kg-d | 4.4E-02 |
| | | | Ingestion | BENZENE, 1,2,3-TRIMETHYL- | 1.7E+02 | mg/kg | 4.8E-04 | mg/kg-d | 1.0E-02 | mg/kg-d | 4.8E-02 |
| | | | Ingestion | BENZENE, 1,3,5-TRIMETHYL- | 3.7E+02 | mg/kg | 1.0E-03 | mg/kg-d | 1.0E-02 | mg/kg-d | 1.0E-01 |
| | | | Ingestion | NAPHTHALENE, 1-METHYL- | 4.1E+00 | mg/kg | 1.1E-05 | mg/kg-d | 7.0E-02 | mg/kg-d | 1.6E-04 |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Ingestion]** | | | | | | | | **4.2E+00** |
| Soil | Soil (0-10 ft bgs) | NFA | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.3E+03 | mg/kg | NA | mg/kg-d | 1.0E+00 | mg/kg-d | NA |
| | | | Dermal | ANTIMONY | 1.3E+00 | mg/kg | NA | mg/kg-d | 6.0E-05 | mg/kg-d | NA |
| | | | Dermal | ARSENIC | 2.3E+01 | mg/kg | 6.4E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.1E-02 |
| | | | Dermal | BARIUM | 3.8E+02 | mg/kg | NA | mg/kg-d | 1.4E-02 | mg/kg-d | NA |
| | | | Dermal | CADMIUM | 3.4E-01 | mg/kg | 3.0E-09 | mg/kg-d | 2.5E-05 | mg/kg-d | 1.2E-04 |
| | | | Dermal | CHROMIUM, HEXAVALENT | 3.5E+01 | mg/kg | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA |
| | | | Dermal | COBALT | 1.8E+00 | mg/kg | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA |
| | | | Dermal | COPPER | 2.5E+01 | mg/kg | NA | mg/kg-d | 4.0E-02 | mg/kg-d | NA |
| | | | Dermal | CYANIDE | 4.6E+00 | mg/kg | NA | mg/kg-d | 6.0E-04 | mg/kg-d | NA |
| | | | Dermal | IRON | 7.2E+03 | mg/kg | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA |
| | | | Dermal | LEAD | 3.0E+02 | mg/kg | NA | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | MANGANESE | 1.1E+02 | mg/kg | NA | mg/kg-d | 9.6E-04 | mg/kg-d | NA |
| | | | Dermal | THALLIUM | 2.9E-01 | mg/kg | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA |
| | | | Dermal | VANADIUM | 1.2E+01 | mg/kg | NA | mg/kg-d | 1.3E-04 | mg/kg-d | NA |
| | | | Dermal | ZINC | 1.9E+02 | mg/kg | NA | mg/kg-d | 3.0E-01 | mg/kg-d | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | ALDRIN | 1.2E-02 | mg/kg | NA | mg/kg-d | 3.0E-05 | mg/kg-d | NA |
| | | | Dermal | AROCLOR-1254 | 2.7E-02 | mg/kg | 3.4E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.7E-03 |
| | | | Dermal | AROCLOR-1260 | 2.5E+01 | mg/kg | 3.2E-05 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.6E+00 |
| | | | Dermal | DIELDRIN | 1.7E-02 | mg/kg | 1.6E-08 | mg/kg-d | 5.0E-05 | mg/kg-d | 3.1E-04 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | 1,1'-BIPHENYL | 6.2E-01 | mg/kg | NA | mg/kg-d | 5.0E-01 | mg/kg-d | NA |
| | | | Dermal | 2-METHYLNAPHTHALENE | 4.4E+00 | mg/kg | 5.2E-06 | mg/kg-d | 4.0E-03 | mg/kg-d | 1.3E-03 |
| | | | Dermal | BENZO(A)ANTHRACENE | 2.4E+00 | mg/kg | 2.8E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(A)PYRENE | 2.1E+00 | mg/kg | 2.5E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 8.4E-03 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 2.3E+00 | mg/kg | 2.7E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(K)FLUORANTHENE | 1.6E+00 | mg/kg | 1.9E-06 | mg/kg-d | NA | mg/kg-d | NA |

**Table 7.9**
**Calculation of Chemical Non-cancer Hazards for Construction Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | CARBAZOLE | 8.9E-01 | mg/kg | NA | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | CHRYSENE | 2.3E+00 | mg/kg | 2.7E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 4.5E-01 | mg/kg | 5.3E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | DIBENZOFURAN | 7.9E-01 | mg/kg | 2.1E-07 | mg/kg-d | 1.0E-03 | mg/kg-d | 2.1E-04 |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.2E+00 | mg/kg | 1.4E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | NAPHTHALENE | 1.1E+01 | mg/kg | 1.3E-05 | mg/kg-d | 2.0E-02 | mg/kg-d | 6.6E-04 |
| | | | Dermal | **VOCs** | | | | | | | |
| | | | Dermal | BENZENE | 3.7E-02 | mg/kg | NA | mg/kg-d | 4.0E-03 | mg/kg-d | NA |
| | | | Dermal | ETHYLBENZENE | 2.5E+01 | mg/kg | NA | mg/kg-d | 1.0E-01 | mg/kg-d | NA |
| | | | Dermal | METHYLCYCLOHEXANE | 2.9E+03 | mg/kg | NA | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | TRICHLOROETHYLENE (TCE) | 3.5E-02 | mg/kg | NA | mg/kg-d | 5.0E-04 | mg/kg-d | NA |
| | | | Dermal | XYLENES (TOTAL) | 4.1E+02 | mg/kg | NA | mg/kg-d | 2.0E-01 | mg/kg-d | NA |
| | | | Dermal | **TICs** | | | | | | | |
| | | | Dermal | 1,2,4-TRIMETHYLBENZENE | 1.6E+02 | mg/kg | NA | mg/kg-d | 1.0E-02 | mg/kg-d | NA |
| | | | Dermal | BENZENE, 1,2,3-TRIMETHYL- | 1.7E+02 | mg/kg | NA | mg/kg-d | 1.0E-02 | mg/kg-d | NA |
| | | | Dermal | BENZENE, 1,3,5-TRIMETHYL- | 3.7E+02 | mg/kg | NA | mg/kg-d | 1.0E-02 | mg/kg-d | NA |
| | | | Dermal | NAPHTHALENE, 1-METHYL- | 4.1E+00 | mg/kg | 4.8E-06 | mg/kg-d | 7.0E-02 | mg/kg-d | 6.8E-05 |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Dermal]** | | | | | | | | **1.6E+00** |
| Soil | Particulates in Air | NFA | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ALUMINUM | 1.0E-06 | mg/m3 | 2.4E-07 | µg/m3 | 5.0E-03 | mg/m3 | 4.8E-05 |
| | | | Inhalation | ANTIMONY | 4.1E-10 | mg/m3 | 9.3E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | ARSENIC | 7.3E-09 | mg/m3 | 1.7E-09 | µg/m3 | 1.5E-05 | mg/m3 | 1.1E-04 |
| | | | Inhalation | BARIUM | 1.2E-07 | mg/m3 | 2.7E-08 | µg/m3 | 5.0E-04 | mg/m3 | 5.4E-05 |
| | | | Inhalation | CADMIUM | 1.1E-10 | mg/m3 | 2.4E-11 | µg/m3 | 1.0E-05 | mg/m3 | 2.4E-06 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 1.1E-08 | mg/m3 | 2.5E-09 | µg/m3 | 1.0E-04 | mg/m3 | 2.5E-05 |
| | | | Inhalation | COBALT | 5.7E-10 | mg/m3 | 1.3E-10 | µg/m3 | 6.0E-06 | mg/m3 | 2.2E-05 |
| | | | Inhalation | COPPER | 7.7E-09 | mg/m3 | 1.8E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CYANIDE | 6.1E-05 | mg/m3 | 1.4E-05 | µg/m3 | 8.0E-04 | mg/m3 | 1.7E-02 |
| | | | Inhalation | IRON | 2.2E-06 | mg/m3 | 5.1E-07 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | LEAD | 9.2E-08 | mg/m3 | 2.1E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | MANGANESE | 3.3E-08 | mg/m3 | 7.6E-09 | µg/m3 | 5.0E-05 | mg/m3 | 1.5E-04 |
| | | | Inhalation | THALLIUM | 8.9E-11 | mg/m3 | 2.0E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | VANADIUM | 3.8E-09 | mg/m3 | 8.6E-10 | µg/m3 | 1.0E-04 | mg/m3 | 8.6E-06 |
| | | | Inhalation | ZINC | 5.9E-08 | mg/m3 | 1.4E-08 | µg/m3 | NA | mg/m3 | NA |

**Table 7.9**
**Calculation of Chemical Non-cancer Hazards for Construction Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | ALDRIN | 5.4E-09 | mg/m3 | 1.2E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | AROCLOR-1254 | 2.5E-08 | mg/m3 | 5.6E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | AROCLOR-1260 | 1.5E-05 | mg/m3 | 3.4E-06 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIELDRIN | 5.4E-12 | mg/m3 | 1.2E-12 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | 1,1'-BIPHENYL | 4.3E-06 | mg/m3 | 9.8E-07 | µg/m3 | 4.0E-04 | mg/m3 | 2.4E-03 |
| | | | Inhalation | 2-METHYLNAPHTHALENE | 6.0E-05 | mg/m3 | 1.4E-05 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(A)ANTHRACENE | 4.2E-07 | mg/m3 | 9.6E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(A)PYRENE | 6.7E-10 | mg/m3 | 1.5E-10 | µg/m3 | 2.0E-06 | mg/m3 | 7.6E-05 |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 7.1E-10 | mg/m3 | 1.6E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 5.0E-10 | mg/m3 | 1.1E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CARBAZOLE | 2.8E-10 | mg/m3 | 6.4E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CHRYSENE | 7.3E-10 | mg/m3 | 1.7E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 1.4E-10 | mg/m3 | 3.2E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIBENZOFURAN | 3.1E-06 | mg/m3 | 7.1E-07 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 3.6E-10 | mg/m3 | 8.3E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | NAPHTHALENE | 1.9E-04 | mg/m3 | 4.3E-05 | µg/m3 | 3.0E-03 | mg/m3 | 1.4E-02 |
| | | | Inhalation | **VOCs** | | | | | | | |
| | | | Inhalation | BENZENE | 8.2E-06 | mg/m3 | 1.9E-06 | µg/m3 | 3.0E-02 | mg/m3 | 6.2E-05 |
| | | | Inhalation | ETHYLBENZENE | 3.5E-03 | mg/m3 | 7.9E-04 | µg/m3 | 1.0E+00 | mg/m3 | 7.9E-04 |
| | | | Inhalation | METHYLCYCLOHEXANE | 2.2E+00 | mg/m3 | 5.0E-01 | µg/m3 | 6.0E+00 | mg/m3 | 8.3E-02 |
| | | | Inhalation | TRICHLOROETHYLENE (TCE) | 1.2E-05 | mg/m3 | 2.8E-06 | µg/m3 | 2.0E-03 | mg/m3 | 1.4E-03 |
| | | | Inhalation | XYLENES (TOTAL) | 5.6E-02 | mg/m3 | 1.3E-02 | µg/m3 | 1.0E-01 | mg/m3 | 1.3E-01 |
| | | | Inhalation | **TICs** | | | | | | | |
| | | | Inhalation | 1,2,4-TRIMETHYLBENZENE | 1.5E-02 | mg/m3 | 3.5E-03 | µg/m3 | 6.0E-02 | mg/m3 | 5.9E-02 |
| | | | Inhalation | BENZENE, 1,2,3-TRIMETHYL- | 1.4E-02 | mg/m3 | 3.2E-03 | µg/m3 | 6.0E-02 | mg/m3 | 5.3E-02 |
| | | | Inhalation | BENZENE, 1,3,5-TRIMETHYL- | 4.4E-02 | mg/m3 | 1.0E-02 | µg/m3 | 6.0E-02 | mg/m3 | 1.7E-01 |
| | | | Inhalation | NAPHTHALENE, 1-METHYL- | 5.4E-05 | mg/m3 | 1.2E-05 | µg/m3 | NA | mg/m3 | NA |
| | | | **Exposure Route Total [Particulates in Air (soil 0-10)-Inhalation]** | | | | | | | | **5.2E-01** |
| **Exposure Point Total (NFA)** | | | | | | | | | | | **6E+00** |
| Soil | Soil (0-10 ft bgs) | SFA | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 2.7E+03 | mg/kg | 7.7E-03 | mg/kg-d | 1.0E+00 | mg/kg-d | 7.7E-03 |
| | | | Ingestion | ANTIMONY | 5.1E+01 | mg/kg | 1.4E-04 | mg/kg-d | 4.0E-04 | mg/kg-d | 3.6E-01 |
| | | | Ingestion | ARSENIC | 2.6E+01 | mg/kg | 4.4E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.5E-01 |

**Table 7.9**
**Calculation of Chemical Non-cancer Hazards for Construction Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | BARIUM | 4.7E+02 | mg/kg | 1.3E-03 | mg/kg-d | 2.0E-01 | mg/kg-d | 6.7E-03 |
| | | | Ingestion | CADMIUM | 4.7E-01 | mg/kg | 1.3E-06 | mg/kg-d | 1.0E-03 | mg/kg-d | 1.3E-03 |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 9.1E-01 | mg/kg | 2.6E-06 | mg/kg-d | 3.0E-03 | mg/kg-d | 8.6E-04 |
| | | | Ingestion | COBALT | 1.8E+00 | mg/kg | 5.2E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.7E-02 |
| | | | Ingestion | CYANIDE | 6.9E+00 | mg/kg | 1.9E-05 | mg/kg-d | 6.0E-04 | mg/kg-d | 3.2E-02 |
| | | | Ingestion | IRON | 6.2E+03 | mg/kg | 1.8E-02 | mg/kg-d | 7.0E-01 | mg/kg-d | 2.5E-02 |
| | | | Ingestion | LEAD | 9.1E+02 | mg/kg | 2.6E-03 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | MANGANESE | 4.7E+01 | mg/kg | 1.3E-04 | mg/kg-d | 2.4E-02 | mg/kg-d | 5.5E-03 |
| | | | Ingestion | MERCURY | 4.1E-01 | mg/kg | 1.2E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 3.9E-03 |
| | | | Ingestion | THALLIUM | 4.7E-01 | mg/kg | 1.3E-06 | mg/kg-d | 1.0E-05 | mg/kg-d | 1.3E-01 |
| | | | Ingestion | VANADIUM | 1.1E+01 | mg/kg | 3.2E-05 | mg/kg-d | 5.0E-03 | mg/kg-d | 6.4E-03 |
| | | | Ingestion | ZINC | 4.7E+02 | mg/kg | 1.3E-03 | mg/kg-d | 3.0E-01 | mg/kg-d | 4.4E-03 |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 4.2E-02 | mg/kg | 1.2E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 6.0E-03 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | 2-METHYLNAPHTHALENE | 2.9E+00 | mg/kg | 8.3E-06 | mg/kg-d | 4.0E-03 | mg/kg-d | 2.1E-03 |
| | | | Ingestion | BENZO(A)ANTHRACENE | 3.2E+00 | mg/kg | 8.9E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(A)PYRENE | 2.8E+00 | mg/kg | 8.0E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.7E-02 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 4.6E+00 | mg/kg | 1.3E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 3.0E+00 | mg/kg | 8.4E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | CHRYSENE | 4.4E+00 | mg/kg | 1.2E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 1.4E+00 | mg/kg | 4.0E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 2.5E+00 | mg/kg | 7.2E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | NAPHTHALENE | 7.9E+00 | mg/kg | 2.2E-05 | mg/kg-d | 2.0E-02 | mg/kg-d | 1.1E-03 |
| | | | Ingestion | PENTACHLOROPHENOL | 3.0E-01 | mg/kg | 8.4E-07 | mg/kg-d | 5.0E-03 | mg/kg-d | 1.7E-04 |
| | | | Ingestion | **VOCs** | | | | | | | |
| | | | Ingestion | BENZENE | 2.0E-01 | mg/kg | 5.6E-07 | mg/kg-d | 4.0E-03 | mg/kg-d | 1.4E-04 |
| | | | Ingestion | ETHYLBENZENE | 3.9E+00 | mg/kg | 1.1E-05 | mg/kg-d | 1.0E-01 | mg/kg-d | 1.1E-04 |
| | | | Ingestion | XYLENES (TOTAL) | 3.5E+01 | mg/kg | 9.9E-05 | mg/kg-d | 2.0E-01 | mg/kg-d | 5.0E-04 |
| | | | Ingestion | **TICs** | | | | | | | |
| | | | Ingestion | 1,2,4-TRIMETHYLBENZENE | 4.8E+02 | mg/kg | 1.4E-03 | mg/kg-d | 1.0E-02 | mg/kg-d | 1.4E-01 |
| | | | Ingestion | BENZENE, 1,2,3-TRIMETHYL- | 1.1E+02 | mg/kg | 3.1E-04 | mg/kg-d | 1.0E-02 | mg/kg-d | 3.1E-02 |
| | | | Ingestion | BENZENE, 1,3,5-TRIMETHYL- | 1.8E+02 | mg/kg | 5.1E-04 | mg/kg-d | 1.0E-02 | mg/kg-d | 5.1E-02 |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Ingestion]** | | | | | | | | **1.0E+00** |

**Table 7.9**
**Calculation of Chemical Non-cancer Hazards for Construction Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| Soil | Soil (0-10 ft bgs) | SFA | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 2.7E+03 | mg/kg | NA | mg/kg-d | 1.0E+00 | mg/kg-d | NA |
| | | | Dermal | ANTIMONY | 5.1E+01 | mg/kg | NA | mg/kg-d | 6.0E-05 | mg/kg-d | NA |
| | | | Dermal | ARSENIC | 2.6E+01 | mg/kg | 7.0E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.3E-02 |
| | | | Dermal | BARIUM | 4.7E+02 | mg/kg | NA | mg/kg-d | 1.4E-02 | mg/kg-d | NA |
| | | | Dermal | CADMIUM | 4.7E-01 | mg/kg | 4.3E-09 | mg/kg-d | 2.5E-05 | mg/kg-d | 1.7E-04 |
| | | | Dermal | CHROMIUM, HEXAVALENT | 9.1E-01 | mg/kg | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA |
| | | | Dermal | COBALT | 1.8E+00 | mg/kg | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA |
| | | | Dermal | CYANIDE | 6.9E+00 | mg/kg | NA | mg/kg-d | 6.0E-04 | mg/kg-d | NA |
| | | | Dermal | IRON | 6.2E+03 | mg/kg | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA |
| | | | Dermal | LEAD | 9.1E+02 | mg/kg | NA | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | MANGANESE | 4.7E+01 | mg/kg | NA | mg/kg-d | 9.6E-04 | mg/kg-d | NA |
| | | | Dermal | MERCURY | 4.1E-01 | mg/kg | NA | mg/kg-d | 2.1E-05 | mg/kg-d | NA |
| | | | Dermal | THALLIUM | 4.7E-01 | mg/kg | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA |
| | | | Dermal | VANADIUM | 1.1E+01 | mg/kg | NA | mg/kg-d | 1.3E-04 | mg/kg-d | NA |
| | | | Dermal | ZINC | 4.7E+02 | mg/kg | NA | mg/kg-d | 3.0E-01 | mg/kg-d | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 4.2E-02 | mg/kg | 5.4E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 2.7E-03 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | 2-METHYLNAPHTHALENE | 2.9E+00 | mg/kg | 3.4E-06 | mg/kg-d | 4.0E-03 | mg/kg-d | 8.6E-04 |
| | | | Dermal | BENZO(A)ANTHRACENE | 3.2E+00 | mg/kg | 3.7E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(A)PYRENE | 2.8E+00 | mg/kg | 3.3E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.1E-02 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 4.6E+00 | mg/kg | 5.4E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(K)FLUORANTHENE | 3.0E+00 | mg/kg | 3.5E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | CHRYSENE | 4.4E+00 | mg/kg | 5.1E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 1.4E+00 | mg/kg | 1.7E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 2.5E+00 | mg/kg | 3.0E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | NAPHTHALENE | 7.9E+00 | mg/kg | 9.3E-06 | mg/kg-d | 2.0E-02 | mg/kg-d | 4.7E-04 |
| | | | Dermal | PENTACHLOROPHENOL | 3.0E-01 | mg/kg | 6.8E-07 | mg/kg-d | 5.0E-03 | mg/kg-d | 1.4E-04 |
| | | | Dermal | **VOCs** | | | | | | | |
| | | | Dermal | BENZENE | 2.0E-01 | mg/kg | NA | mg/kg-d | 4.0E-03 | mg/kg-d | NA |
| | | | Dermal | ETHYLBENZENE | 3.9E+00 | mg/kg | NA | mg/kg-d | 1.0E-01 | mg/kg-d | NA |
| | | | Dermal | XYLENES (TOTAL) | 3.5E+01 | mg/kg | NA | mg/kg-d | 2.0E-01 | mg/kg-d | NA |

**Table 7.9**
**Calculation of Chemical Non-cancer Hazards for Construction Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | **TICs** | | | | | | | |
| | | | Dermal | 1,2,4-TRIMETHYLBENZENE | 4.8E+02 | mg/kg | NA | mg/kg-d | 1.0E-02 | mg/kg-d | NA |
| | | | Dermal | BENZENE, 1,2,3-TRIMETHYL- | 1.1E+02 | mg/kg | NA | mg/kg-d | 1.0E-02 | mg/kg-d | NA |
| | | | Dermal | BENZENE, 1,3,5-TRIMETHYL- | 1.8E+02 | mg/kg | NA | mg/kg-d | 1.0E-02 | mg/kg-d | NA |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Dermal]** | | | | | | | | **3.9E-02** |
| Soil | Particulates in Air | SFA | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ALUMINUM | 8.5E-07 | mg/m3 | 1.9E-07 | µg/m3 | 5.0E-03 | mg/m3 | 3.9E-05 |
| | | | Inhalation | ANTIMONY | 1.6E-08 | mg/m3 | 3.7E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | ARSENIC | 8.1E-09 | mg/m3 | 1.8E-09 | µg/m3 | 1.5E-05 | mg/m3 | 1.2E-04 |
| | | | Inhalation | BARIUM | 1.5E-07 | mg/m3 | 3.4E-08 | µg/m3 | 5.0E-04 | mg/m3 | 6.8E-05 |
| | | | Inhalation | CADMIUM | 1.5E-10 | mg/m3 | 3.4E-11 | µg/m3 | 1.0E-05 | mg/m3 | 3.4E-06 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.9E-10 | mg/m3 | 6.5E-11 | µg/m3 | 1.0E-04 | mg/m3 | 6.5E-07 |
| | | | Inhalation | COBALT | 5.8E-10 | mg/m3 | 1.3E-10 | µg/m3 | 6.0E-06 | mg/m3 | 2.2E-05 |
| | | | Inhalation | CYANIDE | 9.1E-05 | mg/m3 | 2.1E-05 | µg/m3 | 8.0E-04 | mg/m3 | 2.6E-02 |
| | | | Inhalation | IRON | 1.9E-06 | mg/m3 | 4.4E-07 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | LEAD | 2.8E-07 | mg/m3 | 6.5E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | MANGANESE | 1.5E-08 | mg/m3 | 3.3E-09 | µg/m3 | 5.0E-05 | mg/m3 | 6.7E-05 |
| | | | Inhalation | MERCURY | 1.3E-10 | mg/m3 | 3.0E-11 | µg/m3 | 3.0E-04 | mg/m3 | 9.8E-08 |
| | | | Inhalation | THALLIUM | 1.5E-10 | mg/m3 | 3.4E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | VANADIUM | 3.6E-09 | mg/m3 | 8.1E-10 | µg/m3 | 1.0E-04 | mg/m3 | 8.1E-06 |
| | | | Inhalation | ZINC | 1.5E-07 | mg/m3 | 3.4E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | AROCLOR-1254 | 3.9E-08 | mg/m3 | 8.9E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | 2-METHYLNAPHTHALENE | 3.9E-05 | mg/m3 | 9.0E-06 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(A)ANTHRACENE | 5.6E-07 | mg/m3 | 1.3E-07 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(A)PYRENE | 8.8E-10 | mg/m3 | 2.0E-10 | µg/m3 | 2.0E-06 | mg/m3 | 1.0E-04 |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 1.4E-09 | mg/m3 | 3.3E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 9.3E-10 | mg/m3 | 2.1E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CHRYSENE | 1.4E-09 | mg/m3 | 3.1E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 4.4E-10 | mg/m3 | 1.0E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 7.9E-10 | mg/m3 | 1.8E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | NAPHTHALENE | 1.3E-04 | mg/m3 | 3.0E-05 | µg/m3 | 3.0E-03 | mg/m3 | 1.0E-02 |
| | | | Inhalation | PENTACHLOROPHENOL | 9.3E-11 | mg/m3 | 2.1E-11 | µg/m3 | NA | mg/m3 | NA |

**Table 7.9**
**Calculation of Chemical Non-cancer Hazards for Construction Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | **VOCs** | | | | | | | |
| | | | Inhalation | BENZENE | 4.4E-05 | mg/m3 | 1.0E-05 | µg/m3 | 3.0E-02 | mg/m3 | 3.3E-04 |
| | | | Inhalation | ETHYLBENZENE | 5.4E-04 | mg/m3 | 1.2E-04 | µg/m3 | 1.0E+00 | mg/m3 | 1.2E-04 |
| | | | Inhalation | XYLENES (TOTAL) | 4.8E-03 | mg/m3 | 1.1E-03 | µg/m3 | 1.0E-01 | mg/m3 | 1.1E-02 |
| | | | Inhalation | **TICs** | | | | | | | |
| | | | Inhalation | 1,2,4-TRIMETHYLBENZENE | 4.7E-02 | mg/m3 | 1.1E-02 | µg/m3 | 6.0E-02 | mg/m3 | 1.8E-01 |
| | | | Inhalation | BENZENE, 1,2,3-TRIMETHYL- | 9.2E-03 | mg/m3 | 2.1E-03 | µg/m3 | 6.0E-02 | mg/m3 | 3.5E-02 |
| | | | Inhalation | BENZENE, 1,3,5-TRIMETHYL- | 2.1E-02 | mg/m3 | 4.9E-03 | µg/m3 | 6.0E-02 | mg/m3 | 8.1E-02 |
| | | | **Exposure Route Total [Particulates in Air (soil 0-10)-Inhalation]** | | | | | | | | **3.4E-01** |
| **Exposure Point Total (SFA)** | | | | | | | | | | | **1E+00** |
| Soil | Soil (0-10 ft bgs) | UNDV | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.3E+03 | mg/kg | 9.4E-03 | mg/kg-d | 1.0E+00 | mg/kg-d | 9.4E-03 |
| | | | Ingestion | ANTIMONY | 7.2E+00 | mg/kg | 2.0E-05 | mg/kg-d | 4.0E-04 | mg/kg-d | 5.1E-02 |
| | | | Ingestion | ARSENIC | 1.7E+02 | mg/kg | 2.9E-04 | mg/kg-d | 3.0E-04 | mg/kg-d | 9.7E-01 |
| | | | Ingestion | BARIUM | 8.3E+02 | mg/kg | 2.4E-03 | mg/kg-d | 2.0E-01 | mg/kg-d | 1.2E-02 |
| | | | Ingestion | CADMIUM | 9.0E-01 | mg/kg | 2.6E-06 | mg/kg-d | 1.0E-03 | mg/kg-d | 2.6E-03 |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | 2.4E-06 | mg/kg-d | 3.0E-03 | mg/kg-d | 7.9E-04 |
| | | | Ingestion | COBALT | 4.2E+00 | mg/kg | 1.2E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 3.9E-02 |
| | | | Ingestion | COPPER | 8.3E+01 | mg/kg | 2.3E-04 | mg/kg-d | 4.0E-02 | mg/kg-d | 5.8E-03 |
| | | | Ingestion | CYANIDE | 4.7E+01 | mg/kg | 1.3E-04 | mg/kg-d | 6.0E-04 | mg/kg-d | 2.2E-01 |
| | | | Ingestion | IRON | 1.1E+04 | mg/kg | 3.2E-02 | mg/kg-d | 7.0E-01 | mg/kg-d | 4.5E-02 |
| | | | Ingestion | LEAD | 6.8E+02 | mg/kg | 1.9E-03 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | MANGANESE | 1.5E+02 | mg/kg | 4.1E-04 | mg/kg-d | 2.4E-02 | mg/kg-d | 1.7E-02 |
| | | | Ingestion | MERCURY | 1.1E+00 | mg/kg | 3.1E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.0E-02 |
| | | | Ingestion | THALLIUM | 4.8E-01 | mg/kg | 1.3E-06 | mg/kg-d | 1.0E-05 | mg/kg-d | 1.3E-01 |
| | | | Ingestion | VANADIUM | 1.5E+01 | mg/kg | 4.1E-05 | mg/kg-d | 5.0E-03 | mg/kg-d | 8.2E-03 |
| | | | Ingestion | ZINC | 4.7E+02 | mg/kg | 1.3E-03 | mg/kg-d | 3.0E-01 | mg/kg-d | 4.4E-03 |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 6.2E-02 | mg/kg | 1.8E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 8.8E-03 |
| | | | Ingestion | AROCLOR-1260 | 2.7E-01 | mg/kg | 7.5E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 3.7E-02 |
| | | | Ingestion | DIELDRIN | 6.4E-03 | mg/kg | 1.8E-08 | mg/kg-d | 5.0E-05 | mg/kg-d | 3.6E-04 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 2.1E+00 | mg/kg | 5.8E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(A)PYRENE | 2.5E+00 | mg/kg | 6.9E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.3E-02 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 3.7E+00 | mg/kg | 1.1E-05 | mg/kg-d | NA | mg/kg-d | NA |

**Table 7.9**
**Calculation of Chemical Non-cancer Hazards for Construction Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 2.6E+00 | mg/kg | 7.3E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | CHRYSENE | 2.9E+00 | mg/kg | 8.3E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 3.9E-01 | mg/kg | 1.1E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 1.6E+00 | mg/kg | 4.5E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | PENTACHLOROPHENOL | 2.4E+01 | mg/kg | 6.7E-05 | mg/kg-d | 5.0E-03 | mg/kg-d | 1.3E-02 |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Ingestion]** | | | | | | | | **1.6E+00** |
| Soil | Soil (0-10 ft bgs) | UNDV | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.3E+03 | mg/kg | NA | mg/kg-d | 1.0E+00 | mg/kg-d | NA |
| | | | Dermal | ANTIMONY | 7.2E+00 | mg/kg | NA | mg/kg-d | 6.0E-05 | mg/kg-d | NA |
| | | | Dermal | ARSENIC | 1.7E+02 | mg/kg | 4.7E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.6E-01 |
| | | | Dermal | BARIUM | 8.3E+02 | mg/kg | NA | mg/kg-d | 1.4E-02 | mg/kg-d | NA |
| | | | Dermal | CADMIUM | 9.0E-01 | mg/kg | 8.2E-09 | mg/kg-d | 2.5E-05 | mg/kg-d | 3.3E-04 |
| | | | Dermal | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA |
| | | | Dermal | COBALT | 4.2E+00 | mg/kg | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA |
| | | | Dermal | COPPER | 8.3E+01 | mg/kg | NA | mg/kg-d | 4.0E-02 | mg/kg-d | NA |
| | | | Dermal | CYANIDE | 4.7E+01 | mg/kg | NA | mg/kg-d | 6.0E-04 | mg/kg-d | NA |
| | | | Dermal | IRON | 1.1E+04 | mg/kg | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA |
| | | | Dermal | LEAD | 6.8E+02 | mg/kg | NA | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | MANGANESE | 1.5E+02 | mg/kg | NA | mg/kg-d | 9.6E-04 | mg/kg-d | NA |
| | | | Dermal | MERCURY | 1.1E+00 | mg/kg | NA | mg/kg-d | 2.1E-05 | mg/kg-d | NA |
| | | | Dermal | THALLIUM | 4.8E-01 | mg/kg | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA |
| | | | Dermal | VANADIUM | 1.5E+01 | mg/kg | NA | mg/kg-d | 1.3E-04 | mg/kg-d | NA |
| | | | Dermal | ZINC | 4.7E+02 | mg/kg | NA | mg/kg-d | 3.0E-01 | mg/kg-d | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 6.2E-02 | mg/kg | 7.9E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 3.9E-03 |
| | | | Dermal | AROCLOR-1260 | 2.7E-01 | mg/kg | 3.4E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.7E-02 |
| | | | Dermal | DIELDRIN | 6.4E-03 | mg/kg | 5.8E-09 | mg/kg-d | 5.0E-05 | mg/kg-d | 1.2E-04 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 2.1E+00 | mg/kg | 2.4E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(A)PYRENE | 2.5E+00 | mg/kg | 2.9E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 9.6E-03 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 3.7E+00 | mg/kg | 4.4E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(K)FLUORANTHENE | 2.6E+00 | mg/kg | 3.1E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | CHRYSENE | 2.9E+00 | mg/kg | 3.5E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 3.9E-01 | mg/kg | 4.6E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.6E+00 | mg/kg | 1.9E-06 | mg/kg-d | NA | mg/kg-d | NA |

**Table 7.9**
**Calculation of Chemical Non-cancer Hazards for Construction Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | PENTACHLOROPHENOL | 2.4E+01 | mg/kg | 5.4E-05 | mg/kg-d | 5.0E-03 | mg/kg-d | 1.1E-02 |
| | | | **Exposure Route Total [Soil (0-10 ft bgs)-Dermal]** | | | | | | | | **2.0E-01** |
| Soil | Particulates in Air | UNDV | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ALUMINUM | 1.0E-06 | mg/m3 | 2.4E-07 | µg/m3 | 5.0E-03 | mg/m3 | 4.7E-05 |
| | | | Inhalation | ANTIMONY | 2.2E-09 | mg/m3 | 5.1E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | ARSENIC | 5.4E-08 | mg/m3 | 1.2E-08 | µg/m3 | 1.5E-05 | mg/m3 | 8.2E-04 |
| | | | Inhalation | BARIUM | 2.6E-07 | mg/m3 | 6.0E-08 | µg/m3 | 5.0E-04 | mg/m3 | 1.2E-04 |
| | | | Inhalation | CADMIUM | 2.8E-10 | mg/m3 | 6.4E-11 | µg/m3 | 1.0E-05 | mg/m3 | 6.4E-06 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.6E-10 | mg/m3 | 6.0E-11 | µg/m3 | 1.0E-04 | mg/m3 | 6.0E-07 |
| | | | Inhalation | COBALT | 1.3E-09 | mg/m3 | 3.0E-10 | µg/m3 | 6.0E-06 | mg/m3 | 5.0E-05 |
| | | | Inhalation | COPPER | 2.6E-08 | mg/m3 | 5.9E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CYANIDE | 6.2E-04 | mg/m3 | 1.4E-04 | µg/m3 | 8.0E-04 | mg/m3 | 1.8E-01 |
| | | | Inhalation | IRON | 3.5E-06 | mg/m3 | 8.0E-07 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | LEAD | 2.1E-07 | mg/m3 | 4.9E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | MANGANESE | 4.5E-08 | mg/m3 | 1.0E-08 | µg/m3 | 5.0E-05 | mg/m3 | 2.1E-04 |
| | | | Inhalation | MERCURY | 3.5E-10 | mg/m3 | 7.9E-11 | µg/m3 | 3.0E-04 | mg/m3 | 2.6E-07 |
| | | | Inhalation | THALLIUM | 1.5E-10 | mg/m3 | 3.4E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | VANADIUM | 4.6E-09 | mg/m3 | 1.0E-09 | µg/m3 | 1.0E-04 | mg/m3 | 1.0E-05 |
| | | | Inhalation | ZINC | 1.5E-07 | mg/m3 | 3.4E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | AROCLOR-1254 | 5.7E-08 | mg/m3 | 1.3E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | AROCLOR-1260 | 1.6E-07 | mg/m3 | 3.6E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIELDRIN | 2.0E-12 | mg/m3 | 4.6E-13 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | BENZO(A)ANTHRACENE | 3.7E-07 | mg/m3 | 8.3E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(A)PYRENE | 7.7E-10 | mg/m3 | 1.7E-10 | µg/m3 | 2.0E-06 | mg/m3 | 8.7E-05 |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 1.2E-09 | mg/m3 | 2.7E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 8.1E-10 | mg/m3 | 1.9E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CHRYSENE | 9.2E-10 | mg/m3 | 2.1E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 1.2E-10 | mg/m3 | 2.8E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 5.0E-10 | mg/m3 | 1.1E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | PENTACHLOROPHENOL | 7.4E-09 | mg/m3 | 1.7E-09 | µg/m3 | NA | mg/m3 | NA |

## Table 7.9
## Calculation of Chemical Non-cancer Hazards for Construction Worker
## Reasonable Maximum Exposure

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Construction Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Exposure Route Total [Particulates in Air (soil 0-10)-Inhalation] | | | | | | | | 1.8E-01 |
| Exposure Point Total (UNDV) | | | | | | | | | | | 2E+00 |

Notes:
NA – Not Available.

**Ingestion-Soil**

$$\text{Intake Factor (IF)} = \frac{IR \times FS \times EF \times ED \times CF}{BW \times AT} = 2.8E\text{-}06 \text{ (Adult)}$$

| | | |
|---|---|---|
| IR | Ingestion Rate (mg/day) | 330 |
| FS | Fraction from Contaminated Source | 1 |
| EF | Soil Ingestion Exposure Frequency (days/yr) | 250 |
| ED | Soil Ingestion Exposure Duration (yrs) | 1 |
| CF | Conversion Factor (kg/mg) | 1E-06 |
| BW | Body Weight (kg) | 80 |
| AT | Averaging Time (d) | 365 |

Intake = EPC x Bioavailability (B) x IF
(B) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

**Dermal-Soil**

$$\text{Intake Factor (IF)} = \frac{SA \times AF \times EF \times ED \times CF}{BW \times AT} = 9.1E\text{-}06 \text{ (Adult)}$$

| | | |
|---|---|---|
| SA | Surface Area Exposed to Soil ($cm^2$/day) | 3,527 |
| AF | Soil Skin Adherence Factor (mg/$cm^2$) | 0.3 |
| EF | Soil Dermal Exposure Frequency (days/yr) | 250 |
| ED | Soil Dermal Exposure Duration (yrs) | 1 |
| CF | Conversion Factor (kg/mg) | 1E-06 |
| BW | Body Weight (kg) | 80 |
| AT | Averaging Time (d) | 365 |

Intake = EPC x Dermal Absorption (ABS) x IF
(ABS) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

**Inhalation-Soil**

$$\text{Intake Factor (IF)} = \frac{EF \times ED \times ET \times CF}{AT} = 2.3E\text{-}01 \text{ (Adult)}$$

| | | |
|---|---|---|
| EF | Soil Exposure Frequency (days/yr) | 250 |
| ED | Soil Exposure Duration (yrs) | 1 |
| ET | Soil Exposure Time (hours/day) | 8 |
| CF | Conversion Factor (day/hour) | 0.042 |
| AT | Averaging Time (d) | 365 |

EPCair = EPCsoil x [1/Volatilization Factor (VF) + 1/Particulate Emissions Factor (PEF)]
Exposure = EPCair x IF
Non-cancer Hazard = Exposure/RfC

**Table 7.10**
**Calculation of Chemical Non-cancer Hazards for Outdoor Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Outdoor Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| Soil | Soil (0-2 ft bgs) | EUSA | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ARSENIC | 2.5E+00 | mg/kg | 1.1E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 3.8E-03 |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 6.1E-01 | mg/kg | 4.7E-07 | mg/kg-d | 3.0E-03 | mg/kg-d | 1.6E-04 |
| | | | Ingestion | COBALT | 3.1E+00 | mg/kg | 2.4E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 8.0E-03 |
| | | | Ingestion | IRON | 6.8E+03 | mg/kg | 5.2E-03 | mg/kg-d | 7.0E-01 | mg/kg-d | 7.5E-03 |
| | | | Ingestion | THALLIUM | 3.3E-01 | mg/kg | 2.5E-07 | mg/kg-d | 1.0E-05 | mg/kg-d | 2.5E-02 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)PYRENE | 7.3E-02 | mg/kg | 5.6E-08 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.9E-04 |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 2.1E-02 | mg/kg | 1.6E-08 | mg/kg-d | NA | mg/kg-d | NA |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Ingestion]** | | | | | | | | **4.5E-02** |
| Soil | Soil (0-2 ft bgs) | EUSA | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ARSENIC | 2.5E+00 | mg/kg | 2.4E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 8.0E-04 |
| | | | Dermal | CHROMIUM, HEXAVALENT | 6.1E-01 | mg/kg | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA |
| | | | Dermal | COBALT | 3.1E+00 | mg/kg | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA |
| | | | Dermal | IRON | 6.8E+03 | mg/kg | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA |
| | | | Dermal | THALLIUM | 3.3E-01 | mg/kg | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)PYRENE | 7.3E-02 | mg/kg | 3.1E-08 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.0E-04 |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 2.1E-02 | mg/kg | 8.9E-09 | mg/kg-d | NA | mg/kg-d | NA |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Dermal]** | | | | | | | | **9.0E-04** |
| Soil | Particulates in Air (soil 0-2) | EUSA | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ARSENIC | 7.7E-10 | mg/m3 | 1.6E-10 | µg/m3 | 1.5E-05 | mg/m3 | 1.0E-05 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 1.9E-10 | mg/m3 | 3.9E-11 | µg/m3 | 1.0E-04 | mg/m3 | 3.9E-07 |
| | | | Inhalation | COBALT | 9.7E-10 | mg/m3 | 2.0E-10 | µg/m3 | 6.0E-06 | mg/m3 | 3.3E-05 |
| | | | Inhalation | IRON | 2.1E-06 | mg/m3 | 4.4E-07 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | THALLIUM | 1.0E-10 | mg/m3 | 2.1E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | BENZO(A)PYRENE | 2.3E-11 | mg/m3 | 4.7E-12 | µg/m3 | 2.0E-06 | mg/m3 | 2.3E-06 |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 6.6E-12 | mg/m3 | 1.3E-12 | µg/m3 | NA | mg/m3 | NA |
| | | | **Exposure Route Total [Particulates in Air (soil 0-2)-Inhalation]** | | | | | | | | **4.6E-05** |
| **Exposure Point Total (EUSA)** | | | | | | | | | | | **5E-02** |
| Soil | Soil (0-2 ft bgs) | NFA | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.6E+03 | mg/kg | 2.8E-03 | mg/kg-d | 1.0E+00 | mg/kg-d | 2.8E-03 |
| | | | Ingestion | ANTIMONY | 1.0E+00 | mg/kg | 7.8E-07 | mg/kg-d | 4.0E-04 | mg/kg-d | 2.0E-03 |
| | | | Ingestion | ARSENIC | 4.3E+01 | mg/kg | 2.0E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 6.6E-02 |
| | | | Ingestion | BARIUM | 4.5E+02 | mg/kg | 3.5E-04 | mg/kg-d | 2.0E-01 | mg/kg-d | 1.7E-03 |

**Table 7.10**
**Calculation of Chemical Non-cancer Hazards for Outdoor Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Outdoor Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 7.5E+00 | mg/kg | 5.8E-06 | mg/kg-d | 3.0E-03 | mg/kg-d | 1.9E-03 |
| | | | Ingestion | COBALT | 2.3E+00 | mg/kg | 1.8E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 6.0E-03 |
| | | | Ingestion | COPPER | 2.7E+01 | mg/kg | 2.1E-05 | mg/kg-d | 4.0E-02 | mg/kg-d | 5.3E-04 |
| | | | Ingestion | CYANIDE | 4.5E+00 | mg/kg | 3.5E-06 | mg/kg-d | 6.0E-04 | mg/kg-d | 5.8E-03 |
| | | | Ingestion | IRON | 7.3E+03 | mg/kg | 5.7E-03 | mg/kg-d | 7.0E-01 | mg/kg-d | 8.1E-03 |
| | | | Ingestion | LEAD | 3.0E+02 | mg/kg | 2.3E-04 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | MANGANESE | 1.0E+02 | mg/kg | 7.8E-05 | mg/kg-d | 2.4E-02 | mg/kg-d | 3.2E-03 |
| | | | Ingestion | THALLIUM | 3.4E-01 | mg/kg | 2.6E-07 | mg/kg-d | 1.0E-05 | mg/kg-d | 2.6E-02 |
| | | | Ingestion | VANADIUM | 1.5E+01 | mg/kg | 1.1E-05 | mg/kg-d | 5.0E-03 | mg/kg-d | 2.2E-03 |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1248 | 4.8E-02 | mg/kg | 3.7E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.8E-03 |
| | | | Ingestion | AROCLOR-1254 | 4.0E-02 | mg/kg | 3.1E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.6E-03 |
| | | | Ingestion | AROCLOR-1260 | 3.2E+00 | mg/kg | 2.5E-06 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.2E-01 |
| | | | Ingestion | DIELDRIN | 3.6E-02 | mg/kg | 2.7E-08 | mg/kg-d | 5.0E-05 | mg/kg-d | 5.5E-04 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 2.1E+00 | mg/kg | 1.6E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(A)PYRENE | 1.0E+00 | mg/kg | 8.1E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.7E-03 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 2.3E+00 | mg/kg | 1.8E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 1.9E+00 | mg/kg | 1.5E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | CHRYSENE | 7.6E-01 | mg/kg | 5.8E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 6.9E-01 | mg/kg | 5.3E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 9.9E-01 | mg/kg | 7.6E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | NAPHTHALENE | 1.1E+00 | mg/kg | 8.5E-07 | mg/kg-d | 2.0E-02 | mg/kg-d | 4.2E-05 |
| | | | Ingestion | **VOCs** | | | | | | | |
| | | | Ingestion | BENZENE | 4.2E-01 | mg/kg | 3.2E-07 | mg/kg-d | 4.0E-03 | mg/kg-d | 8.1E-05 |
| | | | Ingestion | ETHYLBENZENE | 4.2E+01 | mg/kg | 3.2E-05 | mg/kg-d | 1.0E-01 | mg/kg-d | 3.2E-04 |
| | | | Ingestion | METHYLCYCLOHEXANE | 6.7E+02 | mg/kg | 5.2E-04 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | TRICHLOROETHYLENE (TCE) | 5.1E-02 | mg/kg | 3.9E-08 | mg/kg-d | 5.0E-04 | mg/kg-d | 7.9E-05 |
| | | | Ingestion | **TICs** | | | | | | | |
| | | | Ingestion | 1,1-BIPHENYL, 2,3,4,4,5,5-HEXACHLORO | 2.1E+00 | mg/kg | 1.7E-06 | mg/kg-d | 2.3E-05 | mg/kg-d | 7.2E-02 |
| | | | Ingestion | BENZO[J]FLUORANTHENE | 3.2E+00 | mg/kg | 2.4E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Ingestion]** | | | | | | | | **3.3E-01** |

**Table 7.10**
**Calculation of Chemical Non-cancer Hazards for Outdoor Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Outdoor Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| Soil | Soil (0-2 ft bgs) | NFA | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.6E+03 | mg/kg | NA | mg/kg-d | 1.0E+00 | mg/kg-d | NA |
| | | | Dermal | ANTIMONY | 1.0E+00 | mg/kg | NA | mg/kg-d | 6.0E-05 | mg/kg-d | NA |
| | | | Dermal | ARSENIC | 4.3E+01 | mg/kg | 4.2E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.4E-02 |
| | | | Dermal | BARIUM | 4.5E+02 | mg/kg | NA | mg/kg-d | 1.4E-02 | mg/kg-d | NA |
| | | | Dermal | CHROMIUM, HEXAVALENT | 7.5E+00 | mg/kg | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA |
| | | | Dermal | COBALT | 2.3E+00 | mg/kg | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA |
| | | | Dermal | COPPER | 2.7E+01 | mg/kg | NA | mg/kg-d | 4.0E-02 | mg/kg-d | NA |
| | | | Dermal | CYANIDE | 4.5E+00 | mg/kg | NA | mg/kg-d | 6.0E-04 | mg/kg-d | NA |
| | | | Dermal | IRON | 7.3E+03 | mg/kg | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA |
| | | | Dermal | LEAD | 3.0E+02 | mg/kg | NA | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | MANGANESE | 1.0E+02 | mg/kg | NA | mg/kg-d | 9.6E-04 | mg/kg-d | NA |
| | | | Dermal | THALLIUM | 3.4E-01 | mg/kg | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA |
| | | | Dermal | VANADIUM | 1.5E+01 | mg/kg | NA | mg/kg-d | 1.3E-04 | mg/kg-d | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1248 | 4.8E-02 | mg/kg | 2.2E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.1E-03 |
| | | | Dermal | AROCLOR-1254 | 4.0E-02 | mg/kg | 1.8E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 9.2E-04 |
| | | | Dermal | AROCLOR-1260 | 3.2E+00 | mg/kg | 1.5E-06 | mg/kg-d | 2.0E-05 | mg/kg-d | 7.3E-02 |
| | | | Dermal | DIELDRIN | 3.6E-02 | mg/kg | 1.2E-08 | mg/kg-d | 5.0E-05 | mg/kg-d | 2.3E-04 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 2.1E+00 | mg/kg | 8.9E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(A)PYRENE | 1.0E+00 | mg/kg | 4.4E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.5E-03 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 2.3E+00 | mg/kg | 9.7E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(K)FLUORANTHENE | 1.9E+00 | mg/kg | 8.2E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | CHRYSENE | 7.6E-01 | mg/kg | 3.2E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 6.9E-01 | mg/kg | 2.9E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 9.9E-01 | mg/kg | 4.2E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | NAPHTHALENE | 1.1E+00 | mg/kg | 4.7E-07 | mg/kg-d | 2.0E-02 | mg/kg-d | 2.3E-05 |
| | | | Dermal | **VOCs** | | | | | | | |
| | | | Dermal | BENZENE | 4.2E-01 | mg/kg | NA | mg/kg-d | 4.0E-03 | mg/kg-d | NA |
| | | | Dermal | ETHYLBENZENE | 4.2E+01 | mg/kg | NA | mg/kg-d | 1.0E-01 | mg/kg-d | NA |
| | | | Dermal | METHYLCYCLOHEXANE | 6.7E+02 | mg/kg | NA | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | TRICHLOROETHYLENE (TCE) | 5.1E-02 | mg/kg | NA | mg/kg-d | 5.0E-04 | mg/kg-d | NA |

**Table 7.10**
**Calculation of Chemical Non-cancer Hazards for Outdoor Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Outdoor Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | **TICs** | | | | | | | |
| | | | Dermal | 1,1-BIPHENYL, 2,3,4,4,5,5-HEXACHLORO | 2.1E+00 | mg/kg | 9.8E-07 | mg/kg-d | 2.3E-05 | mg/kg-d | 4.3E-02 |
| | | | Dermal | BENZO[J]FLUORANTHENE | 3.2E+00 | mg/kg | 1.3E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Dermal]** | | | | | | | | **1.3E-01** |
| Soil | Particulates in Air (soil 0-2) | NFA | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ALUMINUM | 1.1E-06 | mg/m3 | 2.3E-07 | µg/m3 | 5.0E-03 | mg/m3 | 4.7E-05 |
| | | | Inhalation | ANTIMONY | 3.2E-10 | mg/m3 | 6.5E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | ARSENIC | 1.3E-08 | mg/m3 | 2.7E-09 | µg/m3 | 1.5E-05 | mg/m3 | 1.8E-04 |
| | | | Inhalation | BARIUM | 1.4E-07 | mg/m3 | 2.9E-08 | µg/m3 | 5.0E-04 | mg/m3 | 5.8E-05 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.3E-09 | mg/m3 | 4.8E-10 | µg/m3 | 1.0E-04 | mg/m3 | 4.8E-06 |
| | | | Inhalation | COBALT | 7.3E-10 | mg/m3 | 1.5E-10 | µg/m3 | 6.0E-06 | mg/m3 | 2.5E-05 |
| | | | Inhalation | COPPER | 8.5E-09 | mg/m3 | 1.8E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CYANIDE | 6.0E-05 | mg/m3 | 1.2E-05 | µg/m3 | 8.0E-04 | mg/m3 | 1.5E-02 |
| | | | Inhalation | IRON | 2.3E-06 | mg/m3 | 4.7E-07 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | LEAD | 9.5E-08 | mg/m3 | 1.9E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | MANGANESE | 3.2E-08 | mg/m3 | 6.5E-09 | µg/m3 | 5.0E-05 | mg/m3 | 1.3E-04 |
| | | | Inhalation | THALLIUM | 1.1E-10 | mg/m3 | 2.2E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | VANADIUM | 4.5E-09 | mg/m3 | 9.3E-10 | µg/m3 | 1.0E-04 | mg/m3 | 9.3E-06 |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | AROCLOR-1248 | 6.0E-08 | mg/m3 | 1.2E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | AROCLOR-1254 | 3.7E-08 | mg/m3 | 7.7E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | AROCLOR-1260 | 1.9E-06 | mg/m3 | 3.9E-07 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIELDRIN | 1.1E-11 | mg/m3 | 2.3E-12 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | BENZO(A)ANTHRACENE | 3.7E-07 | mg/m3 | 7.6E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(A)PYRENE | 3.3E-10 | mg/m3 | 6.7E-11 | µg/m3 | 2.0E-06 | mg/m3 | 3.4E-05 |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 7.2E-10 | mg/m3 | 1.5E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 6.1E-10 | mg/m3 | 1.2E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CHRYSENE | 2.4E-10 | mg/m3 | 4.9E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 2.1E-10 | mg/m3 | 4.4E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 3.1E-10 | mg/m3 | 6.3E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | NAPHTHALENE | 1.9E-05 | mg/m3 | 3.8E-06 | µg/m3 | 3.0E-03 | mg/m3 | 1.3E-03 |
| | | | Inhalation | **VOCs** | | | | | | | |
| | | | Inhalation | BENZENE | 9.3E-05 | mg/m3 | 1.9E-05 | µg/m3 | 3.0E-02 | mg/m3 | 6.4E-04 |
| | | | Inhalation | ETHYLBENZENE | 5.8E-03 | mg/m3 | 1.2E-03 | µg/m3 | 1.0E+00 | mg/m3 | 1.2E-03 |
| | | | Inhalation | METHYLCYCLOHEXANE | 5.0E-01 | mg/m3 | 1.0E-01 | µg/m3 | 6.0E+00 | mg/m3 | 1.7E-02 |

**Table 7.10**
**Calculation of Chemical Non-cancer Hazards for Outdoor Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Outdoor Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | TRICHLOROETHYLENE (TCE) | 1.8E-05 | mg/m3 | 3.7E-06 | µg/m3 | 2.0E-03 | mg/m3 | 1.9E-03 |
| | | | Inhalation | **TICs** | | | | | | | |
| | | | Inhalation | 1,1-BIPHENYL, 2,3,4,4,5,5-HEXACHLORO | 7.6E-07 | mg/m3 | 1.6E-07 | µg/m3 | 1.3E-03 | mg/m3 | 1.2E-04 |
| | | | Inhalation | BENZO[J]FLUORANTHENE | 9.9E-10 | mg/m3 | 2.0E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | **Exposure Route Total [Particulates in Air (soil 0-2)-Inhalation]** | | | | | | | | **3.8E-02** |
| **Exposure Point Total (NFA)** | | | | | | | | | | | **5E-01** |
| Soil | Soil (0-2 ft bgs) | SFA | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 2.8E+03 | mg/kg | 2.2E-03 | mg/kg-d | 1.0E+00 | mg/kg-d | 2.2E-03 |
| | | | Ingestion | ANTIMONY | 1.2E+02 | mg/kg | 9.1E-05 | mg/kg-d | 4.0E-04 | mg/kg-d | 2.3E-01 |
| | | | Ingestion | ARSENIC | 3.0E+01 | mg/kg | 1.4E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 4.6E-02 |
| | | | Ingestion | BARIUM | 6.2E+02 | mg/kg | 4.8E-04 | mg/kg-d | 2.0E-01 | mg/kg-d | 2.4E-03 |
| | | | Ingestion | CADMIUM | 1.2E+00 | mg/kg | 9.5E-07 | mg/kg-d | 1.0E-03 | mg/kg-d | 9.5E-04 |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 2.1E+00 | mg/kg | 1.6E-06 | mg/kg-d | 3.0E-03 | mg/kg-d | 5.3E-04 |
| | | | Ingestion | COBALT | 2.2E+00 | mg/kg | 1.7E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 5.7E-03 |
| | | | Ingestion | CYANIDE | 7.8E+00 | mg/kg | 6.0E-06 | mg/kg-d | 6.0E-04 | mg/kg-d | 1.0E-02 |
| | | | Ingestion | IRON | 8.5E+03 | mg/kg | 6.5E-03 | mg/kg-d | 7.0E-01 | mg/kg-d | 9.3E-03 |
| | | | Ingestion | LEAD | 1.9E+03 | mg/kg | 1.4E-03 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | MANGANESE | 9.1E+01 | mg/kg | 7.0E-05 | mg/kg-d | 2.4E-02 | mg/kg-d | 2.9E-03 |
| | | | Ingestion | THALLIUM | 3.5E-01 | mg/kg | 2.7E-07 | mg/kg-d | 1.0E-05 | mg/kg-d | 2.7E-02 |
| | | | Ingestion | VANADIUM | 1.3E+01 | mg/kg | 9.7E-06 | mg/kg-d | 5.0E-03 | mg/kg-d | 1.9E-03 |
| | | | Ingestion | ZINC | 4.4E+02 | mg/kg | 3.4E-04 | mg/kg-d | 3.0E-01 | mg/kg-d | 1.1E-03 |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 5.4E-02 | mg/kg | 4.2E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 2.1E-03 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 1.1E+01 | mg/kg | 8.4E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(A)PYRENE | 1.2E+01 | mg/kg | 9.3E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 3.1E-02 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 1.8E+01 | mg/kg | 1.4E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 8.7E+00 | mg/kg | 6.7E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | CHRYSENE | 1.5E+01 | mg/kg | 1.2E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 1.6E+00 | mg/kg | 1.2E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 5.6E+00 | mg/kg | 4.3E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | NAPHTHALENE | 5.3E+00 | mg/kg | 4.1E-06 | mg/kg-d | 2.0E-02 | mg/kg-d | 2.0E-04 |
| | | | Ingestion | **VOCs** | | | | | | | |
| | | | Ingestion | BENZENE | 2.8E-01 | mg/kg | 2.1E-07 | mg/kg-d | 4.0E-03 | mg/kg-d | 5.4E-05 |
| | | | Ingestion | ETHYLBENZENE | 6.9E+00 | mg/kg | 5.3E-06 | mg/kg-d | 1.0E-01 | mg/kg-d | 5.3E-05 |
| | | | Ingestion | XYLENES (TOTAL) | 9.6E+01 | mg/kg | 7.4E-05 | mg/kg-d | 2.0E-01 | mg/kg-d | 3.7E-04 |

**Table 7.10**
**Calculation of Chemical Non-cancer Hazards for Outdoor Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Outdoor Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | **TICs** | | | | | | | |
| | | | Ingestion | BENZO[J]FLUORANTHENE | 7.0E-01 | mg/kg | 5.4E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Ingestion]** | | | | | | | | **3.7E-01** |
| Soil | Soil (0-2 ft bgs) | SFA | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 2.8E+03 | mg/kg | NA | mg/kg-d | 1.0E+00 | mg/kg-d | NA |
| | | | Dermal | ANTIMONY | 1.2E+02 | mg/kg | NA | mg/kg-d | 6.0E-05 | mg/kg-d | NA |
| | | | Dermal | ARSENIC | 3.0E+01 | mg/kg | 2.9E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 9.7E-03 |
| | | | Dermal | BARIUM | 6.2E+02 | mg/kg | NA | mg/kg-d | 1.4E-02 | mg/kg-d | NA |
| | | | Dermal | CADMIUM | 1.2E+00 | mg/kg | 4.0E-09 | mg/kg-d | 2.5E-05 | mg/kg-d | 1.6E-04 |
| | | | Dermal | CHROMIUM, HEXAVALENT | 2.1E+00 | mg/kg | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA |
| | | | Dermal | COBALT | 2.2E+00 | mg/kg | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA |
| | | | Dermal | CYANIDE | 7.8E+00 | mg/kg | NA | mg/kg-d | 6.0E-04 | mg/kg-d | NA |
| | | | Dermal | IRON | 8.5E+03 | mg/kg | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA |
| | | | Dermal | LEAD | 1.9E+03 | mg/kg | NA | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | MANGANESE | 9.1E+01 | mg/kg | NA | mg/kg-d | 9.6E-04 | mg/kg-d | NA |
| | | | Dermal | THALLIUM | 3.5E-01 | mg/kg | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA |
| | | | Dermal | VANADIUM | 1.3E+01 | mg/kg | NA | mg/kg-d | 1.3E-04 | mg/kg-d | NA |
| | | | Dermal | ZINC | 4.4E+02 | mg/kg | NA | mg/kg-d | 3.0E-01 | mg/kg-d | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 5.4E-02 | mg/kg | 2.5E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.2E-03 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 1.1E+01 | mg/kg | 4.6E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(A)PYRENE | 1.2E+01 | mg/kg | 5.1E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.7E-02 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 1.8E+01 | mg/kg | 7.8E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(K)FLUORANTHENE | 8.7E+00 | mg/kg | 3.7E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | CHRYSENE | 1.5E+01 | mg/kg | 6.4E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 1.6E+00 | mg/kg | 6.8E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 5.6E+00 | mg/kg | 2.4E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | NAPHTHALENE | 5.3E+00 | mg/kg | 2.2E-06 | mg/kg-d | 2.0E-02 | mg/kg-d | 1.1E-04 |
| | | | Dermal | **VOCs** | | | | | | | |
| | | | Dermal | BENZENE | 2.8E-01 | mg/kg | NA | mg/kg-d | 4.0E-03 | mg/kg-d | NA |
| | | | Dermal | ETHYLBENZENE | 6.9E+00 | mg/kg | NA | mg/kg-d | 1.0E-01 | mg/kg-d | NA |
| | | | Dermal | XYLENES (TOTAL) | 9.6E+01 | mg/kg | NA | mg/kg-d | 2.0E-01 | mg/kg-d | NA |
| | | | Dermal | **TICs** | | | | | | | |
| | | | Dermal | BENZO[J]FLUORANTHENE | 7.0E-01 | mg/kg | 3.0E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Dermal]** | | | | | | | | **2.8E-02** |

**Table 7.10**
**Calculation of Chemical Non-cancer Hazards for Outdoor Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Outdoor Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| Soil | Particulates in Air (soil 0-2) | SFA | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ALUMINUM | 8.8E-07 | mg/m3 | 1.8E-07 | µg/m3 | 5.0E-03 | mg/m3 | 3.6E-05 |
| | | | Inhalation | ANTIMONY | 3.7E-08 | mg/m3 | 7.6E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | ARSENIC | 9.3E-09 | mg/m3 | 1.9E-09 | µg/m3 | 1.5E-05 | mg/m3 | 1.3E-04 |
| | | | Inhalation | BARIUM | 2.0E-07 | mg/m3 | 4.0E-08 | µg/m3 | 5.0E-04 | mg/m3 | 8.0E-05 |
| | | | Inhalation | CADMIUM | 3.9E-10 | mg/m3 | 7.9E-11 | µg/m3 | 1.0E-05 | mg/m3 | 7.9E-06 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 6.5E-10 | mg/m3 | 1.3E-10 | µg/m3 | 1.0E-04 | mg/m3 | 1.3E-06 |
| | | | Inhalation | COBALT | 7.0E-10 | mg/m3 | 1.4E-10 | µg/m3 | 6.0E-06 | mg/m3 | 2.4E-05 |
| | | | Inhalation | CYANIDE | 1.0E-04 | mg/m3 | 2.1E-05 | µg/m3 | 8.0E-04 | mg/m3 | 2.7E-02 |
| | | | Inhalation | IRON | 2.7E-06 | mg/m3 | 5.4E-07 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | LEAD | 5.9E-07 | mg/m3 | 1.2E-07 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | MANGANESE | 2.9E-08 | mg/m3 | 5.9E-09 | µg/m3 | 5.0E-05 | mg/m3 | 1.2E-04 |
| | | | Inhalation | THALLIUM | 1.1E-10 | mg/m3 | 2.2E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | VANADIUM | 3.9E-09 | mg/m3 | 8.1E-10 | µg/m3 | 1.0E-04 | mg/m3 | 8.1E-06 |
| | | | Inhalation | ZINC | 1.4E-07 | mg/m3 | 2.9E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | AROCLOR-1254 | 5.0E-08 | mg/m3 | 1.0E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | BENZO(A)ANTHRACENE | 1.9E-06 | mg/m3 | 4.0E-07 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(A)PYRENE | 3.8E-09 | mg/m3 | 7.7E-10 | µg/m3 | 2.0E-06 | mg/m3 | 3.9E-04 |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 5.7E-09 | mg/m3 | 1.2E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 2.7E-09 | mg/m3 | 5.6E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CHRYSENE | 4.7E-09 | mg/m3 | 9.6E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 5.0E-10 | mg/m3 | 1.0E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 1.7E-09 | mg/m3 | 3.6E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | NAPHTHALENE | 8.9E-05 | mg/m3 | 1.8E-05 | µg/m3 | 3.0E-03 | mg/m3 | 6.1E-03 |
| | | | Inhalation | **VOCs** | | | | | | | |
| | | | Inhalation | BENZENE | 6.2E-05 | mg/m3 | 1.3E-05 | µg/m3 | 3.0E-02 | mg/m3 | 4.2E-04 |
| | | | Inhalation | ETHYLBENZENE | 9.6E-04 | mg/m3 | 2.0E-04 | µg/m3 | 1.0E+00 | mg/m3 | 2.0E-04 |
| | | | Inhalation | XYLENES (TOTAL) | 1.3E-02 | mg/m3 | 2.7E-03 | µg/m3 | 1.0E-01 | mg/m3 | 2.7E-02 |

**Table 7.10**
**Calculation of Chemical Non-cancer Hazards for Outdoor Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Outdoor Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | **TICs** | | | | | | | |
| | | | Inhalation | BENZO[J]FLUORANTHENE | 2.2E-10 | mg/m3 | 4.5E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | **Exposure Route Total [Particulates in Air (soil 0-2)-Inhalation]** | | | | | | | | **6.1E-02** |
| **Exposure Point Total (SFA)** | | | | | | | | | | | **5E-01** |
| Soil | Soil (0-2 ft bgs) | UNDV | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.5E+03 | mg/kg | 2.7E-03 | mg/kg-d | 1.0E+00 | mg/kg-d | 2.7E-03 |
| | | | Ingestion | ANTIMONY | 1.2E+01 | mg/kg | 9.2E-06 | mg/kg-d | 4.0E-04 | mg/kg-d | 2.3E-02 |
| | | | Ingestion | ARSENIC | 1.2E+02 | mg/kg | 5.7E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.9E-01 |
| | | | Ingestion | BARIUM | 1.3E+03 | mg/kg | 9.9E-04 | mg/kg-d | 2.0E-01 | mg/kg-d | 5.0E-03 |
| | | | Ingestion | CADMIUM | 1.5E+00 | mg/kg | 1.1E-06 | mg/kg-d | 1.0E-03 | mg/kg-d | 1.1E-03 |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | 6.4E-07 | mg/kg-d | 3.0E-03 | mg/kg-d | 2.1E-04 |
| | | | Ingestion | COBALT | 8.3E+00 | mg/kg | 6.4E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.1E-02 |
| | | | Ingestion | COPPER | 1.3E+02 | mg/kg | 1.0E-04 | mg/kg-d | 4.0E-02 | mg/kg-d | 2.5E-03 |
| | | | Ingestion | CYANIDE | 8.8E+01 | mg/kg | 6.8E-05 | mg/kg-d | 6.0E-04 | mg/kg-d | 1.1E-01 |
| | | | Ingestion | IRON | 1.5E+04 | mg/kg | 1.1E-02 | mg/kg-d | 7.0E-01 | mg/kg-d | 1.6E-02 |
| | | | Ingestion | LEAD | 6.6E+02 | mg/kg | 5.1E-04 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | MANGANESE | 1.8E+02 | mg/kg | 1.4E-04 | mg/kg-d | 2.4E-02 | mg/kg-d | 5.9E-03 |
| | | | Ingestion | MERCURY | 1.6E+00 | mg/kg | 1.3E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 4.2E-03 |
| | | | Ingestion | THALLIUM | 5.2E-01 | mg/kg | 4.0E-07 | mg/kg-d | 1.0E-05 | mg/kg-d | 4.0E-02 |
| | | | Ingestion | VANADIUM | 1.9E+01 | mg/kg | 1.5E-05 | mg/kg-d | 5.0E-03 | mg/kg-d | 3.0E-03 |
| | | | Ingestion | ZINC | 6.5E+02 | mg/kg | 5.0E-04 | mg/kg-d | 3.0E-01 | mg/kg-d | 1.7E-03 |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 7.4E-02 | mg/kg | 5.7E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 2.8E-03 |
| | | | Ingestion | AROCLOR-1260 | 4.2E-01 | mg/kg | 3.2E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.6E-02 |
| | | | Ingestion | DIELDRIN | 1.0E-02 | mg/kg | 8.0E-09 | mg/kg-d | 5.0E-05 | mg/kg-d | 1.6E-04 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 3.1E+00 | mg/kg | 2.4E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(A)PYRENE | 3.8E+00 | mg/kg | 2.9E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 9.7E-03 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 4.5E+00 | mg/kg | 3.5E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 3.1E+00 | mg/kg | 2.4E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | CHRYSENE | 4.5E+00 | mg/kg | 3.5E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 4.6E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 1.5E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 4.1E-07 | mg/kg-d | 5.0E-03 | mg/kg-d | 8.2E-05 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Ingestion]** | | | | | | | | **4.6E-01** |

**Table 7.10**
**Calculation of Chemical Non-cancer Hazards for Outdoor Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Outdoor Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| Soil | Soil (0-2 ft bgs) | UNDV | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.5E+03 | mg/kg | NA | mg/kg-d | 1.0E+00 | mg/kg-d | NA |
| | | | Dermal | ANTIMONY | 1.2E+01 | mg/kg | NA | mg/kg-d | 6.0E-05 | mg/kg-d | NA |
| | | | Dermal | ARSENIC | 1.2E+02 | mg/kg | 1.2E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 4.1E-02 |
| | | | Dermal | BARIUM | 1.3E+03 | mg/kg | NA | mg/kg-d | 1.4E-02 | mg/kg-d | NA |
| | | | Dermal | CADMIUM | 1.5E+00 | mg/kg | 4.7E-09 | mg/kg-d | 2.5E-05 | mg/kg-d | 1.9E-04 |
| | | | Dermal | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA |
| | | | Dermal | COBALT | 8.3E+00 | mg/kg | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA |
| | | | Dermal | COPPER | 1.3E+02 | mg/kg | NA | mg/kg-d | 4.0E-02 | mg/kg-d | NA |
| | | | Dermal | CYANIDE | 8.8E+01 | mg/kg | NA | mg/kg-d | 6.0E-04 | mg/kg-d | NA |
| | | | Dermal | IRON | 1.5E+04 | mg/kg | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA |
| | | | Dermal | LEAD | 6.6E+02 | mg/kg | NA | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | MANGANESE | 1.8E+02 | mg/kg | NA | mg/kg-d | 9.6E-04 | mg/kg-d | NA |
| | | | Dermal | MERCURY | 1.6E+00 | mg/kg | NA | mg/kg-d | 2.1E-05 | mg/kg-d | NA |
| | | | Dermal | THALLIUM | 5.2E-01 | mg/kg | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA |
| | | | Dermal | VANADIUM | 1.9E+01 | mg/kg | NA | mg/kg-d | 1.3E-04 | mg/kg-d | NA |
| | | | Dermal | ZINC | 6.5E+02 | mg/kg | NA | mg/kg-d | 3.0E-01 | mg/kg-d | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 7.4E-02 | mg/kg | 3.4E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.7E-03 |
| | | | Dermal | AROCLOR-1260 | 4.2E-01 | mg/kg | 1.9E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 9.5E-03 |
| | | | Dermal | DIELDRIN | 1.0E-02 | mg/kg | 3.4E-09 | mg/kg-d | 5.0E-05 | mg/kg-d | 6.8E-05 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 3.1E+00 | mg/kg | 1.3E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(A)PYRENE | 3.8E+00 | mg/kg | 1.6E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 5.3E-03 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 4.5E+00 | mg/kg | 1.9E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(K)FLUORANTHENE | 3.1E+00 | mg/kg | 1.3E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | CHRYSENE | 4.5E+00 | mg/kg | 1.9E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 2.5E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 8.1E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 4.3E-07 | mg/kg-d | 5.0E-03 | mg/kg-d | 8.6E-05 |

**Table 7.10**
**Calculation of Chemical Non-cancer Hazards for Outdoor Worker**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Outdoor Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Dermal]** | | | | | | | | **5.7E-02** |
| Soil | Particulates in Air (soil 0-2) | UNDV | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ALUMINUM | 1.1E-06 | mg/m3 | 2.2E-07 | µg/m3 | 5.0E-03 | mg/m3 | 4.5E-05 |
| | | | Inhalation | ANTIMONY | 3.7E-09 | mg/m3 | 7.7E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | ARSENIC | 3.9E-08 | mg/m3 | 8.0E-09 | µg/m3 | 1.5E-05 | mg/m3 | 5.3E-04 |
| | | | Inhalation | BARIUM | 4.0E-07 | mg/m3 | 8.3E-08 | µg/m3 | 5.0E-04 | mg/m3 | 1.7E-04 |
| | | | Inhalation | CADMIUM | 4.5E-10 | mg/m3 | 9.3E-11 | µg/m3 | 1.0E-05 | mg/m3 | 9.3E-06 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.6E-10 | mg/m3 | 5.4E-11 | µg/m3 | 1.0E-04 | mg/m3 | 5.4E-07 |
| | | | Inhalation | COBALT | 2.6E-09 | mg/m3 | 5.3E-10 | µg/m3 | 6.0E-06 | mg/m3 | 8.9E-05 |
| | | | Inhalation | COPPER | 4.0E-08 | mg/m3 | 8.3E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CYANIDE | 1.2E-03 | mg/m3 | 2.4E-04 | µg/m3 | 8.0E-04 | mg/m3 | 3.0E-01 |
| | | | Inhalation | IRON | 4.7E-06 | mg/m3 | 9.6E-07 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | LEAD | 2.1E-07 | mg/m3 | 4.3E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | MANGANESE | 5.7E-08 | mg/m3 | 1.2E-08 | µg/m3 | 5.0E-05 | mg/m3 | 2.4E-04 |
| | | | Inhalation | MERCURY | 5.1E-10 | mg/m3 | 1.0E-10 | µg/m3 | 3.0E-04 | mg/m3 | 3.5E-07 |
| | | | Inhalation | THALLIUM | 1.6E-10 | mg/m3 | 3.4E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | VANADIUM | 6.0E-09 | mg/m3 | 1.2E-09 | µg/m3 | 1.0E-04 | mg/m3 | 1.2E-05 |
| | | | Inhalation | ZINC | 2.0E-07 | mg/m3 | 4.2E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | AROCLOR-1254 | 6.8E-08 | mg/m3 | 1.4E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | AROCLOR-1260 | 2.5E-07 | mg/m3 | 5.1E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIELDRIN | 3.3E-12 | mg/m3 | 6.7E-13 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | BENZO(A)ANTHRACENE | 5.6E-07 | mg/m3 | 1.1E-07 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(A)PYRENE | 1.2E-09 | mg/m3 | 2.4E-10 | µg/m3 | 2.0E-06 | mg/m3 | 1.2E-04 |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 1.4E-09 | mg/m3 | 2.9E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 9.7E-10 | mg/m3 | 2.0E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CHRYSENE | 1.4E-09 | mg/m3 | 2.9E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 1.8E-10 | mg/m3 | 3.8E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 5.9E-10 | mg/m3 | 1.2E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | PENTACHLOROPHENOL | 1.7E-10 | mg/m3 | 3.4E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | **Exposure Route Total [Particulates in Air (soil 0-2)-Inhalation]** | | | | | | | | **3.0E-01** |
| **Exposure Point Total (UNDV)** | | | | | | | | | | | **8E-01** |

Notes:
NA – Not Available.

## Table 7.10
## Calculation of Chemical Non-cancer Hazards for Outdoor Worker
## Reasonable Maximum Exposure

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Outdoor Worker |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |

**Ingestion-Soil**

$$\text{Intake Factor (IF)} = \frac{IR \times FS \times EF \times ED \times CF}{BW \times AT} = 7.7E\text{-}07 \text{ (Adult)}$$

| | | |
|---|---|---|
| IR | Ingestion Rate (mg/day) | 100 |
| FS | Fraction from Contaminated Source | 1 |
| EF | Soil Ingestion Exposure Frequency (days/yr) | 225 |
| ED | Soil Ingestion Exposure Duration (yrs) | 25 |
| CF | Conversion Factor (kg/mg) | 1E-06 |
| BW | Body Weight (kg) | 80 |
| AT | Averaging Time (d) | 9,125 |

Intake = EPC x Bioavailability (B) x IF
(B) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

**Dermal-Soil**

$$\text{Intake Factor (IF)} = \frac{SA \times AF \times EF \times ED \times CF}{BW \times AT} = 3.3E\text{-}06 \text{ (Adult)}$$

| | | |
|---|---|---|
| SA | Surface Area Exposed to Soil ($cm^2$/day) | 3,527 |
| AF | Soil Skin Adherence Factor (mg/$cm^2$) | 0.12 |
| EF | Soil Dermal Exposure Frequency (days/yr) | 225 |
| ED | Soil Dermal Exposure Duration (yrs) | 25 |
| CF | Conversion Factor (kg/mg) | 1E-06 |
| BW | Body Weight (kg) | 80 |
| AT | Averaging Time (d) | 9,125 |

Intake = EPC x Dermal Absorption (ABS) x IF
(ABS) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

**Inhalation-Soil**

$$\text{Intake Factor (IF)} = \frac{EF \times ED \times ET \times CF}{AT} = 2.1E\text{-}01 \text{ (Adult)}$$

| | | |
|---|---|---|
| EF | Soil Exposure Frequency (days/yr) | 225 |
| ED | Soil Exposure Duration (yrs) | 25 |
| ET | Soil Exposure Time (hours/day) | 8 |
| CF | Conversion Factor (day/hour) | 0.042 |
| AT | Averaging Time (d) | 9,125 |

EPCair = EPCsoil x [1/Volatilization Factor (VF) + 1/Particulate Emissions Factor (PEF)]
Exposure = EPCair x IF
Non-cancer Hazard = Exposure/RfC

**Table 7.11**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Resident |
| Receptor Age: | Child/Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Child | | | | Non-cancer Hazards Child | Non-cancer Hazard Calculations - Adult | | | | Non-cancer Hazards Adult |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | | Value | Units | Value | Units | |
| Soil | Soil (0-2 ft bgs) | EUSA | Ingestion | **Metals** | | | | | | | | | | | | |
| | | | Ingestion | ARSENIC | 2.5E+00 | mg/kg | 1.9E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 6.3E-02 | 1.8E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 5.9E-03 |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 6.1E-01 | mg/kg | 7.8E-06 | mg/kg-d | 3.0E-03 | mg/kg-d | 2.6E-03 | 7.3E-07 | mg/kg-d | 3.0E-03 | mg/kg-d | 2.4E-04 |
| | | | Ingestion | COBALT | 3.1E+00 | mg/kg | 4.0E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.3E-01 | 3.7E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.2E-02 |
| | | | Ingestion | IRON | 6.8E+03 | mg/kg | 8.7E-02 | mg/kg-d | 7.0E-01 | mg/kg-d | 1.2E-01 | 8.2E-03 | mg/kg-d | 7.0E-01 | mg/kg-d | 1.2E-02 |
| | | | Ingestion | THALLIUM | 3.3E-01 | mg/kg | 4.2E-06 | mg/kg-d | 1.0E-05 | mg/kg-d | 4.2E-01 | 4.0E-07 | mg/kg-d | 1.0E-05 | mg/kg-d | 4.0E-02 |
| | | | Ingestion | **SVOCs** | | | | | | | | | | | | |
| | | | Ingestion | BENZO(A)PYRENE | 7.3E-02 | mg/kg | 9.3E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 3.1E-03 | 8.8E-08 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.9E-04 |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 2.1E-02 | mg/kg | 2.7E-07 | mg/kg-d | NA | mg/kg-d | NA | 2.5E-08 | mg/kg-d | NA | mg/kg-d | NA |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Ingestion]** | | | | | | | | **7.5E-01** | | | | | **7.0E-02** |
| Soil | Soil (0-2 ft bgs) | EUSA | Dermal | **Metals** | | | | | | | | | | | | |
| | | | Dermal | ARSENIC | 2.5E+00 | mg/kg | 2.2E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 7.4E-03 | 3.7E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.2E-03 |
| | | | Dermal | CHROMIUM, HEXAVALENT | 6.1E-01 | mg/kg | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA |
| | | | Dermal | COBALT | 3.1E+00 | mg/kg | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA |
| | | | Dermal | IRON | 6.8E+03 | mg/kg | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA |
| | | | Dermal | THALLIUM | 3.3E-01 | mg/kg | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA |
| | | | Dermal | **SVOCs** | | | | | | | | | | | | |
| | | | Dermal | BENZO(A)PYRENE | 7.3E-02 | mg/kg | 2.9E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 9.6E-04 | 4.8E-08 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.6E-04 |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 2.1E-02 | mg/kg | 8.3E-08 | mg/kg-d | NA | mg/kg-d | NA | 1.4E-08 | mg/kg-d | NA | mg/kg-d | NA |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Dermal]** | | | | | | | | **8.4E-03** | | | | | **1.4E-03** |
| Soil | Particulates in Air (soil 0-2) | EUSA | Inhalation | **Metals** | | | | | | | | | | | | |
| | | | Inhalation | ARSENIC | 7.7E-10 | mg/m3 | 7.3E-10 | mg/m3 | 1.5E-05 | mg/m3 | 4.9E-05 | 7.3E-10 | mg/m3 | 1.5E-05 | mg/m3 | 4.9E-05 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 1.9E-10 | mg/m3 | 1.8E-10 | mg/m3 | 1.0E-04 | mg/m3 | 1.8E-06 | 1.8E-10 | mg/m3 | 1.0E-04 | mg/m3 | 1.8E-06 |
| | | | Inhalation | COBALT | 9.7E-10 | mg/m3 | 9.3E-10 | mg/m3 | 6.0E-06 | mg/m3 | 1.5E-04 | 9.3E-10 | mg/m3 | 6.0E-06 | mg/m3 | 1.5E-04 |
| | | | Inhalation | IRON | 2.1E-06 | mg/m3 | 2.0E-06 | mg/m3 | NA | mg/m3 | NA | 2.0E-06 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | THALLIUM | 1.0E-10 | mg/m3 | 9.9E-11 | mg/m3 | NA | mg/m3 | NA | 9.9E-11 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **SVOCs** | | | | | | | | | | | | |
| | | | Inhalation | BENZO(A)PYRENE | 2.3E-11 | mg/m3 | 2.2E-11 | mg/m3 | 2.0E-06 | mg/m3 | 1.1E-05 | 2.2E-11 | mg/m3 | 2.0E-06 | mg/m3 | 1.1E-05 |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 6.6E-12 | mg/m3 | 6.3E-12 | mg/m3 | NA | mg/m3 | NA | 6.3E-12 | mg/m3 | NA | mg/m3 | NA |
| | | | **Exposure Route Total [Particulates in Air (soil 0-2)-Inhalation]** | | | | | | | | **2.2E-04** | | | | | **2.2E-04** |
| **Exposure Point Total (EUSA)** | | | | | | | | | | | **8E-01** | | | | | **7E-02** |
| Soil | Soil (0-2 ft bgs) | NFA | Ingestion | **Metals** | | | | | | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.6E+03 | mg/kg | 4.7E-02 | mg/kg-d | 1.0E+00 | mg/kg-d | 4.7E-02 | 4.4E-03 | mg/kg-d | 1.0E+00 | mg/kg-d | 4.4E-03 |
| | | | Ingestion | ANTIMONY | 1.0E+00 | mg/kg | 1.3E-05 | mg/kg-d | 4.0E-04 | mg/kg-d | 3.2E-02 | 1.2E-06 | mg/kg-d | 4.0E-04 | mg/kg-d | 3.0E-03 |
| | | | Ingestion | ARSENIC | 4.3E+01 | mg/kg | 3.3E-04 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.1E+00 | 3.1E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.0E-01 |
| | | | Ingestion | BARIUM | 4.5E+02 | mg/kg | 5.7E-03 | mg/kg-d | 2.0E-01 | mg/kg-d | 2.9E-02 | 5.4E-04 | mg/kg-d | 2.0E-01 | mg/kg-d | 2.7E-03 |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 7.5E+00 | mg/kg | 9.5E-05 | mg/kg-d | 3.0E-03 | mg/kg-d | 3.2E-02 | 9.0E-06 | mg/kg-d | 3.0E-03 | mg/kg-d | 3.0E-03 |
| | | | Ingestion | COBALT | 2.3E+00 | mg/kg | 3.0E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.0E-01 | 2.8E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 9.4E-03 |
| | | | Ingestion | COPPER | 2.7E+01 | mg/kg | 3.5E-04 | mg/kg-d | 4.0E-02 | mg/kg-d | 8.7E-03 | 3.3E-05 | mg/kg-d | 4.0E-02 | mg/kg-d | 8.2E-04 |
| | | | Ingestion | CYANIDE | 4.5E+00 | mg/kg | 5.8E-05 | mg/kg-d | 6.0E-04 | mg/kg-d | 9.6E-02 | 5.4E-06 | mg/kg-d | 6.0E-04 | mg/kg-d | 9.0E-03 |
| | | | Ingestion | IRON | 7.3E+03 | mg/kg | 9.4E-02 | mg/kg-d | 7.0E-01 | mg/kg-d | 1.3E-01 | 8.8E-03 | mg/kg-d | 7.0E-01 | mg/kg-d | 1.3E-02 |
| | | | Ingestion | LEAD | 3.0E+02 | mg/kg | 3.9E-03 | mg/kg-d | NA | mg/kg-d | NA | 3.6E-04 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | MANGANESE | 1.0E+02 | mg/kg | 1.3E-03 | mg/kg-d | 2.4E-02 | mg/kg-d | 5.4E-02 | 1.2E-04 | mg/kg-d | 2.4E-02 | mg/kg-d | 5.0E-03 |
| | | | Ingestion | THALLIUM | 3.4E-01 | mg/kg | 4.4E-06 | mg/kg-d | 1.0E-05 | mg/kg-d | 4.4E-01 | 4.1E-07 | mg/kg-d | 1.0E-05 | mg/kg-d | 4.1E-02 |
| | | | Ingestion | VANADIUM | 1.5E+01 | mg/kg | 1.9E-04 | mg/kg-d | 5.0E-03 | mg/kg-d | 3.7E-02 | 1.7E-05 | mg/kg-d | 5.0E-03 | mg/kg-d | 3.5E-03 |
| | | | Ingestion | **PEST/PCB** | | | | | | | | | | | | |
| | | | Ingestion | AROCLOR-1248 | 4.8E-02 | mg/kg | 6.1E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 3.1E-02 | 5.7E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 2.9E-03 |
| | | | Ingestion | AROCLOR-1254 | 4.0E-02 | mg/kg | 5.2E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 2.6E-02 | 4.8E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 2.4E-03 |
| | | | Ingestion | AROCLOR-1260 | 3.2E+00 | mg/kg | 4.1E-05 | mg/kg-d | 2.0E-05 | mg/kg-d | 2.0E+00 | 3.8E-06 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.9E-01 |
| | | | Ingestion | DIELDRIN | 3.6E-02 | mg/kg | 4.6E-07 | mg/kg-d | 5.0E-05 | mg/kg-d | 9.1E-03 | 4.3E-08 | mg/kg-d | 5.0E-05 | mg/kg-d | 8.5E-04 |

**Table 7.11**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Resident |
| Receptor Age: | Child/Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Child | | | | Non-cancer Hazards Child | Non-cancer Hazard Calculations - Adult | | | | Non-cancer Hazards Adult |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | | Value | Units | Value | Units | |
| | | | Ingestion | **SVOCs** | | | | | | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 2.1E+00 | mg/kg | 2.7E-05 | mg/kg-d | NA | mg/kg-d | NA | 2.5E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(A)PYRENE | 1.0E+00 | mg/kg | 1.3E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 4.5E-02 | 1.3E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 4.2E-03 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 2.3E+00 | mg/kg | 2.9E-05 | mg/kg-d | NA | mg/kg-d | NA | 2.7E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 1.9E+00 | mg/kg | 2.5E-05 | mg/kg-d | NA | mg/kg-d | NA | 2.3E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | CHRYSENE | 7.6E-01 | mg/kg | 9.7E-06 | mg/kg-d | NA | mg/kg-d | NA | 9.1E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 6.9E-01 | mg/kg | 8.8E-06 | mg/kg-d | NA | mg/kg-d | NA | 8.2E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 9.9E-01 | mg/kg | 1.3E-05 | mg/kg-d | NA | mg/kg-d | NA | 1.2E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | NAPHTHALENE | 1.1E+00 | mg/kg | 1.4E-05 | mg/kg-d | 2.0E-02 | mg/kg-d | 7.0E-04 | 1.3E-06 | mg/kg-d | 2.0E-02 | mg/kg-d | 6.6E-05 |
| | | | Ingestion | **VOCs** | | | | | | | | | | | | |
| | | | Ingestion | BENZENE | 4.2E-01 | mg/kg | 5.4E-06 | mg/kg-d | 4.0E-03 | mg/kg-d | 1.3E-03 | 5.0E-07 | mg/kg-d | 4.0E-03 | mg/kg-d | 1.3E-04 |
| | | | Ingestion | ETHYLBENZENE | 4.2E+01 | mg/kg | 5.4E-04 | mg/kg-d | 1.0E-01 | mg/kg-d | 5.4E-03 | 5.0E-05 | mg/kg-d | 1.0E-01 | mg/kg-d | 5.0E-04 |
| | | | Ingestion | METHYLCYCLOHEXANE | 6.7E+02 | mg/kg | 8.6E-03 | mg/kg-d | NA | mg/kg-d | NA | 8.0E-04 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | TRICHLOROETHYLENE (TCE) | 5.1E-02 | mg/kg | 6.5E-07 | mg/kg-d | 5.0E-04 | mg/kg-d | 1.3E-03 | 6.1E-08 | mg/kg-d | 5.0E-04 | mg/kg-d | 1.2E-04 |
| | | | Ingestion | **TICs** | | | | | | | | | | | | |
| | | | Ingestion | 1,1-BIPHENYL, 2,3,4,4,5,5-HEXACHLORO | 2.1E+00 | mg/kg | 2.7E-05 | mg/kg-d | 2.3E-05 | mg/kg-d | 1.2E+00 | 2.6E-06 | mg/kg-d | 2.3E-05 | mg/kg-d | 1.1E-01 |
| | | | Ingestion | BENZO[J]FLUORANTHENE | 3.2E+00 | mg/kg | 4.0E-05 | mg/kg-d | NA | mg/kg-d | NA | 3.8E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Ingestion]** | | | | | | | | **5.4E+00** | | | | | **5.1E-01** |
| Soil | Soil (0-2 ft bgs) | NFA | Dermal | **Metals** | | | | | | | | | | | | |
| | | | Dermal | ALUMINUM | 3.6E+03 | mg/kg | NA | mg/kg-d | 1.0E+00 | mg/kg-d | NA | NA | mg/kg-d | 1.0E+00 | mg/kg-d | NA |
| | | | Dermal | ANTIMONY | 1.0E+00 | mg/kg | NA | mg/kg-d | 6.0E-05 | mg/kg-d | NA | NA | mg/kg-d | 6.0E-05 | mg/kg-d | NA |
| | | | Dermal | ARSENIC | 4.3E+01 | mg/kg | 3.9E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.3E-01 | 6.5E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.2E-02 |
| | | | Dermal | BARIUM | 4.5E+02 | mg/kg | NA | mg/kg-d | 1.4E-02 | mg/kg-d | NA | NA | mg/kg-d | 1.4E-02 | mg/kg-d | NA |
| | | | Dermal | CHROMIUM, HEXAVALENT | 7.5E+00 | mg/kg | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA |
| | | | Dermal | COBALT | 2.3E+00 | mg/kg | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA |
| | | | Dermal | COPPER | 2.7E+01 | mg/kg | NA | mg/kg-d | 4.0E-02 | mg/kg-d | NA | NA | mg/kg-d | 4.0E-02 | mg/kg-d | NA |
| | | | Dermal | CYANIDE | 4.5E+00 | mg/kg | NA | mg/kg-d | 6.0E-04 | mg/kg-d | NA | NA | mg/kg-d | 6.0E-04 | mg/kg-d | NA |
| | | | Dermal | IRON | 7.3E+03 | mg/kg | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA |
| | | | Dermal | LEAD | 3.0E+02 | mg/kg | NA | mg/kg-d | NA | mg/kg-d | NA | NA | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | MANGANESE | 1.0E+02 | mg/kg | NA | mg/kg-d | 9.6E-04 | mg/kg-d | NA | NA | mg/kg-d | 9.6E-04 | mg/kg-d | NA |
| | | | Dermal | THALLIUM | 3.4E-01 | mg/kg | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA |
| | | | Dermal | VANADIUM | 1.5E+01 | mg/kg | NA | mg/kg-d | 1.3E-04 | mg/kg-d | NA | NA | mg/kg-d | 1.3E-04 | mg/kg-d | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | | | | | | |
| | | | Dermal | AROCLOR-1248 | 4.8E-02 | mg/kg | 2.0E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.0E-02 | 3.4E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.7E-03 |
| | | | Dermal | AROCLOR-1254 | 4.0E-02 | mg/kg | 1.7E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 8.6E-03 | 2.9E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.4E-03 |
| | | | Dermal | AROCLOR-1260 | 3.2E+00 | mg/kg | 1.4E-05 | mg/kg-d | 2.0E-05 | mg/kg-d | 6.8E-01 | 2.3E-06 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.1E-01 |
| | | | Dermal | DIELDRIN | 3.6E-02 | mg/kg | 1.1E-07 | mg/kg-d | 5.0E-05 | mg/kg-d | 2.2E-03 | 1.8E-08 | mg/kg-d | 5.0E-05 | mg/kg-d | 3.6E-04 |
| | | | Dermal | **SVOCs** | | | | | | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 2.1E+00 | mg/kg | 8.2E-06 | mg/kg-d | NA | mg/kg-d | NA | 1.4E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(A)PYRENE | 1.0E+00 | mg/kg | 4.1E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.4E-02 | 6.9E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.3E-03 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 2.3E+00 | mg/kg | 9.0E-06 | mg/kg-d | NA | mg/kg-d | NA | 1.5E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(K)FLUORANTHENE | 1.9E+00 | mg/kg | 7.7E-06 | mg/kg-d | NA | mg/kg-d | NA | 1.3E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | CHRYSENE | 7.6E-01 | mg/kg | 3.0E-06 | mg/kg-d | NA | mg/kg-d | NA | 5.0E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 6.9E-01 | mg/kg | 2.7E-06 | mg/kg-d | NA | mg/kg-d | NA | 4.5E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 9.9E-01 | mg/kg | 3.9E-06 | mg/kg-d | NA | mg/kg-d | NA | 6.5E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | NAPHTHALENE | 1.1E+00 | mg/kg | 4.3E-06 | mg/kg-d | 2.0E-02 | mg/kg-d | 2.2E-04 | 7.2E-07 | mg/kg-d | 2.0E-02 | mg/kg-d | 3.6E-05 |
| | | | Dermal | **VOCs** | | | | | | | | | | | | |
| | | | Dermal | BENZENE | 4.2E-01 | mg/kg | NA | mg/kg-d | 4.0E-03 | mg/kg-d | NA | NA | mg/kg-d | 4.0E-03 | mg/kg-d | NA |
| | | | Dermal | ETHYLBENZENE | 4.2E+01 | mg/kg | NA | mg/kg-d | 1.0E-01 | mg/kg-d | NA | NA | mg/kg-d | 1.0E-01 | mg/kg-d | NA |
| | | | Dermal | METHYLCYCLOHEXANE | 6.7E+02 | mg/kg | NA | mg/kg-d | NA | mg/kg-d | NA | NA | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | TRICHLOROETHYLENE (TCE) | 5.1E-02 | mg/kg | NA | mg/kg-d | 5.0E-04 | mg/kg-d | NA | NA | mg/kg-d | 5.0E-04 | mg/kg-d | NA |

**Table 7.11**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Resident |
| Receptor Age: | Child/Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Child | | | | Non-cancer Hazards Child | Non-cancer Hazard Calculations - Adult | | | | Non-cancer Hazards Adult |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | | Value | Units | Value | Units | |
| | | | Dermal | **TICs** | | | | | | | | | | | | |
| | | | Dermal | 1,1-BIPHENYL, 2,3,4,4,5,5-HEXACHLORO | 2.1E+00 | mg/kg | 9.1E-06 | mg/kg-d | 2.3E-05 | mg/kg-d | 4.0E-01 | 1.5E-06 | mg/kg-d | 2.3E-05 | mg/kg-d | 6.6E-02 |
| | | | Dermal | BENZO[J]FLUORANTHENE | 3.2E+00 | mg/kg | 1.2E-05 | mg/kg-d | NA | mg/kg-d | NA | 2.1E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Dermal]** | | | | | | | | **1.2E+00** | | | | | **2.1E-01** |
| Soil | Particulates in Air (soil 0-2) | NFA | Inhalation | **Metals** | | | | | | | | | | | | |
| | | | Inhalation | ALUMINUM | 1.1E-06 | mg/m3 | 1.1E-06 | mg/m3 | 5.0E-03 | mg/m3 | 2.2E-04 | 1.1E-06 | mg/m3 | 5.0E-03 | mg/m3 | 2.2E-04 |
| | | | Inhalation | ANTIMONY | 3.2E-10 | mg/m3 | 3.0E-10 | mg/m3 | NA | mg/m3 | NA | 3.0E-10 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | ARSENIC | 1.3E-08 | mg/m3 | 1.3E-08 | mg/m3 | 1.5E-05 | mg/m3 | 8.5E-04 | 1.3E-08 | mg/m3 | 1.5E-05 | mg/m3 | 8.5E-04 |
| | | | Inhalation | BARIUM | 1.4E-07 | mg/m3 | 1.3E-07 | mg/m3 | 5.0E-04 | mg/m3 | 2.7E-04 | 1.3E-07 | mg/m3 | 5.0E-04 | mg/m3 | 2.7E-04 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.3E-09 | mg/m3 | 2.2E-09 | mg/m3 | 1.0E-04 | mg/m3 | 2.2E-05 | 2.2E-09 | mg/m3 | 1.0E-04 | mg/m3 | 2.2E-05 |
| | | | Inhalation | COBALT | 7.3E-10 | mg/m3 | 7.0E-10 | mg/m3 | 6.0E-06 | mg/m3 | 1.2E-04 | 7.0E-10 | mg/m3 | 6.0E-06 | mg/m3 | 1.2E-04 |
| | | | Inhalation | COPPER | 8.5E-09 | mg/m3 | 8.2E-09 | mg/m3 | NA | mg/m3 | NA | 8.2E-09 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CYANIDE | 6.0E-05 | mg/m3 | 5.7E-05 | mg/m3 | 8.0E-04 | mg/m3 | 7.2E-02 | 5.7E-05 | mg/m3 | 8.0E-04 | mg/m3 | 7.2E-02 |
| | | | Inhalation | IRON | 2.3E-06 | mg/m3 | 2.2E-06 | mg/m3 | NA | mg/m3 | NA | 2.2E-06 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | LEAD | 9.5E-08 | mg/m3 | 9.1E-08 | mg/m3 | NA | mg/m3 | NA | 9.1E-08 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | MANGANESE | 3.2E-08 | mg/m3 | 3.0E-08 | mg/m3 | 5.0E-05 | mg/m3 | 6.1E-04 | 3.0E-08 | mg/m3 | 5.0E-05 | mg/m3 | 6.1E-04 |
| | | | Inhalation | THALLIUM | 1.1E-10 | mg/m3 | 1.0E-10 | mg/m3 | NA | mg/m3 | NA | 1.0E-10 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | VANADIUM | 4.5E-09 | mg/m3 | 4.4E-09 | mg/m3 | 1.0E-04 | mg/m3 | 4.4E-05 | 4.4E-09 | mg/m3 | 1.0E-04 | mg/m3 | 4.4E-05 |
| | | | Inhalation | **PEST/PCB** | | | | | | | | | | | | |
| | | | Inhalation | AROCLOR-1248 | 6.0E-08 | mg/m3 | 5.7E-08 | mg/m3 | NA | mg/m3 | NA | 5.7E-08 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | AROCLOR-1254 | 3.7E-08 | mg/m3 | 3.6E-08 | mg/m3 | NA | mg/m3 | NA | 3.6E-08 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | AROCLOR-1260 | 1.9E-06 | mg/m3 | 1.8E-06 | mg/m3 | NA | mg/m3 | NA | 1.8E-06 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIELDRIN | 1.1E-11 | mg/m3 | 1.1E-11 | mg/m3 | NA | mg/m3 | NA | 1.1E-11 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **SVOCs** | | | | | | | | | | | | |
| | | | Inhalation | BENZO(A)ANTHRACENE | 3.7E-07 | mg/m3 | 3.5E-07 | mg/m3 | NA | mg/m3 | NA | 3.5E-07 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(A)PYRENE | 3.3E-10 | mg/m3 | 3.1E-10 | mg/m3 | 2.0E-06 | mg/m3 | 1.6E-04 | 3.1E-10 | mg/m3 | 2.0E-06 | mg/m3 | 1.6E-04 |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 7.2E-10 | mg/m3 | 6.9E-10 | mg/m3 | NA | mg/m3 | NA | 6.9E-10 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 6.1E-10 | mg/m3 | 5.8E-10 | mg/m3 | NA | mg/m3 | NA | 5.8E-10 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CHRYSENE | 2.4E-10 | mg/m3 | 2.3E-10 | mg/m3 | NA | mg/m3 | NA | 2.3E-10 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 2.1E-10 | mg/m3 | 2.1E-10 | mg/m3 | NA | mg/m3 | NA | 2.1E-10 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 3.1E-10 | mg/m3 | 3.0E-10 | mg/m3 | NA | mg/m3 | NA | 3.0E-10 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | NAPHTHALENE | 1.9E-05 | mg/m3 | 1.8E-05 | mg/m3 | 3.0E-03 | mg/m3 | 5.9E-03 | 1.8E-05 | mg/m3 | 3.0E-03 | mg/m3 | 5.9E-03 |
| | | | Inhalation | **VOCs** | | | | | | | | | | | | |
| | | | Inhalation | BENZENE | 9.3E-05 | mg/m3 | 8.9E-05 | mg/m3 | 3.0E-02 | mg/m3 | 3.0E-03 | 8.9E-05 | mg/m3 | 3.0E-02 | mg/m3 | 3.0E-03 |
| | | | Inhalation | ETHYLBENZENE | 5.8E-03 | mg/m3 | 5.5E-03 | mg/m3 | 1.0E+00 | mg/m3 | 5.5E-03 | 5.5E-03 | mg/m3 | 1.0E+00 | mg/m3 | 5.5E-03 |
| | | | Inhalation | METHYLCYCLOHEXANE | 5.0E-01 | mg/m3 | 4.8E-01 | mg/m3 | 6.0E+00 | mg/m3 | 8.0E-02 | 4.8E-01 | mg/m3 | 6.0E+00 | mg/m3 | 8.0E-02 |
| | | | Inhalation | TRICHLOROETHYLENE (TCE) | 1.8E-05 | mg/m3 | 1.7E-05 | mg/m3 | 2.0E-03 | mg/m3 | 8.7E-03 | 1.7E-05 | mg/m3 | 2.0E-03 | mg/m3 | 8.7E-03 |
| | | | Inhalation | **TICs** | | | | | | | | | | | | |
| | | | Inhalation | 1,1-BIPHENYL, 2,3,4,4,5,5-HEXACHLORO | 7.6E-07 | mg/m3 | 7.3E-07 | mg/m3 | 1.3E-03 | mg/m3 | 5.6E-04 | 7.3E-07 | mg/m3 | 1.3E-03 | mg/m3 | 5.6E-04 |
| | | | Inhalation | BENZO[J]FLUORANTHENE | 9.9E-10 | mg/m3 | 9.5E-10 | mg/m3 | NA | mg/m3 | NA | 9.5E-10 | mg/m3 | NA | mg/m3 | NA |
| | | | **Exposure Route Total [Particulates in Air (soil 0-2)-Inhalation]** | | | | | | | | **1.8E-01** | | | | | **1.8E-01** |
| **Exposure Point Total (NFA)** | | | | | | | | | | | **7E+00** | | | | | **9E-01** |
| Soil | Soil (0-2 ft bgs) | SFA | Ingestion | **Metals** | | | | | | | | | | | | |
| | | | Ingestion | ALUMINUM | 2.8E+03 | mg/kg | 3.6E-02 | mg/kg-d | 1.0E+00 | mg/kg-d | 3.6E-02 | 3.4E-03 | mg/kg-d | 1.0E+00 | mg/kg-d | 3.4E-03 |
| | | | Ingestion | ANTIMONY | 1.2E+02 | mg/kg | 1.5E-03 | mg/kg-d | 4.0E-04 | mg/kg-d | 3.8E+00 | 1.4E-04 | mg/kg-d | 4.0E-04 | mg/kg-d | 3.6E-01 |
| | | | Ingestion | ARSENIC | 3.0E+01 | mg/kg | 2.3E-04 | mg/kg-d | 3.0E-04 | mg/kg-d | 7.6E-01 | 2.1E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 7.1E-02 |
| | | | Ingestion | BARIUM | 6.2E+02 | mg/kg | 8.0E-03 | mg/kg-d | 2.0E-01 | mg/kg-d | 4.0E-02 | 7.5E-04 | mg/kg-d | 2.0E-01 | mg/kg-d | 3.7E-03 |
| | | | Ingestion | CADMIUM | 1.2E+00 | mg/kg | 1.6E-05 | mg/kg-d | 1.0E-03 | mg/kg-d | 1.6E-02 | 1.5E-06 | mg/kg-d | 1.0E-03 | mg/kg-d | 1.5E-03 |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 2.1E+00 | mg/kg | 2.7E-05 | mg/kg-d | 3.0E-03 | mg/kg-d | 8.9E-03 | 2.5E-06 | mg/kg-d | 3.0E-03 | mg/kg-d | 8.3E-04 |
| | | | Ingestion | COBALT | 2.2E+00 | mg/kg | 2.8E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 9.5E-02 | 2.7E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 8.9E-03 |
| | | | Ingestion | CYANIDE | 7.8E+00 | mg/kg | 1.0E-04 | mg/kg-d | 6.0E-04 | mg/kg-d | 1.7E-01 | 9.3E-06 | mg/kg-d | 6.0E-04 | mg/kg-d | 1.6E-02 |
| | | | Ingestion | IRON | 8.5E+03 | mg/kg | 1.1E-01 | mg/kg-d | 7.0E-01 | mg/kg-d | 1.5E-01 | 1.0E-02 | mg/kg-d | 7.0E-01 | mg/kg-d | 1.5E-02 |

**Table 7.11**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Resident |
| Receptor Age: | Child/Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Child | | | | Non-cancer Hazards Child | Non-cancer Hazard Calculations - Adult | | | | Non-cancer Hazards Adult |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | | Value | Units | Value | Units | |
| | | | Ingestion | LEAD | 1.9E+03 | mg/kg | 2.4E-02 | mg/kg-d | NA | mg/kg-d | NA | 2.3E-03 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | MANGANESE | 9.1E+01 | mg/kg | 1.2E-03 | mg/kg-d | 2.4E-02 | mg/kg-d | 4.9E-02 | 1.1E-04 | mg/kg-d | 2.4E-02 | mg/kg-d | 4.6E-03 |
| | | | Ingestion | THALLIUM | 3.5E-01 | mg/kg | 4.5E-06 | mg/kg-d | 1.0E-05 | mg/kg-d | 4.5E-01 | 4.2E-07 | mg/kg-d | 1.0E-05 | mg/kg-d | 4.2E-02 |
| | | | Ingestion | VANADIUM | 1.3E+01 | mg/kg | 1.6E-04 | mg/kg-d | 5.0E-03 | mg/kg-d | 3.2E-02 | 1.5E-05 | mg/kg-d | 5.0E-03 | mg/kg-d | 3.0E-03 |
| | | | Ingestion | ZINC | 4.4E+02 | mg/kg | 5.7E-03 | mg/kg-d | 3.0E-01 | mg/kg-d | 1.9E-02 | 5.3E-04 | mg/kg-d | 3.0E-01 | mg/kg-d | 1.8E-03 |
| | | | Ingestion | **PEST/PCB** | | | | | | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 5.4E-02 | mg/kg | 7.0E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 3.5E-02 | 6.5E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 3.3E-03 |
| | | | Ingestion | **SVOCs** | | | | | | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 1.1E+01 | mg/kg | 1.4E-04 | mg/kg-d | NA | mg/kg-d | NA | 1.3E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(A)PYRENE | 1.2E+01 | mg/kg | 1.5E-04 | mg/kg-d | 3.0E-04 | mg/kg-d | 5.1E-01 | 1.4E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 4.8E-02 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 1.8E+01 | mg/kg | 2.3E-04 | mg/kg-d | NA | mg/kg-d | NA | 2.2E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 8.7E+00 | mg/kg | 1.1E-04 | mg/kg-d | NA | mg/kg-d | NA | 1.0E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | CHRYSENE | 1.5E+01 | mg/kg | 1.9E-04 | mg/kg-d | NA | mg/kg-d | NA | 1.8E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 1.6E+00 | mg/kg | 2.0E-05 | mg/kg-d | NA | mg/kg-d | NA | 1.9E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 5.6E+00 | mg/kg | 7.1E-05 | mg/kg-d | NA | mg/kg-d | NA | 6.7E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | NAPHTHALENE | 5.3E+00 | mg/kg | 6.8E-05 | mg/kg-d | 2.0E-02 | mg/kg-d | 3.4E-03 | 6.4E-06 | mg/kg-d | 2.0E-02 | mg/kg-d | 3.2E-04 |
| | | | Ingestion | **VOCs** | | | | | | | | | | | | |
| | | | Ingestion | BENZENE | 2.8E-01 | mg/kg | 3.6E-06 | mg/kg-d | 4.0E-03 | mg/kg-d | 8.9E-04 | 3.3E-07 | mg/kg-d | 4.0E-03 | mg/kg-d | 8.4E-05 |
| | | | Ingestion | ETHYLBENZENE | 6.9E+00 | mg/kg | 8.9E-05 | mg/kg-d | 1.0E-01 | mg/kg-d | 8.9E-04 | 8.3E-06 | mg/kg-d | 1.0E-01 | mg/kg-d | 8.3E-05 |
| | | | Ingestion | XYLENES (TOTAL) | 9.6E+01 | mg/kg | 1.2E-03 | mg/kg-d | 2.0E-01 | mg/kg-d | 6.1E-03 | 1.1E-04 | mg/kg-d | 2.0E-01 | mg/kg-d | 5.7E-04 |
| | | | Ingestion | **TICs** | | | | | | | | | | | | |
| | | | Ingestion | BENZO[J]FLUORANTHENE | 7.0E-01 | mg/kg | 8.9E-06 | mg/kg-d | NA | mg/kg-d | NA | 8.4E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Ingestion]** | | | | | | | | **6.2E+00** | | | | | **5.8E-01** |
| Soil | Soil (0-2 ft bgs) | SFA | Dermal | **Metals** | | | | | | | | | | | | |
| | | | Dermal | ALUMINUM | 2.8E+03 | mg/kg | NA | mg/kg-d | 1.0E+00 | mg/kg-d | NA | NA | mg/kg-d | 1.0E+00 | mg/kg-d | NA |
| | | | Dermal | ANTIMONY | 1.2E+02 | mg/kg | NA | mg/kg-d | 6.0E-05 | mg/kg-d | NA | NA | mg/kg-d | 6.0E-05 | mg/kg-d | NA |
| | | | Dermal | ARSENIC | 3.0E+01 | mg/kg | 2.7E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 9.0E-02 | 4.5E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.5E-02 |
| | | | Dermal | BARIUM | 6.2E+02 | mg/kg | NA | mg/kg-d | 1.4E-02 | mg/kg-d | NA | NA | mg/kg-d | 1.4E-02 | mg/kg-d | NA |
| | | | Dermal | CADMIUM | 1.2E+00 | mg/kg | 3.7E-08 | mg/kg-d | 2.5E-05 | mg/kg-d | 1.5E-03 | 6.3E-09 | mg/kg-d | 2.5E-05 | mg/kg-d | 2.5E-04 |
| | | | Dermal | CHROMIUM, HEXAVALENT | 2.1E+00 | mg/kg | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA |
| | | | Dermal | COBALT | 2.2E+00 | mg/kg | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA |
| | | | Dermal | CYANIDE | 7.8E+00 | mg/kg | NA | mg/kg-d | 6.0E-04 | mg/kg-d | NA | NA | mg/kg-d | 6.0E-04 | mg/kg-d | NA |
| | | | Dermal | IRON | 8.5E+03 | mg/kg | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA |
| | | | Dermal | LEAD | 1.9E+03 | mg/kg | NA | mg/kg-d | NA | mg/kg-d | NA | NA | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | MANGANESE | 9.1E+01 | mg/kg | NA | mg/kg-d | 9.6E-04 | mg/kg-d | NA | NA | mg/kg-d | 9.6E-04 | mg/kg-d | NA |
| | | | Dermal | THALLIUM | 3.5E-01 | mg/kg | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA |
| | | | Dermal | VANADIUM | 1.3E+01 | mg/kg | NA | mg/kg-d | 1.3E-04 | mg/kg-d | NA | NA | mg/kg-d | 1.3E-04 | mg/kg-d | NA |
| | | | Dermal | ZINC | 4.4E+02 | mg/kg | NA | mg/kg-d | 3.0E-01 | mg/kg-d | NA | NA | mg/kg-d | 3.0E-01 | mg/kg-d | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 5.4E-02 | mg/kg | 2.3E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.2E-02 | 3.9E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.9E-03 |
| | | | Dermal | **SVOCs** | | | | | | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 1.1E+01 | mg/kg | 4.3E-05 | mg/kg-d | NA | mg/kg-d | NA | 7.2E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(A)PYRENE | 1.2E+01 | mg/kg | 4.7E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.6E-01 | 7.9E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.6E-02 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 1.8E+01 | mg/kg | 7.2E-05 | mg/kg-d | NA | mg/kg-d | NA | 1.2E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(K)FLUORANTHENE | 8.7E+00 | mg/kg | 3.4E-05 | mg/kg-d | NA | mg/kg-d | NA | 5.7E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | CHRYSENE | 1.5E+01 | mg/kg | 5.9E-05 | mg/kg-d | NA | mg/kg-d | NA | 9.9E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 1.6E+00 | mg/kg | 6.3E-06 | mg/kg-d | NA | mg/kg-d | NA | 1.1E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 5.6E+00 | mg/kg | 2.2E-05 | mg/kg-d | NA | mg/kg-d | NA | 3.7E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | NAPHTHALENE | 5.3E+00 | mg/kg | 2.1E-05 | mg/kg-d | 2.0E-02 | mg/kg-d | 1.0E-03 | 3.5E-06 | mg/kg-d | 2.0E-02 | mg/kg-d | 1.7E-04 |

**Table 7.11**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Resident |
| Receptor Age: | Child/Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Child | | | | Non-cancer Hazards Child | Non-cancer Hazard Calculations - Adult | | | | Non-cancer Hazards Adult |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | | Value | Units | Value | Units | |
| | | | Dermal | **VOCs** | | | | | | | | | | | | |
| | | | Dermal | BENZENE | 2.8E-01 | mg/kg | NA | mg/kg-d | 4.0E-03 | mg/kg-d | NA | NA | mg/kg-d | 4.0E-03 | mg/kg-d | NA |
| | | | Dermal | ETHYLBENZENE | 6.9E+00 | mg/kg | NA | mg/kg-d | 1.0E-01 | mg/kg-d | NA | NA | mg/kg-d | 1.0E-01 | mg/kg-d | NA |
| | | | Dermal | XYLENES (TOTAL) | 9.6E+01 | mg/kg | NA | mg/kg-d | 2.0E-01 | mg/kg-d | NA | NA | mg/kg-d | 2.0E-01 | mg/kg-d | NA |
| | | | Dermal | **TICs** | | | | | | | | | | | | |
| | | | Dermal | BENZO[J]FLUORANTHENE | 7.0E-01 | mg/kg | 2.8E-06 | mg/kg-d | NA | mg/kg-d | NA | 4.6E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Dermal]** | | | | | | | | **2.6E-01** | | | | | **4.4E-02** |
| Soil | Particulates in Air (soil 0-2) | SFA | Inhalation | **Metals** | | | | | | | | | | | | |
| | | | Inhalation | ALUMINUM | 8.8E-07 | mg/m3 | 8.5E-07 | mg/m3 | 5.0E-03 | mg/m3 | 1.7E-04 | 8.5E-07 | mg/m3 | 5.0E-03 | mg/m3 | 1.7E-04 |
| | | | Inhalation | ANTIMONY | 3.7E-08 | mg/m3 | 3.6E-08 | mg/m3 | NA | mg/m3 | NA | 3.6E-08 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | ARSENIC | 9.3E-09 | mg/m3 | 8.9E-09 | mg/m3 | 1.5E-05 | mg/m3 | 5.9E-04 | 8.9E-09 | mg/m3 | 1.5E-05 | mg/m3 | 5.9E-04 |
| | | | Inhalation | BARIUM | 2.0E-07 | mg/m3 | 1.9E-07 | mg/m3 | 5.0E-04 | mg/m3 | 3.7E-04 | 1.9E-07 | mg/m3 | 5.0E-04 | mg/m3 | 3.7E-04 |
| | | | Inhalation | CADMIUM | 3.9E-10 | mg/m3 | 3.7E-10 | mg/m3 | 1.0E-05 | mg/m3 | 3.7E-05 | 3.7E-10 | mg/m3 | 1.0E-05 | mg/m3 | 3.7E-05 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 6.5E-10 | mg/m3 | 6.2E-10 | mg/m3 | 1.0E-04 | mg/m3 | 6.2E-06 | 6.2E-10 | mg/m3 | 1.0E-04 | mg/m3 | 6.2E-06 |
| | | | Inhalation | COBALT | 7.0E-10 | mg/m3 | 6.7E-10 | mg/m3 | 6.0E-06 | mg/m3 | 1.1E-04 | 6.7E-10 | mg/m3 | 6.0E-06 | mg/m3 | 1.1E-04 |
| | | | Inhalation | CYANIDE | 1.0E-04 | mg/m3 | 9.9E-05 | mg/m3 | 8.0E-04 | mg/m3 | 1.2E-01 | 9.9E-05 | mg/m3 | 8.0E-04 | mg/m3 | 1.2E-01 |
| | | | Inhalation | IRON | 2.7E-06 | mg/m3 | 2.5E-06 | mg/m3 | NA | mg/m3 | NA | 2.5E-06 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | LEAD | 5.9E-07 | mg/m3 | 5.6E-07 | mg/m3 | NA | mg/m3 | NA | 5.6E-07 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | MANGANESE | 2.9E-08 | mg/m3 | 2.7E-08 | mg/m3 | 5.0E-05 | mg/m3 | 5.5E-04 | 2.7E-08 | mg/m3 | 5.0E-05 | mg/m3 | 5.5E-04 |
| | | | Inhalation | THALLIUM | 1.1E-10 | mg/m3 | 1.0E-10 | mg/m3 | NA | mg/m3 | NA | 1.0E-10 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | VANADIUM | 3.9E-09 | mg/m3 | 3.8E-09 | mg/m3 | 1.0E-04 | mg/m3 | 3.8E-05 | 3.8E-09 | mg/m3 | 1.0E-04 | mg/m3 | 3.8E-05 |
| | | | Inhalation | ZINC | 1.4E-07 | mg/m3 | 1.3E-07 | mg/m3 | NA | mg/m3 | NA | 1.3E-07 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **PEST/PCB** | | | | | | | | | | | | |
| | | | Inhalation | AROCLOR-1254 | 5.0E-08 | mg/m3 | 4.8E-08 | mg/m3 | NA | mg/m3 | NA | 4.8E-08 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **SVOCs** | | | | | | | | | | | | |
| | | | Inhalation | BENZO(A)ANTHRACENE | 1.9E-06 | mg/m3 | 1.8E-06 | mg/m3 | NA | mg/m3 | NA | 1.8E-06 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(A)PYRENE | 3.8E-09 | mg/m3 | 3.6E-09 | mg/m3 | 2.0E-06 | mg/m3 | 1.8E-03 | 3.6E-09 | mg/m3 | 2.0E-06 | mg/m3 | 1.8E-03 |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 5.7E-09 | mg/m3 | 5.5E-09 | mg/m3 | NA | mg/m3 | NA | 5.5E-09 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 2.7E-09 | mg/m3 | 2.6E-09 | mg/m3 | NA | mg/m3 | NA | 2.6E-09 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CHRYSENE | 4.7E-09 | mg/m3 | 4.5E-09 | mg/m3 | NA | mg/m3 | NA | 4.5E-09 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 5.0E-10 | mg/m3 | 4.8E-10 | mg/m3 | NA | mg/m3 | NA | 4.8E-10 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 1.7E-09 | mg/m3 | 1.7E-09 | mg/m3 | NA | mg/m3 | NA | 1.7E-09 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | NAPHTHALENE | 8.9E-05 | mg/m3 | 8.6E-05 | mg/m3 | 3.0E-03 | mg/m3 | 2.9E-02 | 8.6E-05 | mg/m3 | 3.0E-03 | mg/m3 | 2.9E-02 |
| | | | Inhalation | **VOCs** | | | | | | | | | | | | |
| | | | Inhalation | BENZENE | 6.2E-05 | mg/m3 | 5.9E-05 | mg/m3 | 3.0E-02 | mg/m3 | 2.0E-03 | 5.9E-05 | mg/m3 | 3.0E-02 | mg/m3 | 2.0E-03 |
| | | | Inhalation | ETHYLBENZENE | 9.6E-04 | mg/m3 | 9.2E-04 | mg/m3 | 1.0E+00 | mg/m3 | 9.2E-04 | 9.2E-04 | mg/m3 | 1.0E+00 | mg/m3 | 9.2E-04 |
| | | | Inhalation | XYLENES (TOTAL) | 1.3E-02 | mg/m3 | 1.3E-02 | mg/m3 | 1.0E-01 | mg/m3 | 1.3E-01 | 1.3E-02 | mg/m3 | 1.0E-01 | mg/m3 | 1.3E-01 |
| | | | Inhalation | **TICs** | | | | | | | | | | | | |
| | | | Inhalation | BENZO[J]FLUORANTHENE | 2.2E-10 | mg/m3 | 2.1E-10 | mg/m3 | NA | mg/m3 | NA | 2.1E-10 | mg/m3 | NA | mg/m3 | NA |
| | | | **Exposure Route Total [Particulates in Air (soil 0-2)-Inhalation]** | | | | | | | | **2.8E-01** | | | | | **2.8E-01** |
| **Exposure Point Total (SFA)** | | | | | | | | | | | **6.7E+00** | | | | | **9.1E-01** |
| Soil | Soil (0-2 ft bgs) | UNDV | Ingestion | **Metals** | | | | | | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.5E+03 | mg/kg | 4.5E-02 | mg/kg-d | 1.0E+00 | mg/kg-d | 4.5E-02 | 4.2E-03 | mg/kg-d | 1.0E+00 | mg/kg-d | 4.2E-03 |
| | | | Ingestion | ANTIMONY | 1.2E+01 | mg/kg | 1.5E-04 | mg/kg-d | 4.0E-04 | mg/kg-d | 3.8E-01 | 1.4E-05 | mg/kg-d | 4.0E-04 | mg/kg-d | 3.6E-02 |
| | | | Ingestion | ARSENIC | 1.2E+02 | mg/kg | 9.5E-04 | mg/kg-d | 3.0E-04 | mg/kg-d | 3.2E+00 | 8.9E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 3.0E-01 |
| | | | Ingestion | BARIUM | 1.3E+03 | mg/kg | 1.6E-02 | mg/kg-d | 2.0E-01 | mg/kg-d | 8.2E-02 | 1.5E-03 | mg/kg-d | 2.0E-01 | mg/kg-d | 7.7E-03 |
| | | | Ingestion | CADMIUM | 1.5E+00 | mg/kg | 1.9E-05 | mg/kg-d | 1.0E-03 | mg/kg-d | 1.9E-02 | 1.7E-06 | mg/kg-d | 1.0E-03 | mg/kg-d | 1.7E-03 |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | 1.1E-05 | mg/kg-d | 3.0E-03 | mg/kg-d | 3.6E-03 | 1.0E-06 | mg/kg-d | 3.0E-03 | mg/kg-d | 3.3E-04 |
| | | | Ingestion | COBALT | 8.3E+00 | mg/kg | 1.1E-04 | mg/kg-d | 3.0E-04 | mg/kg-d | 3.5E-01 | 1.0E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 3.3E-02 |
| | | | Ingestion | COPPER | 1.3E+02 | mg/kg | 1.7E-03 | mg/kg-d | 4.0E-02 | mg/kg-d | 4.1E-02 | 1.5E-04 | mg/kg-d | 4.0E-02 | mg/kg-d | 3.9E-03 |
| | | | Ingestion | CYANIDE | 8.8E+01 | mg/kg | 1.1E-03 | mg/kg-d | 6.0E-04 | mg/kg-d | 1.9E+00 | 1.1E-04 | mg/kg-d | 6.0E-04 | mg/kg-d | 1.8E-01 |
| | | | Ingestion | IRON | 1.5E+04 | mg/kg | 1.9E-01 | mg/kg-d | 7.0E-01 | mg/kg-d | 2.7E-01 | 1.8E-02 | mg/kg-d | 7.0E-01 | mg/kg-d | 2.6E-02 |

**Table 7.11**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Resident |
| Receptor Age: | Child/Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Child | | | | Non-cancer Hazards Child | Non-cancer Hazard Calculations - Adult | | | | Non-cancer Hazards Adult |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | | Value | Units | Value | Units | |
| | | | Ingestion | LEAD | 6.6E+02 | mg/kg | 8.5E-03 | mg/kg-d | NA | mg/kg-d | NA | 8.0E-04 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | MANGANESE | 1.8E+02 | mg/kg | 2.3E-03 | mg/kg-d | 2.4E-02 | mg/kg-d | 9.8E-02 | 2.2E-04 | mg/kg-d | 2.4E-02 | mg/kg-d | 9.2E-03 |
| | | | Ingestion | MERCURY | 1.6E+00 | mg/kg | 2.1E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 6.9E-02 | 1.9E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 6.5E-03 |
| | | | Ingestion | THALLIUM | 5.2E-01 | mg/kg | 6.7E-06 | mg/kg-d | 1.0E-05 | mg/kg-d | 6.7E-01 | 6.3E-07 | mg/kg-d | 1.0E-05 | mg/kg-d | 6.3E-02 |
| | | | Ingestion | VANADIUM | 1.9E+01 | mg/kg | 2.5E-04 | mg/kg-d | 5.0E-03 | mg/kg-d | 4.9E-02 | 2.3E-05 | mg/kg-d | 5.0E-03 | mg/kg-d | 4.6E-03 |
| | | | Ingestion | ZINC | 6.5E+02 | mg/kg | 8.3E-03 | mg/kg-d | 3.0E-01 | mg/kg-d | 2.8E-02 | 7.8E-04 | mg/kg-d | 3.0E-01 | mg/kg-d | 2.6E-03 |
| | | | Ingestion | **PEST/PCB** | | | | | | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 7.4E-02 | mg/kg | 9.4E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 4.7E-02 | 8.8E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 4.4E-03 |
| | | | Ingestion | AROCLOR-1260 | 4.2E-01 | mg/kg | 5.3E-06 | mg/kg-d | 2.0E-05 | mg/kg-d | 2.7E-01 | 5.0E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 2.5E-02 |
| | | | Ingestion | DIELDRIN | 1.0E-02 | mg/kg | 1.3E-07 | mg/kg-d | 5.0E-05 | mg/kg-d | 2.7E-03 | 1.2E-08 | mg/kg-d | 5.0E-05 | mg/kg-d | 2.5E-04 |
| | | | Ingestion | **SVOCs** | | | | | | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 3.1E+00 | mg/kg | 4.0E-05 | mg/kg-d | NA | mg/kg-d | NA | 3.8E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(A)PYRENE | 3.8E+00 | mg/kg | 4.8E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.6E-01 | 4.5E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.5E-02 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 4.5E+00 | mg/kg | 5.7E-05 | mg/kg-d | NA | mg/kg-d | NA | 5.4E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 3.1E+00 | mg/kg | 4.0E-05 | mg/kg-d | NA | mg/kg-d | NA | 3.7E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | CHRYSENE | 4.5E+00 | mg/kg | 5.8E-05 | mg/kg-d | NA | mg/kg-d | NA | 5.4E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 7.6E-06 | mg/kg-d | NA | mg/kg-d | NA | 7.1E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 2.4E-05 | mg/kg-d | NA | mg/kg-d | NA | 2.3E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 6.8E-06 | mg/kg-d | 5.0E-03 | mg/kg-d | 1.4E-03 | 6.3E-07 | mg/kg-d | 5.0E-03 | mg/kg-d | 1.3E-04 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Ingestion]** | | | | | | | | **7.7E+00** | | | | | **7.2E-01** |
| Soil | Soil (0-2 ft bgs) | UNDV | Dermal | **Metals** | | | | | | | | | | | | |
| | | | Dermal | ALUMINUM | 3.5E+03 | mg/kg | NA | mg/kg-d | 1.0E+00 | mg/kg-d | NA | NA | mg/kg-d | 1.0E+00 | mg/kg-d | NA |
| | | | Dermal | ANTIMONY | 1.2E+01 | mg/kg | NA | mg/kg-d | 6.0E-05 | mg/kg-d | NA | NA | mg/kg-d | 6.0E-05 | mg/kg-d | NA |
| | | | Dermal | ARSENIC | 1.2E+02 | mg/kg | 1.1E-04 | mg/kg-d | 3.0E-04 | mg/kg-d | 3.8E-01 | 1.9E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 6.3E-02 |
| | | | Dermal | BARIUM | 1.3E+03 | mg/kg | NA | mg/kg-d | 1.4E-02 | mg/kg-d | NA | NA | mg/kg-d | 1.4E-02 | mg/kg-d | NA |
| | | | Dermal | CADMIUM | 1.5E+00 | mg/kg | 4.4E-08 | mg/kg-d | 2.5E-05 | mg/kg-d | 1.8E-03 | 7.3E-09 | mg/kg-d | 2.5E-05 | mg/kg-d | 2.9E-04 |
| | | | Dermal | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA |
| | | | Dermal | COBALT | 8.3E+00 | mg/kg | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA |
| | | | Dermal | COPPER | 1.3E+02 | mg/kg | NA | mg/kg-d | 4.0E-02 | mg/kg-d | NA | NA | mg/kg-d | 4.0E-02 | mg/kg-d | NA |
| | | | Dermal | CYANIDE | 8.8E+01 | mg/kg | NA | mg/kg-d | 6.0E-04 | mg/kg-d | NA | NA | mg/kg-d | 6.0E-04 | mg/kg-d | NA |
| | | | Dermal | IRON | 1.5E+04 | mg/kg | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA |
| | | | Dermal | LEAD | 6.6E+02 | mg/kg | NA | mg/kg-d | NA | mg/kg-d | NA | NA | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | MANGANESE | 1.8E+02 | mg/kg | NA | mg/kg-d | 9.6E-04 | mg/kg-d | NA | NA | mg/kg-d | 9.6E-04 | mg/kg-d | NA |
| | | | Dermal | MERCURY | 1.6E+00 | mg/kg | NA | mg/kg-d | 2.1E-05 | mg/kg-d | NA | NA | mg/kg-d | 2.1E-05 | mg/kg-d | NA |
| | | | Dermal | THALLIUM | 5.2E-01 | mg/kg | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA |
| | | | Dermal | VANADIUM | 1.9E+01 | mg/kg | NA | mg/kg-d | 1.3E-04 | mg/kg-d | NA | NA | mg/kg-d | 1.3E-04 | mg/kg-d | NA |
| | | | Dermal | ZINC | 6.5E+02 | mg/kg | NA | mg/kg-d | 3.0E-01 | mg/kg-d | NA | NA | mg/kg-d | 3.0E-01 | mg/kg-d | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 7.4E-02 | mg/kg | 3.1E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.6E-02 | 5.2E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 2.6E-03 |
| | | | Dermal | AROCLOR-1260 | 4.2E-01 | mg/kg | 1.8E-06 | mg/kg-d | 2.0E-05 | mg/kg-d | 8.9E-02 | 3.0E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.5E-02 |
| | | | Dermal | DIELDRIN | 1.0E-02 | mg/kg | 3.2E-08 | mg/kg-d | 5.0E-05 | mg/kg-d | 6.3E-04 | 5.3E-09 | mg/kg-d | 5.0E-05 | mg/kg-d | 1.1E-04 |
| | | | Dermal | **SVOCs** | | | | | | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 3.1E+00 | mg/kg | 1.2E-05 | mg/kg-d | NA | mg/kg-d | NA | 2.1E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(A)PYRENE | 3.8E+00 | mg/kg | 1.5E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 5.0E-02 | 2.5E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 8.3E-03 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 4.5E+00 | mg/kg | 1.8E-05 | mg/kg-d | NA | mg/kg-d | NA | 2.9E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(K)FLUORANTHENE | 3.1E+00 | mg/kg | 1.2E-05 | mg/kg-d | NA | mg/kg-d | NA | 2.0E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | CHRYSENE | 4.5E+00 | mg/kg | 1.8E-05 | mg/kg-d | NA | mg/kg-d | NA | 3.0E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 2.3E-06 | mg/kg-d | NA | mg/kg-d | NA | 3.9E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 7.5E-06 | mg/kg-d | NA | mg/kg-d | NA | 1.3E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 4.0E-06 | mg/kg-d | 5.0E-03 | mg/kg-d | 8.0E-04 | 6.7E-07 | mg/kg-d | 5.0E-03 | mg/kg-d | 1.3E-04 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Dermal]** | | | | | | | | **5.3E-01** | | | | | **8.9E-02** |

**Table 7.11**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Resident |
| Receptor Age: | Child/Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Child | | | | Non-cancer Hazards Child | Non-cancer Hazard Calculations - Adult | | | | Non-cancer Hazards Adult |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | | Value | Units | Value | Units | |
| Soil | Particulates in Air (soil 0-2) | UNDV | Inhalation | **Metals** | | | | | | | | | | | | |
| | | | Inhalation | ALUMINUM | 1.1E-06 | mg/m3 | 1.0E-06 | mg/m3 | 5.0E-03 | mg/m3 | 2.1E-04 | 1.0E-06 | mg/m3 | 5.0E-03 | mg/m3 | 2.1E-04 |
| | | | Inhalation | ANTIMONY | 3.7E-09 | mg/m3 | 3.6E-09 | mg/m3 | NA | mg/m3 | NA | 3.6E-09 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | ARSENIC | 3.9E-08 | mg/m3 | 3.7E-08 | mg/m3 | 1.5E-05 | mg/m3 | 2.5E-03 | 3.7E-08 | mg/m3 | 1.5E-05 | mg/m3 | 2.5E-03 |
| | | | Inhalation | BARIUM | 4.0E-07 | mg/m3 | 3.9E-07 | mg/m3 | 5.0E-04 | mg/m3 | 7.7E-04 | 3.9E-07 | mg/m3 | 5.0E-04 | mg/m3 | 7.7E-04 |
| | | | Inhalation | CADMIUM | 4.5E-10 | mg/m3 | 4.4E-10 | mg/m3 | 1.0E-05 | mg/m3 | 4.4E-05 | 4.4E-10 | mg/m3 | 1.0E-05 | mg/m3 | 4.4E-05 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.6E-10 | mg/m3 | 2.5E-10 | mg/m3 | 1.0E-04 | mg/m3 | 2.5E-06 | 2.5E-10 | mg/m3 | 1.0E-04 | mg/m3 | 2.5E-06 |
| | | | Inhalation | COBALT | 2.6E-09 | mg/m3 | 2.5E-09 | mg/m3 | 6.0E-06 | mg/m3 | 4.2E-04 | 2.5E-09 | mg/m3 | 6.0E-06 | mg/m3 | 4.2E-04 |
| | | | Inhalation | COPPER | 4.0E-08 | mg/m3 | 3.9E-08 | mg/m3 | NA | mg/m3 | NA | 3.9E-08 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CYANIDE | 1.2E-03 | mg/m3 | 1.1E-03 | mg/m3 | 8.0E-04 | mg/m3 | 1.4E+00 | 1.1E-03 | mg/m3 | 8.0E-04 | mg/m3 | 1.4E+00 |
| | | | Inhalation | IRON | 4.7E-06 | mg/m3 | 4.5E-06 | mg/m3 | NA | mg/m3 | NA | 4.5E-06 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | LEAD | 2.1E-07 | mg/m3 | 2.0E-07 | mg/m3 | NA | mg/m3 | NA | 2.0E-07 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | MANGANESE | 5.7E-08 | mg/m3 | 5.5E-08 | mg/m3 | 5.0E-05 | mg/m3 | 1.1E-03 | 5.5E-08 | mg/m3 | 5.0E-05 | mg/m3 | 1.1E-03 |
| | | | Inhalation | MERCURY | 5.1E-10 | mg/m3 | 4.9E-10 | mg/m3 | 3.0E-04 | mg/m3 | 1.6E-06 | 4.9E-10 | mg/m3 | 3.0E-04 | mg/m3 | 1.6E-06 |
| | | | Inhalation | THALLIUM | 1.6E-10 | mg/m3 | 1.6E-10 | mg/m3 | NA | mg/m3 | NA | 1.6E-10 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | VANADIUM | 6.0E-09 | mg/m3 | 5.8E-09 | mg/m3 | 1.0E-04 | mg/m3 | 5.8E-05 | 5.8E-09 | mg/m3 | 1.0E-04 | mg/m3 | 5.8E-05 |
| | | | Inhalation | ZINC | 2.0E-07 | mg/m3 | 1.9E-07 | mg/m3 | NA | mg/m3 | NA | 1.9E-07 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **PEST/PCB** | | | | | | | | | | | | |
| | | | Inhalation | AROCLOR-1254 | 6.8E-08 | mg/m3 | 6.5E-08 | mg/m3 | NA | mg/m3 | NA | 6.5E-08 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | AROCLOR-1260 | 2.5E-07 | mg/m3 | 2.4E-07 | mg/m3 | NA | mg/m3 | NA | 2.4E-07 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIELDRIN | 3.3E-12 | mg/m3 | 3.1E-12 | mg/m3 | NA | mg/m3 | NA | 3.1E-12 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **SVOCs** | | | | | | | | | | | | |
| | | | Inhalation | BENZO(A)ANTHRACENE | 5.6E-07 | mg/m3 | 5.3E-07 | mg/m3 | NA | mg/m3 | NA | 5.3E-07 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(A)PYRENE | 1.2E-09 | mg/m3 | 1.1E-09 | mg/m3 | 2.0E-06 | mg/m3 | 5.7E-04 | 1.1E-09 | mg/m3 | 2.0E-06 | mg/m3 | 5.7E-04 |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 1.4E-09 | mg/m3 | 1.3E-09 | mg/m3 | NA | mg/m3 | NA | 1.3E-09 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 9.7E-10 | mg/m3 | 9.3E-10 | mg/m3 | NA | mg/m3 | NA | 9.3E-10 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CHRYSENE | 1.4E-09 | mg/m3 | 1.4E-09 | mg/m3 | NA | mg/m3 | NA | 1.4E-09 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 1.8E-10 | mg/m3 | 1.8E-10 | mg/m3 | NA | mg/m3 | NA | 1.8E-10 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 5.9E-10 | mg/m3 | 5.7E-10 | mg/m3 | NA | mg/m3 | NA | 5.7E-10 | mg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | PENTACHLOROPHENOL | 1.7E-10 | mg/m3 | 1.6E-10 | mg/m3 | NA | mg/m3 | NA | 1.6E-10 | mg/m3 | NA | mg/m3 | NA |
| | | | **Exposure Route Total [Particulates in Air (soil 0-2)-Inhalation]** | | | | | | | | **1.4E+00** | | | | | **1.4E+00** |
| **Exposure Point Total (UNDV)** | | | | | | | | | | | **9.6E+00** | | | | | **2.2E+00** |

Notes:
NA – Not Available.

**Ingestion - Soil**

$$\text{Intake Factor (IF)} = \frac{IR \times FS \times EF \times ED \times CF}{BW \times AT} =$$

| | Non-Cancer | |
|---|---|---|
| | 1.3E-05 (Child) | 1.2E-06 (Adult) |
| IR Ingestion Rate (mg/day) | 200 | 100 |
| FS Fraction from Contaminated Source | 1 | 1 |
| EF Soil Ingestion Exposure Frequency (days/yr) | 350 | 350 |
| ED Soil Ingestion Exposure Duration (yrs) | 6 | 20 |
| CF Conversion Factor (kg/mg) | 0.000001 | 0.000001 |
| BW Body Weight (kg) | 15 | 80 |
| AT Averaging Time (d) | 2,190 | 7,300 |

$Intake_{ing}$(mg/kg·d) = $EPC_{soil}$*IF*B
(B) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

**Table 7.11**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Resident |
| Receptor Age: | Child/Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Child | | | | Non-cancer Hazards Child | Non-cancer Hazard Calculations - Adult | | | | Non-cancer Hazards Adult |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | | Value | Units | Value | Units | |

**Dermal - Soil**

$$\text{Intake Factor (IF)} = \frac{SA \times AF \times EF \times ED \times CF}{BW \times AT} =$$

| | Non-Cancer | |
|---|---|---|
| | 3.0E-05 (Child) | 5.1E-06 (Adult) |

| | | | |
|---|---|---|---|
| SA | Surface Area Exposed to Soil (cm²/day) | 2,373 | 6,032 |
| AF | Soil Skin Adherence Factor (mg/cm²) | 0.2 | 0.07 |
| EF | Soil Dermal Exposure Frequency (days/yr) | 350 | 350 |
| ED | Soil Dermal Exposure Duration (yrs) | 6 | 20 |
| CF | Conversion Factor (kg/mg) | 0.000001 | 0.000001 |
| BW | Body Weight (kg) | 15 | 80 |
| AT | Averaging Time (d) | 2,190 | 7,300 |

$Intake_{derm}$(mg/kg·d) = $EPC_{soil}$*IF*ABS
(ABS) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

**Inhalation - Soil**

$$\text{Intake Factor (IF)} = \frac{EF \times ED \times ET \times CF}{AT} =$$

| | Non-Cancer | |
|---|---|---|
| | 9.6E-01 (Child) | 9.6E-01 (Adult) |

| | | | |
|---|---|---|---|
| EF | Soil Exposure Frequency (days/yr) | 350 | 350 |
| ED | Soil Exposure Duration (yrs) | 6 | 20 |
| ET | Soil Exposure Time (hours/day) | 24 | 24 |
| CF | Conversion Factor (day/hour) | 0.042 | 0.042 |
| AT | Averaging Time (d) | 2,190 | 7,300 |

EPCair = EPCsoil x [1/Volatilization Factor (VF) + 1/Particulate Emissions Factor (PEF)]
Exposure(mg/kg·d) = EPCair*IF
Non-cancer Hazard = Exposure/RfC

**Table 7.12**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Child | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| Soil | Soil (0-2 ft bgs) | UNDV | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.5E+03 | mg/kg | 1.9E-02 | mg/kg-d | 1.0E+00 | mg/kg-d | 1.9E-02 |
| | | | Ingestion | ANTIMONY | 1.2E+01 | mg/kg | 6.6E-05 | mg/kg-d | 4.0E-04 | mg/kg-d | 1.6E-01 |
| | | | Ingestion | ARSENIC | 1.2E+02 | mg/kg | 4.1E-04 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.4E+00 |
| | | | Ingestion | BARIUM | 1.3E+03 | mg/kg | 7.1E-03 | mg/kg-d | 2.0E-01 | mg/kg-d | 3.5E-02 |
| | | | Ingestion | CADMIUM | 1.5E+00 | mg/kg | 8.0E-06 | mg/kg-d | 1.0E-03 | mg/kg-d | 8.0E-03 |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | 4.6E-06 | mg/kg-d | 3.0E-03 | mg/kg-d | 1.5E-03 |
| | | | Ingestion | COBALT | 8.3E+00 | mg/kg | 4.6E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.5E-01 |
| | | | Ingestion | COPPER | 1.3E+02 | mg/kg | 7.1E-04 | mg/kg-d | 4.0E-02 | mg/kg-d | 1.8E-02 |
| | | | Ingestion | CYANIDE | 8.8E+01 | mg/kg | 4.8E-04 | mg/kg-d | 6.0E-04 | mg/kg-d | 8.1E-01 |
| | | | Ingestion | IRON | 1.5E+04 | mg/kg | 8.2E-02 | mg/kg-d | 7.0E-01 | mg/kg-d | 1.2E-01 |
| | | | Ingestion | LEAD | 6.6E+02 | mg/kg | 3.6E-03 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | MANGANESE | 1.8E+02 | mg/kg | 1.0E-03 | mg/kg-d | 2.4E-02 | mg/kg-d | 4.2E-02 |
| | | | Ingestion | MERCURY | 1.6E+00 | mg/kg | 8.9E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 3.0E-02 |
| | | | Ingestion | THALLIUM | 5.2E-01 | mg/kg | 2.9E-06 | mg/kg-d | 1.0E-05 | mg/kg-d | 2.9E-01 |
| | | | Ingestion | VANADIUM | 1.9E+01 | mg/kg | 1.1E-04 | mg/kg-d | 5.0E-03 | mg/kg-d | 2.1E-02 |
| | | | Ingestion | ZINC | 6.5E+02 | mg/kg | 3.6E-03 | mg/kg-d | 3.0E-01 | mg/kg-d | 1.2E-02 |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 7.4E-02 | mg/kg | 4.0E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 2.0E-02 |
| | | | Ingestion | AROCLOR-1260 | 4.2E-01 | mg/kg | 2.3E-06 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.1E-01 |
| | | | Ingestion | DIELDRIN | 1.0E-02 | mg/kg | 5.7E-08 | mg/kg-d | 5.0E-05 | mg/kg-d | 1.1E-03 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 3.1E+00 | mg/kg | 1.7E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(A)PYRENE | 3.8E+00 | mg/kg | 2.1E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 6.9E-02 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 4.5E+00 | mg/kg | 2.5E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 3.1E+00 | mg/kg | 1.7E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | CHRYSENE | 4.5E+00 | mg/kg | 2.5E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 3.2E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 1.0E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 2.9E-06 | mg/kg-d | 5.0E-03 | mg/kg-d | 5.8E-04 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Ingestion]** | | | | | | | | **3.3E+00** |
| Soil | Soil (0-2 ft bgs) | UNDV | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.5E+03 | mg/kg | NA | mg/kg-d | 1.0E+00 | mg/kg-d | NA |
| | | | Dermal | ANTIMONY | 1.2E+01 | mg/kg | NA | mg/kg-d | 6.0E-05 | mg/kg-d | NA |
| | | | Dermal | ARSENIC | 1.2E+02 | mg/kg | 4.8E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.6E-01 |
| | | | Dermal | BARIUM | 1.3E+03 | mg/kg | NA | mg/kg-d | 1.4E-02 | mg/kg-d | NA |

**Table 7.12**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Child | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | CADMIUM | 1.5E+00 | mg/kg | 1.9E-08 | mg/kg-d | 2.5E-05 | mg/kg-d | 7.6E-04 |
| | | | Dermal | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA |
| | | | Dermal | COBALT | 8.3E+00 | mg/kg | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA |
| | | | Dermal | COPPER | 1.3E+02 | mg/kg | NA | mg/kg-d | 4.0E-02 | mg/kg-d | NA |
| | | | Dermal | CYANIDE | 8.8E+01 | mg/kg | NA | mg/kg-d | 6.0E-04 | mg/kg-d | NA |
| | | | Dermal | IRON | 1.5E+04 | mg/kg | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA |
| | | | Dermal | LEAD | 6.6E+02 | mg/kg | NA | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | MANGANESE | 1.8E+02 | mg/kg | NA | mg/kg-d | 9.6E-04 | mg/kg-d | NA |
| | | | Dermal | MERCURY | 1.6E+00 | mg/kg | NA | mg/kg-d | 2.1E-05 | mg/kg-d | NA |
| | | | Dermal | THALLIUM | 5.2E-01 | mg/kg | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA |
| | | | Dermal | VANADIUM | 1.9E+01 | mg/kg | NA | mg/kg-d | 1.3E-04 | mg/kg-d | NA |
| | | | Dermal | ZINC | 6.5E+02 | mg/kg | NA | mg/kg-d | 3.0E-01 | mg/kg-d | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 7.4E-02 | mg/kg | 1.3E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 6.7E-03 |
| | | | Dermal | AROCLOR-1260 | 4.2E-01 | mg/kg | 7.6E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 3.8E-02 |
| | | | Dermal | DIELDRIN | 1.0E-02 | mg/kg | 1.4E-08 | mg/kg-d | 5.0E-05 | mg/kg-d | 2.7E-04 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 3.1E+00 | mg/kg | 5.3E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(A)PYRENE | 3.8E+00 | mg/kg | 6.4E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.1E-02 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 4.5E+00 | mg/kg | 7.6E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(K)FLUORANTHENE | 3.1E+00 | mg/kg | 5.2E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | CHRYSENE | 4.5E+00 | mg/kg | 7.7E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 1.0E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 3.2E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 1.7E-06 | mg/kg-d | 5.0E-03 | mg/kg-d | 3.4E-04 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Dermal]** | | | | | | | | **2.3E-01** |
| Soil | Particulates in Air (s | UNDV | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ALUMINUM | 1.1E-06 | mg/m3 | 1.5E-07 | µg/m3 | 5.0E-03 | mg/m3 | 3.0E-05 |
| | | | Inhalation | ANTIMONY | 3.7E-09 | mg/m3 | 5.1E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | ARSENIC | 3.9E-08 | mg/m3 | 5.3E-09 | µg/m3 | 1.5E-05 | mg/m3 | 3.5E-04 |
| | | | Inhalation | BARIUM | 4.0E-07 | mg/m3 | 5.5E-08 | µg/m3 | 5.0E-04 | mg/m3 | 1.1E-04 |
| | | | Inhalation | CADMIUM | 4.5E-10 | mg/m3 | 6.2E-11 | µg/m3 | 1.0E-05 | mg/m3 | 6.2E-06 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.6E-10 | mg/m3 | 3.6E-11 | µg/m3 | 1.0E-04 | mg/m3 | 3.6E-07 |
| | | | Inhalation | COBALT | 2.6E-09 | mg/m3 | 3.6E-10 | µg/m3 | 6.0E-06 | mg/m3 | 5.9E-05 |
| | | | Inhalation | COPPER | 4.0E-08 | mg/m3 | 5.5E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CYANIDE | 1.2E-03 | mg/m3 | 1.6E-04 | µg/m3 | 8.0E-04 | mg/m3 | 2.0E-01 |

**Table 7.12**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Child | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | IRON | 4.7E-06 | mg/m3 | 6.4E-07 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | LEAD | 2.1E-07 | mg/m3 | 2.8E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | MANGANESE | 5.7E-08 | mg/m3 | 7.9E-09 | µg/m3 | 5.0E-05 | mg/m3 | 1.6E-04 |
| | | | Inhalation | MERCURY | 5.1E-10 | mg/m3 | 6.9E-11 | µg/m3 | 3.0E-04 | mg/m3 | 2.3E-07 |
| | | | Inhalation | THALLIUM | 1.6E-10 | mg/m3 | 2.2E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | VANADIUM | 6.0E-09 | mg/m3 | 8.3E-10 | µg/m3 | 1.0E-04 | mg/m3 | 8.3E-06 |
| | | | Inhalation | ZINC | 2.0E-07 | mg/m3 | 2.8E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | AROCLOR-1254 | 6.8E-08 | mg/m3 | 9.3E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | AROCLOR-1260 | 2.5E-07 | mg/m3 | 3.4E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIELDRIN | 3.3E-12 | mg/m3 | 4.5E-13 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | BENZO(A)ANTHRACENE | 5.6E-07 | mg/m3 | 7.6E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(A)PYRENE | 1.2E-09 | mg/m3 | 1.6E-10 | µg/m3 | 2.0E-06 | mg/m3 | 8.1E-05 |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 1.4E-09 | mg/m3 | 1.9E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 9.7E-10 | mg/m3 | 1.3E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CHRYSENE | 1.4E-09 | mg/m3 | 1.9E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 1.8E-10 | mg/m3 | 2.5E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 5.9E-10 | mg/m3 | 8.1E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | PENTACHLOROPHENOL | 1.7E-10 | mg/m3 | 2.3E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | **Exposure Route Total [Particulates in Air (soil 0-2)-Inhalation]** | | | | | | | | **2.0E-01** |
| Sediment | Sediment | UHC | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.3E+03 | mg/kg | 5.4E-03 | mg/kg-d | 1.0E+00 | mg/kg-d | 5.4E-03 |
| | | | Ingestion | ANTIMONY | 1.7E+01 | mg/kg | 2.7E-05 | mg/kg-d | 4.0E-04 | mg/kg-d | 6.8E-02 |
| | | | Ingestion | ARSENIC | 1.7E+03 | mg/kg | 1.6E-03 | mg/kg-d | 3.0E-04 | mg/kg-d | 5.5E+00 |
| | | | Ingestion | BARIUM | 2.4E+03 | mg/kg | 3.8E-03 | mg/kg-d | 2.0E-01 | mg/kg-d | 1.9E-02 |
| | | | Ingestion | CHROMIUM | 9.1E+01 | mg/kg | 1.5E-04 | mg/kg-d | 3.0E-03 | mg/kg-d | 4.9E-02 |
| | | | Ingestion | COBALT | 5.4E+00 | mg/kg | 8.7E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.9E-02 |
| | | | Ingestion | COPPER | 1.6E+02 | mg/kg | 2.6E-04 | mg/kg-d | 4.0E-02 | mg/kg-d | 6.6E-03 |
| | | | Ingestion | CYANIDE | 6.5E+02 | mg/kg | 1.0E-03 | mg/kg-d | 6.0E-04 | mg/kg-d | 1.7E+00 |
| | | | Ingestion | IRON | 7.3E+03 | mg/kg | 1.2E-02 | mg/kg-d | 7.0E-01 | mg/kg-d | 1.7E-02 |
| | | | Ingestion | LEAD | 1.8E+03 | mg/kg | 2.9E-03 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | THALLIUM | 2.4E+00 | mg/kg | 3.9E-06 | mg/kg-d | 1.0E-05 | mg/kg-d | 3.9E-01 |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 2.6E-01 | mg/kg | 4.1E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 2.0E-02 |
| | | | Ingestion | AROCLOR-1260 | 1.5E-01 | mg/kg | 2.4E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.2E-02 |

**Table 7.12**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Child | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 6.1E+00 | mg/kg | 9.8E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(A)PYRENE | 6.2E+00 | mg/kg | 9.9E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 3.3E-02 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 6.0E+00 | mg/kg | 9.6E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 8.3E+00 | mg/kg | 1.3E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | CHRYSENE | 9.9E+00 | mg/kg | 1.6E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 1.2E+00 | mg/kg | 2.0E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 4.2E+00 | mg/kg | 6.8E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | **TICs** | | | | | | | |
| | | | Ingestion | BENZO[J]FLUORANTHENE | 1.1E+00 | mg/kg | 1.8E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | **Exposure Route Total [Sediment-Ingestion]** | | | | | | | | **7.9E+00** |
| Sediment | Sediment | UHC | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.3E+03 | mg/kg | NA | mg/kg-d | 1.0E+00 | mg/kg-d | NA |
| | | | Dermal | ANTIMONY | 1.7E+01 | mg/kg | NA | mg/kg-d | 6.0E-05 | mg/kg-d | NA |
| | | | Dermal | ARSENIC | 1.7E+03 | mg/kg | 1.9E-04 | mg/kg-d | 3.0E-04 | mg/kg-d | 6.5E-01 |
| | | | Dermal | BARIUM | 2.4E+03 | mg/kg | NA | mg/kg-d | 1.4E-02 | mg/kg-d | NA |
| | | | Dermal | CHROMIUM | 9.1E+01 | mg/kg | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA |
| | | | Dermal | COBALT | 5.4E+00 | mg/kg | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA |
| | | | Dermal | COPPER | 1.6E+02 | mg/kg | NA | mg/kg-d | 4.0E-02 | mg/kg-d | NA |
| | | | Dermal | CYANIDE | 6.5E+02 | mg/kg | NA | mg/kg-d | 6.0E-04 | mg/kg-d | NA |
| | | | Dermal | IRON | 7.3E+03 | mg/kg | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA |
| | | | Dermal | LEAD | 1.8E+03 | mg/kg | NA | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | THALLIUM | 2.4E+00 | mg/kg | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 2.6E-01 | mg/kg | 1.4E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 6.8E-03 |
| | | | Dermal | AROCLOR-1260 | 1.5E-01 | mg/kg | 8.1E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 4.0E-03 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 6.1E+00 | mg/kg | 3.0E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(A)PYRENE | 6.2E+00 | mg/kg | 3.1E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.0E-02 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 6.0E+00 | mg/kg | 3.0E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(K)FLUORANTHENE | 8.3E+00 | mg/kg | 4.1E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | CHRYSENE | 9.9E+00 | mg/kg | 4.9E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 1.2E+00 | mg/kg | 6.0E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 4.2E+00 | mg/kg | 2.1E-06 | mg/kg-d | NA | mg/kg-d | NA |

**Table 7.12**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Child | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | **TICs** | | | | | | | |
| | | | Dermal | BENZO[J]FLUORANTHENE | 1.1E+00 | mg/kg | 5.5E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | **Exposure Route Total [Sediment-Dermal]** | | | | | | | | **6.7E-01** |
| Surface Water | Surface Water | UHC | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ANTIMONY | 2.9E-03 | mg/L | 1.1E-07 | mg/kg-d | 6.0E-05 | mg/kg-d | 1.9E-03 |
| | | | Dermal | ARSENIC | 5.7E-02 | mg/L | 1.7E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 5.7E-03 |
| | | | Dermal | BARIUM | 2.8E-01 | mg/L | 1.2E-05 | mg/kg-d | 1.4E-02 | mg/kg-d | 8.6E-04 |
| | | | Dermal | CHROMIUM | 3.8E-03 | mg/L | 1.0E-07 | mg/kg-d | 7.5E-05 | mg/kg-d | 1.4E-03 |
| | | | Dermal | CYANIDE | 9.7E-03 | mg/L | 2.4E-07 | mg/kg-d | 6.0E-04 | mg/kg-d | 4.0E-04 |
| | | | Dermal | IRON | 6.2E+00 | mg/L | 1.7E-04 | mg/kg-d | 7.0E-01 | mg/kg-d | 2.4E-04 |
| | | | Dermal | LEAD | 9.8E-03 | mg/L | 6.4E-08 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | MANGANESE | 2.9E-01 | mg/L | 7.8E-06 | mg/kg-d | 9.6E-04 | mg/kg-d | 8.2E-03 |
| | | | Dermal | THALLIUM | 3.6E-03 | mg/L | 2.3E-07 | mg/kg-d | 1.0E-05 | mg/kg-d | 2.3E-02 |
| | | | Dermal | VANADIUM | 2.8E-03 | mg/L | 7.4E-08 | mg/kg-d | 1.3E-04 | mg/kg-d | 5.7E-04 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)PYRENE | 1.0E-03 | mg/L | 6.3E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.1E-01 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 2.0E-03 | mg/L | 7.3E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.0E-03 | mg/L | 1.3E-04 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | NAPHTHALENE | 5.0E-04 | mg/L | 9.2E-07 | mg/kg-d | 2.0E-02 | mg/kg-d | 4.6E-05 |
| | | | Dermal | **VOCs** | | | | | | | |
| | | | Dermal | 1,4-DICHLOROBENZENE | 7.0E-04 | mg/L | 1.4E-06 | mg/kg-d | 7.0E-02 | mg/kg-d | 2.0E-05 |
| | | | Dermal | BENZENE | 5.3E-03 | mg/L | 2.4E-06 | mg/kg-d | 4.0E-03 | mg/kg-d | 5.9E-04 |
| | | | Dermal | DICHLOROMETHANE | 7.1E-03 | mg/L | 7.8E-07 | mg/kg-d | 6.0E-03 | mg/kg-d | 1.3E-04 |
| | | | Dermal | VINYL CHLORIDE | 1.0E-03 | mg/L | 2.3E-07 | mg/kg-d | 3.0E-03 | mg/kg-d | 7.8E-05 |
| | | | **Exposure Route Total [Surface Water-Dermal]** | | | | | | | | **2.5E-01** |
| **Exposure Point Total (UNDV+UHC)** | | | | | | | | | | | **1E+01** |

Notes:
NA – Not Available.
Chromium risks in sediment and surface water were calculated using toxicity values for hexavalent chromium.

**Table 7.12**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Child | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |

**Ingestion- Soil**

| | | | |
|---|---|---|---|
| Intake Factor (IF) = | IR x EF x ED x CF x FR / BW x AT | = | 5.5E-06 (Child) |
| IR | Ingestion Rate (mg/day) | | 200 |
| FR | Fraction from Contaminated Source | | 1 |
| EF | Soil Ingestion Exposure Frequency (days/yr) | | 150 |
| ED | Soil Ingestion Exposure Duration (yrs) | | 6 |
| CF | Conversion Factor (kg/mg) | | 0.000001 |
| BW | Body Weight (kg) | | 15 |
| AT | Averaging Time (d) | | 2,190 |

$Intake_{ing}$(mg/kg·d) = $EPC_{soil}$*IF*B
(B) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

**Dermal- Soil**

| | | | |
|---|---|---|---|
| Intake Factor (IF) = | SA x AF x EF x ED x CF / BW x AT | = | 1.3E-05 (Child) |
| SA | Surface Area Exposed to Soil (cm²/day) | | 2,373 |
| AF | Soil Skin Adherence Factor (mg/cm²) | | 0.2 |
| EF | Soil Dermal Exposure Frequency (days/yr) | | 150 |
| ED | Soil Dermal Exposure Duration (yrs) | | 6 |
| CF | Conversion Factor (kg/mg) | | 0.000001 |
| BW | Body Weight (kg) | | 15 |
| AT | Averaging Time (d) | | 2,190 |

$Intake_{derm}$(mg/kg·d) = $EPC_{soil}$*IF*ABS
(ABS) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

**Inhalation - Soil**

| | | | |
|---|---|---|---|
| Intake Factor (IF) = | EF x ED x ET x CF / AT | = | 1.4E-01 (Child) |
| EF | Soil Exposure Frequency (days/yr) | | 150 |
| ED | Soil Exposure Duration (yrs) | | 6 |
| ET | Soil Exposure Time (hours/day) | | 8 |
| CF | Conversion Factor (d/hr) | | 0.042 |
| AT | Averaging Time (d) | | 2,190 |

EPCair = EPCsoil x [1/Volatilization Factor (VF) + 1/Particulate Emissions Factor (PEF)]
Exposure = EPCair x IF
Non-cancer Hazard = Intake/RfC

**Table 7.12**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Child | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |

**Ingestion- Sediment (SD)**

$$\text{Intake Factor (IF)} = \frac{IR \times EF \times ED \times CF \times FR}{BW \times AT} = 1.6E\text{-}06 \text{ (Child)}$$

| | | |
|---|---|---|
| IR | Ingestion Rate (mg/day) | 200 |
| FR | Fraction from Contaminated Source | 1 |
| EF | Sediment Ingestion Exposure Frequency (days/yr) | 44 |
| ED | Sediment Ingestion Exposure Duration (yrs) | 6 |
| CF | Conversion Factor (kg/mg) | 0.000001 |
| BW | Body Weight (kg) | 15 |
| AT | Averaging Time (d) | 2,190 |

$Intake_{ing}$(mg/kg·d) = $EPC_{soil}$*IF*B
(B) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

**Dermal- Sediment (SD)**

$$\text{Intake Factor (IF)} = \frac{SA \times AF \times EF \times ED \times CF}{BW \times AT} = 3.8E\text{-}06 \text{ (Child)}$$

| | | |
|---|---|---|
| SA | Surface Area Exposed to Sediment (cm²/day) | 2,373 |
| AF | Sediment Skin Adherence Factor (mg/cm²) | 0.2 |
| EF | Sediment Dermal Exposure Frequency (days/yr) | 44 |
| ED | Sediment Dermal Exposure Duration (yrs) | 6 |
| CF | Conversion Factor (kg/mg) | 0.000001 |
| BW | Body Weight (kg) | 15 |
| AT | Averaging Time (d) | 2,190 |

$Intake_{derm}$(mg/kg·d) = $EPC_{soil}$*IF*ABS
(ABS) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

**Dermal- Surface Water (SW)**

$$\text{Intake Factor (IF)} = \frac{SA \times EV \times EF \times ED}{BW \times AT} = 1.9E+01 \text{ (Child)}$$

| | | |
|---|---|---|
| SA | Surface Area Exposed to Surface Water (cm²/day) | 2,373 |
| EF | Surface Water Dermal Exposure Frequency (days/yr) | 44 |
| ED | Surface Water Dermal Exposure Duration (yrs) | 6 |
| EV | Event per day (ev/d) | 1 |
| BW | Body Weight (kg) | 15 |
| AT | Averaging Time (d) | 2,190 |

$Intake_{derm}$(mg/kg·d) = IF x Absorbed Dose per event ($DA_{Event}$)
($DA_{event}$) presented in Table 4.5.
Non-cancer Hazard = Exposure/RfC

**Table 7.13**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adolescent |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Adolescent | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| Soil | Soil (0-2 ft bgs) | UNDV | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.5E+03 | mg/kg | 3.2E-03 | mg/kg-d | 1.0E+00 | mg/kg-d | 3.2E-03 |
| | | | Ingestion | ANTIMONY | 1.2E+01 | mg/kg | 1.1E-05 | mg/kg-d | 4.0E-04 | mg/kg-d | 2.8E-02 |
| | | | Ingestion | ARSENIC | 1.2E+02 | mg/kg | 6.9E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.3E-01 |
| | | | Ingestion | BARIUM | 1.3E+03 | mg/kg | 1.2E-03 | mg/kg-d | 2.0E-01 | mg/kg-d | 6.0E-03 |
| | | | Ingestion | CADMIUM | 1.5E+00 | mg/kg | 1.3E-06 | mg/kg-d | 1.0E-03 | mg/kg-d | 1.3E-03 |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | 7.8E-07 | mg/kg-d | 3.0E-03 | mg/kg-d | 2.6E-04 |
| | | | Ingestion | COBALT | 8.3E+00 | mg/kg | 7.7E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.6E-02 |
| | | | Ingestion | COPPER | 1.3E+02 | mg/kg | 1.2E-04 | mg/kg-d | 4.0E-02 | mg/kg-d | 3.0E-03 |
| | | | Ingestion | CYANIDE | 8.8E+01 | mg/kg | 8.2E-05 | mg/kg-d | 6.0E-04 | mg/kg-d | 1.4E-01 |
| | | | Ingestion | IRON | 1.5E+04 | mg/kg | 1.4E-02 | mg/kg-d | 7.0E-01 | mg/kg-d | 2.0E-02 |
| | | | Ingestion | LEAD | 6.6E+02 | mg/kg | 6.2E-04 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | MANGANESE | 1.8E+02 | mg/kg | 1.7E-04 | mg/kg-d | 2.4E-02 | mg/kg-d | 7.1E-03 |
| | | | Ingestion | MERCURY | 1.6E+00 | mg/kg | 1.5E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 5.0E-03 |
| | | | Ingestion | THALLIUM | 5.2E-01 | mg/kg | 4.8E-07 | mg/kg-d | 1.0E-05 | mg/kg-d | 4.8E-02 |
| | | | Ingestion | VANADIUM | 1.9E+01 | mg/kg | 1.8E-05 | mg/kg-d | 5.0E-03 | mg/kg-d | 3.6E-03 |
| | | | Ingestion | ZINC | 6.5E+02 | mg/kg | 6.0E-04 | mg/kg-d | 3.0E-01 | mg/kg-d | 2.0E-03 |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 7.4E-02 | mg/kg | 6.8E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 3.4E-03 |
| | | | Ingestion | AROCLOR-1260 | 4.2E-01 | mg/kg | 3.9E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.9E-02 |
| | | | Ingestion | DIELDRIN | 1.0E-02 | mg/kg | 9.6E-09 | mg/kg-d | 5.0E-05 | mg/kg-d | 1.9E-04 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 3.1E+00 | mg/kg | 2.9E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(A)PYRENE | 3.8E+00 | mg/kg | 3.5E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.2E-02 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 4.5E+00 | mg/kg | 4.2E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 3.1E+00 | mg/kg | 2.9E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | CHRYSENE | 4.5E+00 | mg/kg | 4.2E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 5.5E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 1.8E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 4.9E-07 | mg/kg-d | 5.0E-03 | mg/kg-d | 9.8E-05 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Ingestion]** | | | | | | | | **5.6E-01** |
| Soil | Soil (0-2 ft bgs) | UNDV | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.5E+03 | mg/kg | NA | mg/kg-d | 1.0E+00 | mg/kg-d | NA |
| | | | Dermal | ANTIMONY | 1.2E+01 | mg/kg | NA | mg/kg-d | 6.0E-05 | mg/kg-d | NA |
| | | | Dermal | ARSENIC | 1.2E+02 | mg/kg | 1.1E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 3.7E-02 |
| | | | Dermal | BARIUM | 1.3E+03 | mg/kg | NA | mg/kg-d | 1.4E-02 | mg/kg-d | NA |

**Table 7.13**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adolescent |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Adolescent | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | CADMIUM | 1.5E+00 | mg/kg | 4.4E-09 | mg/kg-d | 2.5E-05 | mg/kg-d | 1.7E-04 |
| | | | Dermal | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA |
| | | | Dermal | COBALT | 8.3E+00 | mg/kg | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA |
| | | | Dermal | COPPER | 1.3E+02 | mg/kg | NA | mg/kg-d | 4.0E-02 | mg/kg-d | NA |
| | | | Dermal | CYANIDE | 8.8E+01 | mg/kg | NA | mg/kg-d | 6.0E-04 | mg/kg-d | NA |
| | | | Dermal | IRON | 1.5E+04 | mg/kg | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA |
| | | | Dermal | LEAD | 6.6E+02 | mg/kg | NA | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | MANGANESE | 1.8E+02 | mg/kg | NA | mg/kg-d | 9.6E-04 | mg/kg-d | NA |
| | | | Dermal | MERCURY | 1.6E+00 | mg/kg | NA | mg/kg-d | 2.1E-05 | mg/kg-d | NA |
| | | | Dermal | THALLIUM | 5.2E-01 | mg/kg | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA |
| | | | Dermal | VANADIUM | 1.9E+01 | mg/kg | NA | mg/kg-d | 1.3E-04 | mg/kg-d | NA |
| | | | Dermal | ZINC | 6.5E+02 | mg/kg | NA | mg/kg-d | 3.0E-01 | mg/kg-d | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 7.4E-02 | mg/kg | 3.1E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.6E-03 |
| | | | Dermal | AROCLOR-1260 | 4.2E-01 | mg/kg | 1.8E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 8.8E-03 |
| | | | Dermal | DIELDRIN | 1.0E-02 | mg/kg | 3.1E-09 | mg/kg-d | 5.0E-05 | mg/kg-d | 6.3E-05 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 3.1E+00 | mg/kg | 1.2E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(A)PYRENE | 3.8E+00 | mg/kg | 1.5E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 4.9E-03 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 4.5E+00 | mg/kg | 1.8E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(K)FLUORANTHENE | 3.1E+00 | mg/kg | 1.2E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | CHRYSENE | 4.5E+00 | mg/kg | 1.8E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 2.3E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 7.5E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 4.0E-07 | mg/kg-d | 5.0E-03 | mg/kg-d | 8.0E-05 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Dermal]** | | | | | | | | **5.3E-02** |
| Soil | Particulates in Air (soil 0-2) | UNDV | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ALUMINUM | 1.1E-06 | mg/m3 | 1.5E-07 | µg/m3 | 5.0E-03 | mg/m3 | 3.0E-05 |
| | | | Inhalation | ANTIMONY | 3.7E-09 | mg/m3 | 5.1E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | ARSENIC | 3.9E-08 | mg/m3 | 5.3E-09 | µg/m3 | 1.5E-05 | mg/m3 | 3.5E-04 |
| | | | Inhalation | BARIUM | 4.0E-07 | mg/m3 | 5.5E-08 | µg/m3 | 5.0E-04 | mg/m3 | 1.1E-04 |
| | | | Inhalation | CADMIUM | 4.5E-10 | mg/m3 | 6.2E-11 | µg/m3 | 1.0E-05 | mg/m3 | 6.2E-06 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.6E-10 | mg/m3 | 3.6E-11 | µg/m3 | 1.0E-04 | mg/m3 | 3.6E-07 |
| | | | Inhalation | COBALT | 2.6E-09 | mg/m3 | 3.6E-10 | µg/m3 | 6.0E-06 | mg/m3 | 5.9E-05 |
| | | | Inhalation | COPPER | 4.0E-08 | mg/m3 | 5.5E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CYANIDE | 1.2E-03 | mg/m3 | 1.6E-04 | µg/m3 | 8.0E-04 | mg/m3 | 2.0E-01 |

**Table 7.13**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adolescent |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Adolescent | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | IRON | 4.7E-06 | mg/m3 | 6.4E-07 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | LEAD | 2.1E-07 | mg/m3 | 2.8E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | MANGANESE | 5.7E-08 | mg/m3 | 7.9E-09 | µg/m3 | 5.0E-05 | mg/m3 | 1.6E-04 |
| | | | Inhalation | MERCURY | 5.1E-10 | mg/m3 | 6.9E-11 | µg/m3 | 3.0E-04 | mg/m3 | 2.3E-07 |
| | | | Inhalation | THALLIUM | 1.6E-10 | mg/m3 | 2.2E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | VANADIUM | 6.0E-09 | mg/m3 | 8.3E-10 | µg/m3 | 1.0E-04 | mg/m3 | 8.3E-06 |
| | | | Inhalation | ZINC | 2.0E-07 | mg/m3 | 2.8E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | AROCLOR-1254 | 6.8E-08 | mg/m3 | 9.3E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | AROCLOR-1260 | 2.5E-07 | mg/m3 | 3.4E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIELDRIN | 3.3E-12 | mg/m3 | 4.5E-13 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | BENZO(A)ANTHRACENE | 5.6E-07 | mg/m3 | 7.6E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(A)PYRENE | 1.2E-09 | mg/m3 | 1.6E-10 | µg/m3 | 2.0E-06 | mg/m3 | 8.1E-05 |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 1.4E-09 | mg/m3 | 1.9E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 9.7E-10 | mg/m3 | 1.3E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CHRYSENE | 1.4E-09 | mg/m3 | 1.9E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 1.8E-10 | mg/m3 | 2.5E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 5.9E-10 | mg/m3 | 8.1E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | PENTACHLOROPHENOL | 1.7E-10 | mg/m3 | 2.3E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | **Exposure Route Total [Particulates in Air (soil 0-2)-Inhalation]** | | | | | | | | **2.0E-01** |
| Sediment | Sediment | UHC | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.3E+03 | mg/kg | 9.1E-04 | mg/kg-d | 1.0E+00 | mg/kg-d | 9.1E-04 |
| | | | Ingestion | ANTIMONY | 1.7E+01 | mg/kg | 4.6E-06 | mg/kg-d | 4.0E-04 | mg/kg-d | 1.1E-02 |
| | | | Ingestion | ARSENIC | 1.7E+03 | mg/kg | 2.8E-04 | mg/kg-d | 3.0E-04 | mg/kg-d | 9.3E-01 |
| | | | Ingestion | BARIUM | 2.4E+03 | mg/kg | 6.5E-04 | mg/kg-d | 2.0E-01 | mg/kg-d | 3.2E-03 |
| | | | Ingestion | CHROMIUM | 9.1E+01 | mg/kg | 2.5E-05 | mg/kg-d | 3.0E-03 | mg/kg-d | 8.3E-03 |
| | | | Ingestion | COBALT | 5.4E+00 | mg/kg | 1.5E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 4.9E-03 |
| | | | Ingestion | COPPER | 1.6E+02 | mg/kg | 4.5E-05 | mg/kg-d | 4.0E-02 | mg/kg-d | 1.1E-03 |
| | | | Ingestion | CYANIDE | 6.5E+02 | mg/kg | 1.8E-04 | mg/kg-d | 6.0E-04 | mg/kg-d | 3.0E-01 |
| | | | Ingestion | IRON | 7.3E+03 | mg/kg | 2.0E-03 | mg/kg-d | 7.0E-01 | mg/kg-d | 2.8E-03 |
| | | | Ingestion | LEAD | 1.8E+03 | mg/kg | 4.9E-04 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | THALLIUM | 2.4E+00 | mg/kg | 6.6E-07 | mg/kg-d | 1.0E-05 | mg/kg-d | 6.6E-02 |

**Table 7.13**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adolescent |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Adolescent | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 2.6E-01 | mg/kg | 6.9E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 3.5E-03 |
| | | | Ingestion | AROCLOR-1260 | 1.5E-01 | mg/kg | 4.1E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 2.1E-03 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 6.1E+00 | mg/kg | 1.7E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(A)PYRENE | 6.2E+00 | mg/kg | 1.7E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 5.6E-03 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 6.0E+00 | mg/kg | 1.6E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 8.3E+00 | mg/kg | 2.3E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | CHRYSENE | 9.9E+00 | mg/kg | 2.7E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 1.2E+00 | mg/kg | 3.3E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 4.2E+00 | mg/kg | 1.1E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | **TICs** | | | | | | | |
| | | | Ingestion | BENZO[J]FLUORANTHENE | 1.1E+00 | mg/kg | 3.0E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | **Exposure Route Total [Sediment-Ingestion]** | | | | | | | | **1.3E+00** |
| Sediment | Sediment | UHC | Dermal | **Metals** | | | | | | | |
| | | | | ALUMINUM | 3.3E+03 | mg/kg | NA | mg/kg-d | 1.0E+00 | mg/kg-d | NA |
| | | | Dermal | ANTIMONY | 1.7E+01 | mg/kg | NA | mg/kg-d | 6.0E-05 | mg/kg-d | NA |
| | | | Dermal | ARSENIC | 1.7E+03 | mg/kg | 1.3E-04 | mg/kg-d | 3.0E-04 | mg/kg-d | 4.3E-01 |
| | | | Dermal | BARIUM | 2.4E+03 | mg/kg | NA | mg/kg-d | 1.4E-02 | mg/kg-d | NA |
| | | | Dermal | CHROMIUM | 9.1E+01 | mg/kg | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA |
| | | | Dermal | COBALT | 5.4E+00 | mg/kg | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA |
| | | | Dermal | COPPER | 1.6E+02 | mg/kg | NA | mg/kg-d | 4.0E-02 | mg/kg-d | NA |
| | | | Dermal | CYANIDE | 6.5E+02 | mg/kg | NA | mg/kg-d | 6.0E-04 | mg/kg-d | NA |
| | | | Dermal | IRON | 7.3E+03 | mg/kg | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA |
| | | | Dermal | LEAD | 1.8E+03 | mg/kg | NA | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | THALLIUM | 2.4E+00 | mg/kg | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 2.6E-01 | mg/kg | 9.0E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 4.5E-03 |
| | | | Dermal | AROCLOR-1260 | 1.5E-01 | mg/kg | 5.3E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 2.7E-03 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 6.1E+00 | mg/kg | 2.0E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(A)PYRENE | 6.2E+00 | mg/kg | 2.0E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 6.7E-03 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 6.0E+00 | mg/kg | 2.0E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(K)FLUORANTHENE | 8.3E+00 | mg/kg | 2.7E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | CHRYSENE | 9.9E+00 | mg/kg | 3.2E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 1.2E+00 | mg/kg | 4.0E-07 | mg/kg-d | NA | mg/kg-d | NA |

**Table 7.13**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adolescent |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Adolescent | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 4.2E+00 | mg/kg | 1.4E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | **TICs** | | | | | | | |
| | | | Dermal | BENZO[J]FLUORANTHENE | 1.1E+00 | mg/kg | 3.6E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | **Exposure Route Total [Sediment-Dermal]** | | | | | | | | **4.4E-01** |
| Surface Water | Surface Water | UHC | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ANTIMONY | 2.9E-03 | mg/L | 7.4E-08 | mg/kg-d | 6.0E-05 | mg/kg-d | 1.2E-03 |
| | | | Dermal | ARSENIC | 5.7E-02 | mg/L | 1.1E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 3.8E-03 |
| | | | Dermal | BARIUM | 2.8E-01 | mg/L | 8.0E-06 | mg/kg-d | 1.4E-02 | mg/kg-d | 5.7E-04 |
| | | | Dermal | CHROMIUM | 3.8E-03 | mg/L | 6.8E-08 | mg/kg-d | 7.5E-05 | mg/kg-d | 9.1E-04 |
| | | | Dermal | CYANIDE | 9.7E-03 | mg/L | 1.6E-07 | mg/kg-d | 6.0E-04 | mg/kg-d | 2.6E-04 |
| | | | Dermal | IRON | 6.2E+00 | mg/L | 1.1E-04 | mg/kg-d | 7.0E-01 | mg/kg-d | 1.6E-04 |
| | | | Dermal | LEAD | 9.8E-03 | mg/L | 4.3E-08 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | MANGANESE | 2.9E-01 | mg/L | 5.2E-06 | mg/kg-d | 9.6E-04 | mg/kg-d | 5.4E-03 |
| | | | Dermal | THALLIUM | 3.6E-03 | mg/L | 1.5E-07 | mg/kg-d | 1.0E-05 | mg/kg-d | 1.5E-02 |
| | | | Dermal | VANADIUM | 2.8E-03 | mg/L | 4.9E-08 | mg/kg-d | 1.3E-04 | mg/kg-d | 3.8E-04 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)PYRENE | 1.0E-03 | mg/L | 4.1E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.4E-01 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 2.0E-03 | mg/L | 4.8E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.0E-03 | mg/L | 8.4E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | NAPHTHALENE | 5.0E-04 | mg/L | 6.1E-07 | mg/kg-d | 2.0E-02 | mg/kg-d | 3.0E-05 |
| | | | Dermal | **VOCs** | | | | | | | |
| | | | Dermal | 1,4-DICHLOROBENZENE | 7.0E-04 | mg/L | 9.3E-07 | mg/kg-d | 7.0E-02 | mg/kg-d | 1.3E-05 |
| | | | Dermal | BENZENE | 5.3E-03 | mg/L | 1.6E-06 | mg/kg-d | 4.0E-03 | mg/kg-d | 3.9E-04 |
| | | | Dermal | DICHLOROMETHANE | 7.1E-03 | mg/L | 5.2E-07 | mg/kg-d | 6.0E-03 | mg/kg-d | 8.6E-05 |
| | | | Dermal | VINYL CHLORIDE | 1.0E-03 | mg/L | 1.5E-07 | mg/kg-d | 3.0E-03 | mg/kg-d | 5.2E-05 |
| | | | **Exposure Route Total [Surface Water-Dermal]** | | | | | | | | **1.7E-01** |
| **Exposure Point Total (UNDV+UHC)** | | | | | | | | | | | **3E+00** |

Notes:
NA – Not Available.
Chromium risks in sediment and surface water were calculated using toxicity values for hexavalent chromium.

**Table 7.13**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adolescent |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Adolescent | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Intake/Exposure | | RfD / RfC | | |
| | | | | | Value | Units | Value | Units | Value | Units | |

**Ingestion- Soil**

| | | | |
|---|---|---|---|
| Intake Factor (IF) = | IR x EF x ED x CF x FR / BW x AT | = | 9.3E-07 Adolescent |
| IR | Ingestion Rate (mg/day) | | 100 |
| FR | Fraction from Contaminated Source | | 1 |
| EF | Soil Ingestion Exposure Frequency (days/yr) | | 150 |
| ED | Soil Ingestion Exposure Duration (yrs) | | 10 |
| CF | Conversion Factor (kg/mg) | | 0.000001 |
| BW | Body Weight (kg) | | 44.3 |
| AT | Averaging Time (d) | | 3,650 |

$Intake_{ing}$(mg/kg·d) = $EPC_{soil}$*IF*B
(B) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

**Dermal- Soil**

| | | | |
|---|---|---|---|
| Intake Factor (IF) = | SA x AF x EF x ED x CF / BW x AT | = | 3.0E-06 Adolescent |
| SA | Surface Area Exposed to Soil (cm²/day) | | 4,639 |
| AF | Soil Skin Adherence Factor (mg/cm²) | | 0.07 |
| EF | Soil Dermal Exposure Frequency (days/yr) | | 150 |
| ED | Soil Dermal Exposure Duration (yrs) | | 10 |
| CF | Conversion Factor (kg/mg) | | 0.000001 |
| BW | Body Weight (kg) | | 44.3 |
| AT | Averaging Time (d) | | 3,650 |

$Intake_{derm}$(mg/kg·d) = $EPC_{soil}$*IF*ABS
(ABS) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

**Inhalation - Soil**

| | | | |
|---|---|---|---|
| Intake Factor (IF) = | EF x ED x ET x CF / AT | = | 1.4E-01 (Adolescent |
| EF | Soil Exposure Frequency (days/yr) | | 150 |
| ED | Soil Exposure Duration (yrs) | | 10 |
| ET | Soil Exposure Time (hours/day) | | 8 |
| CF | Conversion Factor (d/hr) | | 0.042 |
| AT | Averaging Time (d) | | 3,650 |

EPCair = EPCsoil x [1/Volatilization Factor (VF) + 1/Particulate Emissions Factor (PEF)]
Exposure = EPCair x IF
Non-cancer Hazard = Intake/RfC

**Table 7.13**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adolescent |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Adolescent | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Intake/Exposure | | RfD / RfC | | |
| | | | | | Value | Units | Value | Units | Value | Units | |

**Ingestion- Sediment (SD)**

| | | | |
|---|---|---|---|
| Intake Factor (IF) = | IR x EF x ED x CF x FR / BW x AT | = | 2.7E-07 Adolescent |
| IR | Ingestion Rate (mg/day) | | 100 |
| FR | Fraction from Contaminated Source | | 1 |
| EF | Sediment Ingestion Exposure Frequency (days/yr) | | 44 |
| ED | Sediment Ingestion Exposure Duration (yrs) | | 10 |
| CF | Conversion Factor (kg/mg) | | 0.000001 |
| BW | Body Weight (kg) | | 44.3 |
| AT | Averaging Time (d) | | 3,650 |

$Intake_{ing}$(mg/kg·d) = $EPC_{soil}$*IF*B
(B) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

**Dermal- Sediment (SD)**

| | | | |
|---|---|---|---|
| Intake Factor (IF) = | SA x AF x EF x ED x CF / BW x AT | = | 2.5E-06 Adolescent |
| SA | Surface Area Exposed to Sediment (cm²/day) | | 4,639 |
| AF | Sediment Skin Adherence Factor (mg/cm²) | | 0.2 |
| EF | Sediment Dermal Exposure Frequency (days/yr) | | 44 |
| ED | Sediment Dermal Exposure Duration (yrs) | | 10 |
| CF | Conversion Factor (kg/mg) | | 0.000001 |
| BW | Body Weight (kg) | | 44.3 |
| AT | Averaging Time (d) | | 3,650 |

$Intake_{derm}$(mg/kg·d) = $EPC_{soil}$*IF*ABS
(ABS) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

**Dermal- Surface Water (SW)**

| | | | |
|---|---|---|---|
| Intake Factor (IF) = | SA x EV x EF x ED / BW x AT | = | 1.3E+01 Adolescent |
| SA | Surface Area Exposed to Surface Water (cm²/day) | | 4,639 |
| EF | Surface Water Dermal Exposure Frequency (days/yr) | | 44 |
| ED | Surface Water Dermal Exposure Duration (yrs) | | 10 |
| EV | Event per day (ev/d) | | 1 |
| BW | Body Weight (kg) | | 44.3 |
| AT | Averaging Time (d) | | 3,650 |

$Intake_{derm}$(mg/kg·d) = IF x Absorbed Dose per event ($DA_{Event}$)
($DA_{event}$) presented in Table 4.5.
Non-cancer Hazard = Exposure/RfC

**Table 7.14**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Adult | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| Soil | Soil (0-2 ft bgs) | UNDV | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.5E+03 | mg/kg | 1.8E-03 | mg/kg-d | 1.0E+00 | mg/kg-d | 1.8E-03 |
| | | | Ingestion | ANTIMONY | 1.2E+01 | mg/kg | 6.2E-06 | mg/kg-d | 4.0E-04 | mg/kg-d | 1.5E-02 |
| | | | Ingestion | ARSENIC | 1.2E+02 | mg/kg | 3.8E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.3E-01 |
| | | | Ingestion | BARIUM | 1.3E+03 | mg/kg | 6.6E-04 | mg/kg-d | 2.0E-01 | mg/kg-d | 3.3E-03 |
| | | | Ingestion | CADMIUM | 1.5E+00 | mg/kg | 7.5E-07 | mg/kg-d | 1.0E-03 | mg/kg-d | 7.5E-04 |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | 4.3E-07 | mg/kg-d | 3.0E-03 | mg/kg-d | 1.4E-04 |
| | | | Ingestion | COBALT | 8.3E+00 | mg/kg | 4.3E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.4E-02 |
| | | | Ingestion | COPPER | 1.3E+02 | mg/kg | 6.6E-05 | mg/kg-d | 4.0E-02 | mg/kg-d | 1.7E-03 |
| | | | Ingestion | CYANIDE | 8.8E+01 | mg/kg | 4.5E-05 | mg/kg-d | 6.0E-04 | mg/kg-d | 7.6E-02 |
| | | | Ingestion | IRON | 1.5E+04 | mg/kg | 7.7E-03 | mg/kg-d | 7.0E-01 | mg/kg-d | 1.1E-02 |
| | | | Ingestion | LEAD | 6.6E+02 | mg/kg | 3.4E-04 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | MANGANESE | 1.8E+02 | mg/kg | 9.4E-05 | mg/kg-d | 2.4E-02 | mg/kg-d | 3.9E-03 |
| | | | Ingestion | MERCURY | 1.6E+00 | mg/kg | 8.3E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.8E-03 |
| | | | Ingestion | THALLIUM | 5.2E-01 | mg/kg | 2.7E-07 | mg/kg-d | 1.0E-05 | mg/kg-d | 2.7E-02 |
| | | | Ingestion | VANADIUM | 1.9E+01 | mg/kg | 9.9E-06 | mg/kg-d | 5.0E-03 | mg/kg-d | 2.0E-03 |
| | | | Ingestion | ZINC | 6.5E+02 | mg/kg | 3.3E-04 | mg/kg-d | 3.0E-01 | mg/kg-d | 1.1E-03 |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 7.4E-02 | mg/kg | 3.8E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.9E-03 |
| | | | Ingestion | AROCLOR-1260 | 4.2E-01 | mg/kg | 2.1E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.1E-02 |
| | | | Ingestion | DIELDRIN | 1.0E-02 | mg/kg | 5.3E-09 | mg/kg-d | 5.0E-05 | mg/kg-d | 1.1E-04 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 3.1E+00 | mg/kg | 1.6E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(A)PYRENE | 3.8E+00 | mg/kg | 1.9E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 6.5E-03 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 4.5E+00 | mg/kg | 2.3E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 3.1E+00 | mg/kg | 1.6E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | CHRYSENE | 4.5E+00 | mg/kg | 2.3E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 3.0E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 9.8E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 2.7E-07 | mg/kg-d | 5.0E-03 | mg/kg-d | 5.4E-05 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Ingestion]** | | | | | | | | **3.1E-01** |
| Soil | Soil (0-2 ft bgs) | UNDV | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.5E+03 | mg/kg | NA | mg/kg-d | 1.0E+00 | mg/kg-d | NA |
| | | | Dermal | ANTIMONY | 1.2E+01 | mg/kg | NA | mg/kg-d | 6.0E-05 | mg/kg-d | NA |
| | | | Dermal | ARSENIC | 1.2E+02 | mg/kg | 8.1E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.7E-02 |
| | | | Dermal | BARIUM | 1.3E+03 | mg/kg | NA | mg/kg-d | 1.4E-02 | mg/kg-d | NA |

**Table 7.14**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Adult | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | CADMIUM | 1.5E+00 | mg/kg | 3.1E-09 | mg/kg-d | 2.5E-05 | mg/kg-d | 1.3E-04 |
| | | | Dermal | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA |
| | | | Dermal | COBALT | 8.3E+00 | mg/kg | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA |
| | | | Dermal | COPPER | 1.3E+02 | mg/kg | NA | mg/kg-d | 4.0E-02 | mg/kg-d | NA |
| | | | Dermal | CYANIDE | 8.8E+01 | mg/kg | NA | mg/kg-d | 6.0E-04 | mg/kg-d | NA |
| | | | Dermal | IRON | 1.5E+04 | mg/kg | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA |
| | | | Dermal | LEAD | 6.6E+02 | mg/kg | NA | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | MANGANESE | 1.8E+02 | mg/kg | NA | mg/kg-d | 9.6E-04 | mg/kg-d | NA |
| | | | Dermal | MERCURY | 1.6E+00 | mg/kg | NA | mg/kg-d | 2.1E-05 | mg/kg-d | NA |
| | | | Dermal | THALLIUM | 5.2E-01 | mg/kg | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA |
| | | | Dermal | VANADIUM | 1.9E+01 | mg/kg | NA | mg/kg-d | 1.3E-04 | mg/kg-d | NA |
| | | | Dermal | ZINC | 6.5E+02 | mg/kg | NA | mg/kg-d | 3.0E-01 | mg/kg-d | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 7.4E-02 | mg/kg | 2.2E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.1E-03 |
| | | | Dermal | AROCLOR-1260 | 4.2E-01 | mg/kg | 1.3E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 6.3E-03 |
| | | | Dermal | DIELDRIN | 1.0E-02 | mg/kg | 2.3E-09 | mg/kg-d | 5.0E-05 | mg/kg-d | 4.5E-05 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 3.1E+00 | mg/kg | 8.9E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(A)PYRENE | 3.8E+00 | mg/kg | 1.1E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 3.5E-03 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 4.5E+00 | mg/kg | 1.3E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(K)FLUORANTHENE | 3.1E+00 | mg/kg | 8.8E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | CHRYSENE | 4.5E+00 | mg/kg | 1.3E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 1.7E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 5.4E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 2.9E-07 | mg/kg-d | 5.0E-03 | mg/kg-d | 5.7E-05 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Dermal]** | | | | | | | | **3.8E-02** |
| Soil | Particulates in Air (soil 0-2) | UNDV | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ALUMINUM | 1.1E-06 | mg/m3 | 1.5E-07 | µg/m3 | 5.0E-03 | mg/m3 | 3.0E-05 |
| | | | Inhalation | ANTIMONY | 3.7E-09 | mg/m3 | 5.1E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | ARSENIC | 3.9E-08 | mg/m3 | 5.3E-09 | µg/m3 | 1.5E-05 | mg/m3 | 3.5E-04 |
| | | | Inhalation | BARIUM | 4.0E-07 | mg/m3 | 5.5E-08 | µg/m3 | 5.0E-04 | mg/m3 | 1.1E-04 |
| | | | Inhalation | CADMIUM | 4.5E-10 | mg/m3 | 6.2E-11 | µg/m3 | 1.0E-05 | mg/m3 | 6.2E-06 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.6E-10 | mg/m3 | 3.6E-11 | µg/m3 | 1.0E-04 | mg/m3 | 3.6E-07 |
| | | | Inhalation | COBALT | 2.6E-09 | mg/m3 | 3.6E-10 | µg/m3 | 6.0E-06 | mg/m3 | 5.9E-05 |
| | | | Inhalation | COPPER | 4.0E-08 | mg/m3 | 5.5E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CYANIDE | 1.2E-03 | mg/m3 | 1.6E-04 | µg/m3 | 8.0E-04 | mg/m3 | 2.0E-01 |

**Table 7.14**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Adult | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | IRON | 4.7E-06 | mg/m3 | 6.4E-07 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | LEAD | 2.1E-07 | mg/m3 | 2.8E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | MANGANESE | 5.7E-08 | mg/m3 | 7.9E-09 | µg/m3 | 5.0E-05 | mg/m3 | 1.6E-04 |
| | | | Inhalation | MERCURY | 5.1E-10 | mg/m3 | 6.9E-11 | µg/m3 | 3.0E-04 | mg/m3 | 2.3E-07 |
| | | | Inhalation | THALLIUM | 1.6E-10 | mg/m3 | 2.2E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | VANADIUM | 6.0E-09 | mg/m3 | 8.3E-10 | µg/m3 | 1.0E-04 | mg/m3 | 8.3E-06 |
| | | | Inhalation | ZINC | 2.0E-07 | mg/m3 | 2.8E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | AROCLOR-1254 | 6.8E-08 | mg/m3 | 9.3E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | AROCLOR-1260 | 2.5E-07 | mg/m3 | 3.4E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIELDRIN | 3.3E-12 | mg/m3 | 4.5E-13 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | BENZO(A)ANTHRACENE | 5.6E-07 | mg/m3 | 7.6E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(A)PYRENE | 1.2E-09 | mg/m3 | 1.6E-10 | µg/m3 | 2.0E-06 | mg/m3 | 8.1E-05 |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 1.4E-09 | mg/m3 | 1.9E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 9.7E-10 | mg/m3 | 1.3E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CHRYSENE | 1.4E-09 | mg/m3 | 1.9E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 1.8E-10 | mg/m3 | 2.5E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 5.9E-10 | mg/m3 | 8.1E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | PENTACHLOROPHENOL | 1.7E-10 | mg/m3 | 2.3E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | **Exposure Route Total [Particulates in Air (soil 0-2)-Inhalation]** | | | | | | | | **2.0E-01** |
| Sediment | Sediment | UHC | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.3E+03 | mg/kg | 5.0E-04 | mg/kg-d | 1.0E+00 | mg/kg-d | 5.0E-04 |
| | | | Ingestion | ANTIMONY | 1.7E+01 | mg/kg | 2.5E-06 | mg/kg-d | 4.0E-04 | mg/kg-d | 6.4E-03 |
| | | | Ingestion | ARSENIC | 1.7E+03 | mg/kg | 1.5E-04 | mg/kg-d | 3.0E-04 | mg/kg-d | 5.1E-01 |
| | | | Ingestion | BARIUM | 2.4E+03 | mg/kg | 3.6E-04 | mg/kg-d | 2.0E-01 | mg/kg-d | 1.8E-03 |
| | | | Ingestion | CHROMIUM | 9.1E+01 | mg/kg | 1.4E-05 | mg/kg-d | 3.0E-03 | mg/kg-d | 4.6E-03 |
| | | | Ingestion | COBALT | 5.4E+00 | mg/kg | 8.2E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.7E-03 |
| | | | Ingestion | COPPER | 1.6E+02 | mg/kg | 2.5E-05 | mg/kg-d | 4.0E-02 | mg/kg-d | 6.2E-04 |
| | | | Ingestion | CYANIDE | 6.5E+02 | mg/kg | 9.8E-05 | mg/kg-d | 6.0E-04 | mg/kg-d | 1.6E-01 |
| | | | Ingestion | IRON | 7.3E+03 | mg/kg | 1.1E-03 | mg/kg-d | 7.0E-01 | mg/kg-d | 1.6E-03 |
| | | | Ingestion | LEAD | 1.8E+03 | mg/kg | 2.7E-04 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | THALLIUM | 2.4E+00 | mg/kg | 3.6E-07 | mg/kg-d | 1.0E-05 | mg/kg-d | 3.6E-02 |

**Table 7.14**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Adult | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 2.6E-01 | mg/kg | 3.8E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.9E-03 |
| | | | Ingestion | AROCLOR-1260 | 1.5E-01 | mg/kg | 2.3E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.1E-03 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 6.1E+00 | mg/kg | 9.2E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(A)PYRENE | 6.2E+00 | mg/kg | 9.3E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 3.1E-03 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 6.0E+00 | mg/kg | 9.0E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 8.3E+00 | mg/kg | 1.3E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | CHRYSENE | 9.9E+00 | mg/kg | 1.5E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 1.2E+00 | mg/kg | 1.8E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 4.2E+00 | mg/kg | 6.3E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | **TICs** | | | | | | | |
| | | | Ingestion | BENZO[J]FLUORANTHENE | 1.1E+00 | mg/kg | 1.7E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | **Exposure Route Total [Sediment-Ingestion]** | | | | | | | | **7.4E-01** |
| Sediment | Sediment | UHC | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.3E+03 | mg/kg | NA | mg/kg-d | 1.0E+00 | mg/kg-d | NA |
| | | | Dermal | ANTIMONY | 1.7E+01 | mg/kg | NA | mg/kg-d | 6.0E-05 | mg/kg-d | NA |
| | | | Dermal | ARSENIC | 1.7E+03 | mg/kg | 9.3E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 3.1E-01 |
| | | | Dermal | BARIUM | 2.4E+03 | mg/kg | NA | mg/kg-d | 1.4E-02 | mg/kg-d | NA |
| | | | Dermal | CHROMIUM | 9.1E+01 | mg/kg | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA |
| | | | Dermal | COBALT | 5.4E+00 | mg/kg | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA |
| | | | Dermal | COPPER | 1.6E+02 | mg/kg | NA | mg/kg-d | 4.0E-02 | mg/kg-d | NA |
| | | | Dermal | CYANIDE | 6.5E+02 | mg/kg | NA | mg/kg-d | 6.0E-04 | mg/kg-d | NA |
| | | | Dermal | IRON | 7.3E+03 | mg/kg | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA |
| | | | Dermal | LEAD | 1.8E+03 | mg/kg | NA | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | THALLIUM | 2.4E+00 | mg/kg | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 2.6E-01 | mg/kg | 6.5E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 3.2E-03 |
| | | | Dermal | AROCLOR-1260 | 1.5E-01 | mg/kg | 3.8E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.9E-03 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 6.1E+00 | mg/kg | 1.4E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(A)PYRENE | 6.2E+00 | mg/kg | 1.5E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 4.9E-03 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 6.0E+00 | mg/kg | 1.4E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(K)FLUORANTHENE | 8.3E+00 | mg/kg | 2.0E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | CHRYSENE | 9.9E+00 | mg/kg | 2.3E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 1.2E+00 | mg/kg | 2.9E-07 | mg/kg-d | NA | mg/kg-d | NA |

**Table 7.14**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Adult | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 4.2E+00 | mg/kg | 1.0E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | **TICs** | | | | | | | |
| | | | Dermal | BENZO[J]FLUORANTHENE | 1.1E+00 | mg/kg | 2.6E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | **Exposure Route Total [Sediment-Dermal]** | | | | | | | | **3.2E-01** |
| Surface Water | Surface Water | UHC | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ANTIMONY | 2.9E-03 | mg/L | 5.3E-08 | mg/kg-d | 6.0E-05 | mg/kg-d | 8.9E-04 |
| | | | Dermal | ARSENIC | 5.7E-02 | mg/L | 8.2E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.7E-03 |
| | | | Dermal | BARIUM | 2.8E-01 | mg/L | 5.7E-06 | mg/kg-d | 1.4E-02 | mg/kg-d | 4.1E-04 |
| | | | Dermal | CHROMIUM | 3.8E-03 | mg/L | 4.9E-08 | mg/kg-d | 7.5E-05 | mg/kg-d | 6.6E-04 |
| | | | Dermal | CYANIDE | 9.7E-03 | mg/L | 1.1E-07 | mg/kg-d | 6.0E-04 | mg/kg-d | 1.9E-04 |
| | | | Dermal | IRON | 6.2E+00 | mg/L | 8.1E-05 | mg/kg-d | 7.0E-01 | mg/kg-d | 1.2E-04 |
| | | | Dermal | LEAD | 9.8E-03 | mg/L | 3.1E-08 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | MANGANESE | 2.9E-01 | mg/L | 3.7E-06 | mg/kg-d | 9.6E-04 | mg/kg-d | 3.9E-03 |
| | | | Dermal | THALLIUM | 3.6E-03 | mg/L | 1.1E-07 | mg/kg-d | 1.0E-05 | mg/kg-d | 1.1E-02 |
| | | | Dermal | VANADIUM | 2.8E-03 | mg/L | 3.5E-08 | mg/kg-d | 1.3E-04 | mg/kg-d | 2.7E-04 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)PYRENE | 1.0E-03 | mg/L | 3.0E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 9.9E-02 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 2.0E-03 | mg/L | 3.5E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.0E-03 | mg/L | 6.1E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | NAPHTHALENE | 5.0E-04 | mg/L | 4.4E-07 | mg/kg-d | 2.0E-02 | mg/kg-d | 2.2E-05 |
| | | | Dermal | **VOCs** | | | | | | | |
| | | | Dermal | 1,4-DICHLOROBENZENE | 7.0E-04 | mg/L | 6.7E-07 | mg/kg-d | 7.0E-02 | mg/kg-d | 9.6E-06 |
| | | | Dermal | BENZENE | 5.3E-03 | mg/L | 1.1E-06 | mg/kg-d | 4.0E-03 | mg/kg-d | 2.8E-04 |
| | | | Dermal | DICHLOROMETHANE | 7.1E-03 | mg/L | 3.7E-07 | mg/kg-d | 6.0E-03 | mg/kg-d | 6.2E-05 |
| | | | Dermal | VINYL CHLORIDE | 1.0E-03 | mg/L | 1.1E-07 | mg/kg-d | 3.0E-03 | mg/kg-d | 3.7E-05 |
| | | | **Exposure Route Total [Surface Water-Dermal]** | | | | | | | | **1.2E-01** |
| **Exposure Point Total (UNDV+UHC)** | | | | | | | | | | | **2E+00** |

Notes:
NA - Not available.
-- Not applicable.
Chromium risks in sediment and surface water were calculated using toxicity values for hexavalent chromium.

**Table 7.14**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Adult | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Intake/Exposure | | RfD / RfC | | |
| | | | | | Value | Units | Value | Units | Value | Units | |

**Ingestion- Soil**

| | | | |
|---|---|---|---|
| Intake Factor (IF) = | IR x EF x ED x CF x FR / BW x AT | = | 5.1E-07 (Adult) |
| IR | Ingestion Rate (mg/day) | | 100 |
| FR | Fraction from Contaminated Source | | 1 |
| EF | Soil Ingestion Exposure Frequency (days/yr) | | 150 |
| ED | Soil Ingestion Exposure Duration (yrs) | | 26 |
| CF | Conversion Factor (kg/mg) | | 0.000001 |
| BW | Body Weight (kg) | | 80 |
| AT | Averaging Time (d) | | 9,490 |

$Intake_{ing}$(mg/kg·d) = $EPC_{soil}$*IF*B
(B) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

**Dermal- Soil**

| | | | |
|---|---|---|---|
| Intake Factor (IF) = | SA x AF x EF x ED x CF / BW x AT | = | 2.2E-06 (Adult) |
| SA | Surface Area Exposed to Soil ($cm^2$/day) | | 6,032 |
| AF | Soil Skin Adherence Factor (mg/$cm^2$) | | 0.07 |
| EF | Soil Dermal Exposure Frequency (days/yr) | | 150 |
| ED | Soil Dermal Exposure Duration (yrs) | | 26 |
| CF | Conversion Factor (kg/mg) | | 0.000001 |
| BW | Body Weight (kg) | | 80 |
| AT | Averaging Time (d) | | 9,490 |

$Intake_{derm}$(mg/kg·d) = $EPC_{soil}$*IF*ABS
(ABS) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

**Inhalation - Soil**

| | | | |
|---|---|---|---|
| Intake Factor (IF) = | EF x ED x ET x CF / AT | = | 1.4E-01 (Adult) |
| EF | Soil Exposure Frequency (days/yr) | | 150 |
| ED | Soil Exposure Duration (yrs) | | 26 |
| ET | Soil Exposure Time (hours/day) | | 8 |
| CF | Conversion Factor (d/hr) | | 0.042 |
| AT | Averaging Time (d) | | 9,490 |

EPCair = EPCsoil x [1/Volatilization Factor (VF) + 1/Particulate Emissions Factor (PEF)]
Exposure = EPCair x IF
Non-cancer Hazard = Intake/RfC

**Table 7.14**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Adult | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Intake/Exposure | | RfD / RfC | | |
| | | | | | Value | Units | Value | Units | Value | Units | |

**Ingestion- Sediment (SD)**

| | | | |
|---|---|---|---|
| Intake Factor (IF) = | IR x EF x ED x CF x FR / BW x AT | = | 1.5E-07 (Adult) |
| IR | Ingestion Rate (mg/day) | | 100 |
| FR | Fraction from Contaminated Source | | 1 |
| EF | Sediment Ingestion Exposure Frequency (days/yr) | | 44 |
| ED | Sediment Ingestion Exposure Duration (yrs) | | 26 |
| CF | Conversion Factor (kg/mg) | | 0.000001 |
| BW | Body Weight (kg) | | 80 |
| AT | Averaging Time (d) | | 9,490 |

$Intake_{ing}$(mg/kg·d) = $EPC_{soil}$*IF*B
(B) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

**Dermal- Sediment (SD)**

| | | | |
|---|---|---|---|
| Intake Factor (IF) = | SA x AF x EF x ED x CF / BW x AT | = | 1.8E-06 (Adult) |
| SA | Surface Area Exposed to Sediment (cm²/day) | | 6,032 |
| AF | Sediment Skin Adherence Factor (mg/cm²) | | 0.2 |
| EF | Sediment Dermal Exposure Frequency (days/yr) | | 44 |
| ED | Sediment Dermal Exposure Duration (yrs) | | 26 |
| CF | Conversion Factor (kg/mg) | | 0.000001 |
| BW | Body Weight (kg) | | 80 |
| AT | Averaging Time (d) | | 9,490 |

$Intake_{derm}$(mg/kg·d) = $EPC_{soil}$*IF*ABS
(ABS) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

**Dermal- Surface Water (SW)**

| | | | |
|---|---|---|---|
| Intake Factor (IF) = | SA x EV x EF x ED / BW x AT | = | 9.1E+00 (Adult) |
| SA | Surface Area Exposed to Surface Water (cm²/day) | | 6,032 |
| EF | Surface Water Dermal Exposure Frequency (days/yr) | | 44 |
| ED | Surface Water Dermal Exposure Duration (yrs) | | 26 |
| EV | Event per day (ev/d) | | 1 |
| BW | Body Weight (kg) | | 80 |
| AT | Averaging Time (d) | | 9,490 |

$Intake_{derm}$(mg/kg·d) = IF x Absorbed Dose per event ($DA_{Event}$)
($DA_{event}$) presented in Table 4.5.
Non-cancer Hazard = Exposure/RfC

**Table 9.1**
**Chemical Cancer Risks and Non-cancer Hazards**
**Reasonable Maximum Exposure**
**Utility Worker**

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | | Non-carcinogenic Hazard Quotient | | | | Target Organ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | RfD | RfC |
| Soil | Soil | EUSA | **Metals** | | | | | | | | | | |
| | | | ARSENIC | 8.8E-08 | 1.4E-08 | 1.1E-11 | **1.0E-07** | 5.5E-04 | 8.8E-05 | 4.6E-07 | **6.3E-04** | Skin | Respiratory |
| | | | CHROMIUM, HEXAVALENT | 1.5E-08 | NA | 6.2E-11 | **1.5E-08** | 2.7E-05 | NA | 2.1E-08 | **2.7E-05** | None Observed | Respiratory |
| | | | COBALT | NA | NA | 2.8E-11 | **2.8E-11** | 1.1E-03 | NA | 1.5E-06 | **1.2E-03** | Endocrine | Respiratory |
| | | | IRON | NA | NA | NA | **NA** | 1.1E-03 | NA | NA | **1.1E-03** | Gastrointestinal | NA |
| | | | THALLIUM | NA | NA | NA | **NA** | 3.7E-03 | NA | NA | **3.7E-03** | Skin | NA |
| | | | **SVOCs** | | | | | | | | | | |
| | | | BENZO(A)PYRENE | 2.9E-09 | 1.2E-09 | 4.5E-14 | **4.2E-09** | 2.8E-05 | 1.1E-05 | 1.0E-07 | **3.9E-05** | Developmental | Developmental |
| | | | DIBENZO(A,H)ANTHRACENE | 8.5E-10 | 3.5E-10 | 1.3E-14 | **1.2E-09** | NA | NA | NA | **NA** | NA | NA |
| **Exposure Point Total - EUSA** | | | | 1.1E-07 | 1.6E-08 | 1.0E-10 | **1E-07** | 6.5E-03 | 9.9E-05 | 2.0E-06 | **7E-03** | | |
| | | | | | | | | **Total Organ HI (EUSA)** | | | | | |
| | | | | | | | | Developmental | | | 4E-05 | | |
| | | | | | | | | Endocrine | | | 1E-03 | | |
| | | | | | | | | Gastrointestinal | | | 1E-03 | | |
| | | | | | | | | None Observed | | | 3E-05 | | |
| | | | | | | | | Respiratory | | | 2E-06 | | |
| | | | | | | | | Skin | | | 4E-03 | | |
| Soil | Soil | NFA | **Metals** | | | | | | | | | | |
| | | | ALUMINUM | NA | NA | NA | **NA** | 3.8E-04 | NA | 1.9E-06 | **3.8E-04** | Nervous System | Nervous System |
| | | | ANTIMONY | NA | NA | NA | **NA** | 3.7E-04 | NA | NA | **3.7E-04** | Hematological | NA |
| | | | ARSENIC | 8.5E-07 | 1.4E-07 | 1.0E-10 | **9.9E-07** | 5.3E-03 | 8.5E-04 | 4.5E-06 | **6.1E-03** | Skin | Respiratory |
| | | | BARIUM | NA | NA | NA | **NA** | 2.1E-04 | NA | 2.2E-06 | **2.2E-04** | Renal | Reproductive |
| | | | CADMIUM | NA | NA | 6.2E-13 | **6.2E-13** | 3.8E-05 | 4.9E-06 | 9.6E-08 | **4.3E-05** | Renal | Renal |
| | | | CHROMIUM, HEXAVALENT | 7.0E-07 | NA | 3.0E-09 | **7.0E-07** | 1.3E-03 | NA | 9.9E-07 | **1.3E-03** | None Observed | Respiratory |
| | | | COBALT | NA | NA | 1.7E-11 | **1.7E-11** | 6.8E-04 | NA | 8.6E-07 | **6.8E-04** | Endocrine | Respiratory |
| | | | COPPER | NA | NA | NA | **NA** | 7.0E-05 | NA | NA | **7.0E-05** | Gastrointestinal | NA |
| | | | CYANIDE | NA | NA | NA | **NA** | 8.7E-04 | NA | 7.0E-04 | **1.6E-03** | Reproductive | Endocrine |
| | | | IRON | NA | NA | NA | **NA** | 1.2E-03 | NA | NA | **1.2E-03** | Gastrointestinal | NA |
| | | | LEAD | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | MANGANESE | NA | NA | NA | **NA** | 5.0E-04 | NA | 6.1E-06 | **5.1E-04** | Nervous System | Nervous System |
| | | | THALLIUM | NA | NA | NA | **NA** | 3.2E-03 | NA | NA | **3.2E-03** | Skin | NA |
| | | | VANADIUM | NA | NA | NA | **NA** | 2.7E-04 | NA | 3.4E-07 | **2.7E-04** | Systemic | Respiratory |
| | | | ZINC | NA | NA | NA | **NA** | 7.1E-05 | NA | NA | **7.1E-05** | Hematological | NA |
| | | | **PEST/PCB** | | | | | | | | | | |
| | | | ALDRIN | 8.1E-09 | NA | 8.6E-11 | **8.2E-09** | 4.4E-05 | NA | NA | **4.4E-05** | Hepatic | NA |
| | | | AROCLOR-1254 | 2.2E-09 | 9.7E-10 | 4.6E-11 | **3.2E-09** | 1.5E-04 | 6.8E-05 | NA | **2.2E-04** | Immunological | NA |
| | | | AROCLOR-1260 | 2.0E-06 | 9.1E-07 | 2.8E-08 | **3.0E-06** | 1.4E-01 | 6.4E-02 | NA | **2.1E-01** | Immunological | NA |
| | | | DIELDRIN | 1.1E-08 | 3.6E-09 | 8.1E-14 | **1.5E-08** | 3.9E-05 | 1.3E-05 | NA | **5.2E-05** | Hepatic | NA |

**Table 9.1**
**Chemical Cancer Risks and Non-cancer Hazards**
**Reasonable Maximum Exposure**
**Utility Worker**

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | | Non-carcinogenic Hazard Quotient | | | | Target Organ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | RfD | RfC |
| | | | **SVOCs** | | | | | | | | | | |
| | | | 1,1'-BIPHENYL | 2.0E-10 | NA | NA | **2.0E-10** | 1.4E-07 | NA | 9.8E-05 | **9.8E-05** | Renal | Hepatic |
| | | | 2-METHYLNAPHTHALENE | NA | NA | NA | **NA** | 1.3E-04 | 5.2E-05 | NA | **1.8E-04** | Respiratory | NA |
| | | | BENZO(A)ANTHRACENE | 9.6E-09 | 4.0E-09 | 8.2E-11 | **1.4E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(A)PYRENE | 8.6E-08 | 3.6E-08 | 1.3E-12 | **1.2E-07** | 8.0E-04 | 3.4E-04 | 3.0E-06 | **1.1E-03** | Developmental | Developmental |
| | | | BENZO(B)FLUORANTHENE | 9.1E-09 | 3.8E-09 | 1.4E-13 | **1.3E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(K)FLUORANTHENE | 6.4E-10 | 2.7E-10 | 9.7E-15 | **9.1E-10** | NA | NA | NA | **NA** | NA | NA |
| | | | CARBAZOLE | 7.2E-10 | NA | NA | **7.2E-10** | NA | NA | NA | **NA** | NA | NA |
| | | | CHRYSENE | 9.4E-11 | 3.9E-11 | 1.4E-15 | **1.3E-10** | NA | NA | NA | **NA** | NA | NA |
| | | | DIBENZO(A,H)ANTHRACENE | 1.8E-08 | 7.5E-09 | 2.7E-13 | **2.6E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | DIBENZOFURAN | NA | NA | NA | **NA** | 8.9E-05 | 8.5E-06 | NA | **9.7E-05** | Systemic | NA |
| | | | INDENO(1,2,3-CD)PYRENE | 4.7E-09 | 1.9E-09 | 7.1E-14 | **6.6E-09** | NA | NA | NA | **NA** | NA | NA |
| | | | NAPHTHALENE | NA | NA | 2.1E-08 | **2.1E-08** | 6.4E-05 | 2.6E-05 | 5.8E-04 | **6.7E-04** | Systemic | Respiratory |
| | | | **VOCs** | | | | | | | | | | |
| | | | BENZENE | 8.3E-11 | NA | 2.1E-10 | **2.9E-10** | 1.1E-06 | NA | 2.5E-06 | **3.6E-06** | Immunological | Immunological |
| | | | ETHYLBENZENE | 1.1E-08 | NA | 2.8E-08 | **3.9E-08** | 2.8E-05 | NA | 3.2E-05 | **6.0E-05** | Hepatic | Developmental |
| | | | METHYLCYCLOHEXANE | NA | NA | NA | **NA** | NA | NA | 3.3E-03 | **3.3E-03** | NA | Reproductive |
| | | | TRICHLOROETHYLENE (TCE) | 6.4E-11 | NA | 1.6E-10 | **2.3E-10** | 7.8E-06 | NA | 5.6E-05 | **6.4E-05** | Developmental | Developmental |
| | | | XYLENES (TOTAL) | NA | NA | NA | **NA** | 2.3E-04 | NA | 5.1E-03 | **5.3E-03** | Systemic | Nervous System |
| | | | **TICs** | | | | | | | | | | |
| | | | 1,2,4-TRIMETHYLBENZENE | NA | NA | NA | **NA** | 1.8E-03 | NA | 2.3E-03 | **4.1E-03** | Nervous System | Nervous System |
| | | | BENZENE, 1,2,3-TRIMETHYL- | NA | NA | NA | **NA** | 1.9E-03 | NA | 2.1E-03 | **4.0E-03** | Nervous System | Nervous System |
| | | | BENZENE, 1,3,5-TRIMETHYL- | NA | NA | NA | **NA** | 4.2E-03 | NA | 6.7E-03 | **1.1E-02** | Nervous System | Nervous System |
| | | | NAPHTHALENE, 1-METHYL- | 4.7E-09 | 2.0E-09 | NA | **6.7E-09** | 6.5E-06 | 2.7E-06 | NA | **9.3E-06** | Respiratory | NA |
| **Exposure Point Total - NFA** | | | | 3.7E-06 | 1.1E-06 | 8.1E-08 | **5E-06** | 1.7E-01 | 6.5E-02 | 2.1E-02 | **3E-01** | | |
| | | | | | | | | **Total Organ HI (NFA)** | | | | | |
| | | | | | | | | Developmental | | | 1E-03 | | |
| | | | | | | | | Endocrine | | | 1E-03 | | |
| | | | | | | | | Gastrointestinal | | | 1E-03 | | |
| | | | | | | | | Hematological | | | 4E-04 | | |
| | | | | | | | | Hepatic | | | 2E-04 | | |
| | | | | | | | | Immunological | | | 2E-01 | | |
| | | | | | | | | Nervous System | | | 2E-02 | | |
| | | | | | | | | None Observed | | | 1E-03 | | |
| | | | | | | | | Renal | | | 3E-04 | | |
| | | | | | | | | Reproductive | | | 4E-03 | | |
| | | | | | | | | Respiratory | | | 8E-04 | | |
| | | | | | | | | Skin | | | 9E-03 | | |
| | | | | | | | | Systemic | | | 7E-04 | | |

**Table 9.1**
**Chemical Cancer Risks and Non-cancer Hazards**
**Reasonable Maximum Exposure**
**Utility Worker**

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | | Non-carcinogenic Hazard Quotient | | | | Target Organ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | RfD | RfC |
| Soil | Soil | SFA | **Metals** | | | | | | | | | | |
| | | | ALUMINUM | NA | NA | NA | **NA** | 3.1E-04 | NA | 1.6E-06 | **3.1E-04** | Nervous System | Nervous System |
| | | | ANTIMONY | NA | NA | NA | **NA** | 1.4E-02 | NA | NA | **1.4E-02** | Hematological | NA |
| | | | ARSENIC | 9.4E-07 | 1.5E-07 | 1.1E-10 | **1.1E-06** | 5.8E-03 | 9.3E-04 | 4.9E-06 | **6.8E-03** | Skin | Respiratory |
| | | | BARIUM | NA | NA | NA | **NA** | 2.7E-04 | NA | 2.7E-06 | **2.7E-04** | Renal | Reproductive |
| | | | CADMIUM | NA | NA | 8.6E-13 | **8.6E-13** | 5.3E-05 | 6.8E-06 | 1.3E-07 | **6.0E-05** | Renal | Renal |
| | | | CHROMIUM, HEXAVALENT | 1.8E-08 | NA | 7.8E-11 | **1.8E-08** | 3.4E-05 | NA | 2.6E-08 | **3.4E-05** | None Observed | Respiratory |
| | | | COBALT | NA | NA | 1.7E-11 | **1.7E-11** | 7.0E-04 | NA | 8.8E-07 | **7.0E-04** | Endocrine | Respiratory |
| | | | CYANIDE | NA | NA | NA | **NA** | 1.3E-03 | NA | 1.0E-03 | **2.3E-03** | Reproductive | Endocrine |
| | | | IRON | NA | NA | NA | **NA** | 1.0E-03 | NA | NA | **1.0E-03** | Gastrointestinal | NA |
| | | | LEAD | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | MANGANESE | NA | NA | NA | **NA** | 2.2E-04 | NA | 2.7E-06 | **2.2E-04** | Nervous System | Nervous System |
| | | | MERCURY | NA | NA | NA | **NA** | 1.6E-04 | NA | 3.9E-09 | **1.6E-04** | Immunological | Nervous System |
| | | | THALLIUM | NA | NA | NA | **NA** | 5.3E-03 | NA | NA | **5.3E-03** | Skin | NA |
| | | | VANADIUM | NA | NA | NA | **NA** | 2.6E-04 | NA | 3.2E-07 | **2.6E-04** | Systemic | Respiratory |
| | | | ZINC | NA | NA | NA | **NA** | 1.8E-04 | NA | NA | **1.8E-04** | Hematological | NA |
| | | | **PEST/PCB** | | | | | | | | | | |
| | | | AROCLOR-1254 | 3.4E-09 | 1.5E-09 | 7.3E-11 | **5.0E-09** | 2.4E-04 | 1.1E-04 | NA | **3.5E-04** | Immunological | NA |
| | | | **SVOCs** | | | | | | | | | | |
| | | | 2-METHYLNAPHTHALENE | NA | NA | NA | **NA** | 8.3E-05 | 3.4E-05 | NA | **1.2E-04** | Respiratory | NA |
| | | | BENZO(A)ANTHRACENE | 1.3E-08 | 5.3E-09 | 1.1E-10 | **1.8E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(A)PYRENE | 1.1E-07 | 4.7E-08 | 1.7E-12 | **1.6E-07** | 1.1E-03 | 4.4E-04 | 4.0E-06 | **1.5E-03** | Developmental | Developmental |
| | | | BENZO(B)FLUORANTHENE | 1.8E-08 | 7.7E-09 | 2.8E-13 | **2.6E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(K)FLUORANTHENE | 1.2E-09 | 5.0E-10 | 1.8E-14 | **1.7E-09** | NA | NA | NA | **NA** | NA | NA |
| | | | CHRYSENE | 1.8E-10 | 7.3E-11 | 2.7E-15 | **2.5E-10** | NA | NA | NA | **NA** | NA | NA |
| | | | DIBENZO(A,H)ANTHRACENE | 5.7E-08 | 2.4E-08 | 8.6E-13 | **8.1E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | INDENO(1,2,3-CD)PYRENE | 1.0E-08 | 4.3E-09 | 1.6E-13 | **1.5E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | NAPHTHALENE | NA | NA | 1.5E-08 | **1.5E-08** | 4.5E-05 | 1.9E-05 | 4.1E-04 | **4.7E-04** | Systemic | Respiratory |
| | | | PENTACHLOROPHENOL | 4.8E-09 | 3.9E-09 | 1.6E-15 | **8.7E-09** | 6.8E-06 | 5.4E-06 | NA | **1.2E-05** | Hepatic | NA |
| | | | **VOCs** | | | | | | | | | | |
| | | | BENZENE | 4.4E-10 | NA | 1.1E-09 | **1.6E-09** | 5.6E-06 | NA | 1.3E-05 | **1.9E-05** | Immunological | Immunological |
| | | | ETHYLBENZENE | 1.7E-09 | NA | 4.4E-09 | **6.1E-09** | 4.4E-06 | NA | 4.9E-06 | **9.3E-06** | Hepatic | Developmental |
| | | | XYLENES (TOTAL) | NA | NA | NA | **NA** | 2.0E-05 | NA | 4.4E-04 | **4.6E-04** | Systemic | Nervous System |
| | | | **TICs** | | | | | | | | | | |
| | | | 1,2,4-TRIMETHYLBENZENE | NA | NA | NA | **NA** | 5.4E-03 | NA | 7.2E-03 | **1.3E-02** | Nervous System | Nervous System |
| | | | BENZENE, 1,2,3-TRIMETHYL- | NA | NA | NA | **NA** | 1.3E-03 | NA | 1.4E-03 | **2.7E-03** | Nervous System | Nervous System |
| | | | BENZENE, 1,3,5-TRIMETHYL- | NA | NA | NA | **NA** | 2.0E-03 | NA | 3.2E-03 | **5.3E-03** | Nervous System | Nervous System |
| **Exposure Point Total - SFA** | | | | 1.2E-06 | 2.4E-07 | 2.1E-08 | **1E-06** | 4.0E-02 | 1.5E-03 | 1.4E-02 | **6E-02** | | |

**Table 9.1**
**Chemical Cancer Risks and Non-cancer Hazards**
**Reasonable Maximum Exposure**
**Utility Worker**

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | | Non-carcinogenic Hazard Quotient | | | | Target Organ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | RfD | RfC |
| | | | | | | | | **Total Organ HI (SFA)** | | | | | |
| | | | | | | | | Developmental | | | 2E-03 | | |
| | | | | | | | | Endocrine | | | 2E-03 | | |
| | | | | | | | | Gastrointestinal | | | 1E-03 | | |
| | | | | | | | | Hematological | | | 1E-02 | | |
| | | | | | | | | Hepatic | | | 2E-05 | | |
| | | | | | | | | Immunological | | | 5E-04 | | |
| | | | | | | | | Nervous System | | | 2E-02 | | |
| | | | | | | | | None Observed | | | 3E-05 | | |
| | | | | | | | | Renal | | | 3E-04 | | |
| | | | | | | | | Reproductive | | | 1E-03 | | |
| | | | | | | | | Respiratory | | | 5E-04 | | |
| | | | | | | | | Skin | | | 1E-02 | | |
| | | | | | | | | Systemic | | | 3E-04 | | |
| Soil | Soil | UNDV | **Metals** | | | | | | | | | | |
| | | | ALUMINUM | NA | NA | NA | **NA** | 3.8E-04 | NA | 1.9E-06 | **3.8E-04** | Nervous System | Nervous System |
| | | | ANTIMONY | NA | NA | NA | **NA** | 2.0E-03 | NA | NA | **2.0E-03** | Hematological | NA |
| | | | ARSENIC | 6.2E-06 | 1.0E-06 | 7.5E-10 | **7.2E-06** | 3.9E-02 | 6.2E-03 | 3.3E-05 | **4.5E-02** | Skin | Respiratory |
| | | | BARIUM | NA | NA | NA | **NA** | 4.7E-04 | NA | 4.8E-06 | **4.8E-04** | Renal | Reproductive |
| | | | CADMIUM | NA | NA | 1.7E-12 | **1.7E-12** | 1.0E-04 | 1.3E-05 | 2.6E-07 | **1.2E-04** | Renal | Renal |
| | | | CHROMIUM, HEXAVALENT | 1.7E-08 | NA | 7.2E-11 | **1.7E-08** | 3.2E-05 | NA | 2.4E-08 | **3.2E-05** | None Observed | Respiratory |
| | | | COBALT | NA | NA | 3.8E-11 | **3.8E-11** | 1.6E-03 | NA | 2.0E-06 | **1.6E-03** | Endocrine | Respiratory |
| | | | COPPER | NA | NA | NA | **NA** | 2.3E-04 | NA | NA | **2.3E-04** | Gastrointestinal | NA |
| | | | CYANIDE | NA | NA | NA | **NA** | 8.8E-03 | NA | 7.1E-03 | **1.6E-02** | Reproductive | Endocrine |
| | | | IRON | NA | NA | NA | **NA** | 1.8E-03 | NA | NA | **1.8E-03** | Gastrointestinal | NA |
| | | | LEAD | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | MANGANESE | NA | NA | NA | **NA** | 6.9E-04 | NA | 8.3E-06 | **6.9E-04** | Nervous System | Nervous System |
| | | | MERCURY | NA | NA | NA | **NA** | 4.2E-04 | NA | 1.1E-08 | **4.2E-04** | Immunological | Nervous System |
| | | | THALLIUM | NA | NA | NA | **NA** | 5.4E-03 | NA | NA | **5.4E-03** | Skin | NA |
| | | | VANADIUM | NA | NA | NA | **NA** | 3.3E-04 | NA | 4.2E-07 | **3.3E-04** | Systemic | Respiratory |
| | | | ZINC | NA | NA | NA | **NA** | 1.8E-04 | NA | NA | **1.8E-04** | Hematological | NA |
| | | | **PEST/PCB** | | | | | | | | | | |
| | | | AROCLOR-1254 | 5.0E-09 | 2.2E-09 | 1.1E-10 | **7.4E-09** | 3.5E-04 | 1.6E-04 | NA | **5.1E-04** | Immunological | NA |
| | | | AROCLOR-1260 | 2.1E-08 | 9.6E-09 | 2.9E-10 | **3.1E-08** | 1.5E-03 | 6.7E-04 | NA | **2.2E-03** | Immunological | NA |
| | | | DIELDRIN | 4.1E-09 | 1.3E-09 | 3.0E-14 | **5.4E-09** | 1.4E-05 | 4.6E-06 | NA | **1.9E-05** | Hepatic | NA |

**Table 9.1**
**Chemical Cancer Risks and Non-cancer Hazards**
**Reasonable Maximum Exposure**
**Utility Worker**

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | | Non-carcinogenic Hazard Quotient | | | | Target Organ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | RfD | RfC |
| | | | **SVOCs** | | | | | | | | | | |
| | | | BENZO(A)ANTHRACENE | 8.3E-09 | 3.5E-09 | 7.1E-11 | **1.2E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(A)PYRENE | 9.9E-08 | 4.1E-08 | 1.5E-12 | **1.4E-07** | 9.2E-04 | 3.8E-04 | 3.5E-06 | **1.3E-03** | Developmental | Developmental |
| | | | BENZO(B)FLUORANTHENE | 1.5E-08 | 6.3E-09 | 2.3E-13 | **2.1E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(K)FLUORANTHENE | 1.0E-09 | 4.4E-10 | 1.6E-14 | **1.5E-09** | NA | NA | NA | **NA** | NA | NA |
| | | | CHRYSENE | 1.2E-10 | 4.9E-11 | 1.8E-15 | **1.7E-10** | NA | NA | NA | **NA** | NA | NA |
| | | | DIBENZO(A,H)ANTHRACENE | 1.6E-08 | 6.6E-09 | 2.4E-13 | **2.2E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | INDENO(1,2,3-CD)PYRENE | 6.5E-09 | 2.7E-09 | 9.8E-14 | **9.2E-09** | NA | NA | NA | **NA** | NA | NA |
| | | | PENTACHLOROPHENOL | 3.8E-07 | 3.1E-07 | 1.2E-13 | **6.9E-07** | 5.4E-04 | 4.3E-04 | NA | **9.7E-04** | Hepatic | NA |
| **Exposure Point Total - UNDV** | | | | 6.8E-06 | 1.4E-06 | 1.3E-09 | **8E-06** | 6.4E-02 | 7.9E-03 | 7.1E-03 | **8E-02** | | |

| **Total Organ HI (UNDV)** | |
|---|---|
| Developmental | 1E-03 |
| Endocrine | 9E-03 |
| Gastrointestinal | 2E-03 |
| Hematological | 2E-03 |
| Hepatic | 1E-03 |
| Immunological | 3E-03 |
| Nervous System | 1E-03 |
| None Observed | 3E-05 |
| Renal | 6E-04 |
| Reproductive | 9E-03 |
| Respiratory | 4E-05 |
| Skin | 5E-02 |
| Systemic | 3E-04 |

**Table 9.2**
**Chemical Cancer Risks and Non-cancer Hazards**
**Reasonable Maximum Exposure**
**Construction Worker**

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | | Non-carcinogenic Hazard Quotient | | | | Target Organ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | RfD | RfC |
| Soil | Soil | EUSA | **Metals** | | | | | | | | | | |
| | | | ARSENIC | 8.8E-08 | 1.4E-08 | 1.1E-11 | **1.0E-07** | 1.4E-02 | 2.2E-03 | 1.1E-05 | **1.6E-02** | Skin | Respiratory |
| | | | CHROMIUM, HEXAVALENT | 1.5E-08 | NA | 6.2E-11 | **1.5E-08** | 6.8E-04 | NA | 5.2E-07 | **6.8E-04** | None Observed | Respiratory |
| | | | COBALT | NA | NA | 2.8E-11 | **2.8E-11** | 2.9E-02 | NA | 3.6E-05 | **2.9E-02** | Endocrine | Respiratory |
| | | | IRON | NA | NA | NA | **NA** | 2.7E-02 | NA | NA | **2.7E-02** | Gastrointestinal | NA |
| | | | THALLIUM | NA | NA | NA | **NA** | 9.3E-02 | NA | NA | **9.3E-02** | Skin | NA |
| | | | **SVOCs** | | | | | | | | | | |
| | | | BENZO(A)PYRENE | 2.9E-09 | 1.2E-09 | 4.5E-14 | **4.2E-09** | 6.9E-04 | 2.9E-04 | 2.6E-06 | **9.8E-04** | Developmental | Developmental |
| | | | DIBENZO(A,H)ANTHRACENE | 8.5E-10 | 3.5E-10 | 1.3E-14 | **1.2E-09** | NA | NA | NA | **NA** | NA | NA |
| **Exposure Point Total - EUSA** | | | | 1.1E-07 | 1.6E-08 | 1.0E-10 | **1E-07** | 1.6E-01 | 2.5E-03 | 5.1E-05 | **2E-01** | | |
| | | | | | | | | **Total Organ HI (EUSA)** | | | | | |
| | | | | | | | | Developmental | | | 1E-03 | | |
| | | | | | | | | Endocrine | | | 3E-02 | | |
| | | | | | | | | Gastrointestinal | | | 3E-02 | | |
| | | | | | | | | None Observed | | | 7E-04 | | |
| | | | | | | | | Respiratory | | | 5E-05 | | |
| | | | | | | | | Skin | | | 1E-01 | | |
| Soil | Soil | NFA | **Metals** | | | | | | | | | | |
| | | | ALUMINUM | NA | NA | NA | **NA** | 9.4E-03 | NA | 4.8E-05 | **9.5E-03** | Nervous System | Nervous System |
| | | | ANTIMONY | NA | NA | NA | **NA** | 9.2E-03 | NA | NA | **9.2E-03** | Hematological | NA |
| | | | ARSENIC | 8.5E-07 | 1.4E-07 | 1.0E-10 | **9.9E-07** | 1.3E-01 | 2.1E-02 | 1.1E-04 | **1.5E-01** | Skin | Respiratory |
| | | | BARIUM | NA | NA | NA | **NA** | 5.4E-03 | NA | 5.4E-05 | **5.4E-03** | Renal | Reproductive |
| | | | CADMIUM | NA | NA | 6.2E-13 | **6.2E-13** | 9.5E-04 | 1.2E-04 | 2.4E-06 | **1.1E-03** | Renal | Renal |
| | | | CHROMIUM, HEXAVALENT | 7.0E-07 | NA | 3.0E-09 | **7.0E-07** | 3.3E-02 | NA | 2.5E-05 | **3.3E-02** | None Observed | Respiratory |
| | | | COBALT | NA | NA | 1.7E-11 | **1.7E-11** | 1.7E-02 | NA | 2.2E-05 | **1.7E-02** | Endocrine | Respiratory |
| | | | COPPER | NA | NA | NA | **NA** | 1.7E-03 | NA | NA | **1.7E-03** | Gastrointestinal | NA |
| | | | CYANIDE | NA | NA | NA | **NA** | 2.2E-02 | NA | 1.7E-02 | **3.9E-02** | Reproductive | Endocrine |
| | | | IRON | NA | NA | NA | **NA** | 2.9E-02 | NA | NA | **2.9E-02** | Gastrointestinal | NA |
| | | | LEAD | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | MANGANESE | NA | NA | NA | **NA** | 1.2E-02 | NA | 1.5E-04 | **1.3E-02** | Nervous System | Nervous System |
| | | | THALLIUM | NA | NA | NA | **NA** | 8.1E-02 | NA | NA | **8.1E-02** | Skin | NA |
| | | | VANADIUM | NA | NA | NA | **NA** | 6.8E-03 | NA | 8.6E-06 | **6.8E-03** | Systemic | Respiratory |
| | | | ZINC | NA | NA | NA | **NA** | 1.8E-03 | NA | NA | **1.8E-03** | Hematological | NA |
| | | | **PEST/PCB** | | | | | | | | | | |
| | | | ALDRIN | 8.1E-09 | NA | 8.6E-11 | **8.2E-09** | 1.1E-03 | NA | NA | **1.1E-03** | Hepatic | NA |
| | | | AROCLOR-1254 | 2.2E-09 | 9.7E-10 | 4.6E-11 | **3.2E-09** | 3.8E-03 | 1.7E-03 | NA | **5.5E-03** | Immunological | NA |
| | | | AROCLOR-1260 | 2.0E-06 | 9.1E-07 | 2.8E-08 | **3.0E-06** | 3.6E+00 | 1.6E+00 | NA | **5.2E+00** | Immunological | NA |
| | | | DIELDRIN | 1.1E-08 | 3.6E-09 | 8.1E-14 | **1.5E-08** | 9.8E-04 | 3.1E-04 | NA | **1.3E-03** | Hepatic | NA |

**Table 9.2**
**Chemical Cancer Risks and Non-cancer Hazards**
**Reasonable Maximum Exposure**
**Construction Worker**

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | | Non-carcinogenic Hazard Quotient | | | | Target Organ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | RfD | RfC |
| | | | **SVOCs** | | | | | | | | | | |
| | | | 1,1'-BIPHENYL | 2.0E-10 | NA | NA | **2.0E-10** | 3.5E-06 | NA | 2.4E-03 | **2.4E-03** | Renal | Hepatic |
| | | | 2-METHYLNAPHTHALENE | NA | NA | NA | **NA** | 3.1E-03 | 1.3E-03 | NA | **4.4E-03** | Respiratory | NA |
| | | | BENZO(A)ANTHRACENE | 9.6E-09 | 4.0E-09 | 8.2E-11 | **1.4E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(A)PYRENE | 8.6E-08 | 3.6E-08 | 1.3E-12 | **1.2E-07** | 2.0E-02 | 8.4E-03 | 7.6E-05 | **2.9E-02** | Developmental | Developmental |
| | | | BENZO(B)FLUORANTHENE | 9.1E-09 | 3.8E-09 | 1.4E-13 | **1.3E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(K)FLUORANTHENE | 6.4E-10 | 2.7E-10 | 9.7E-15 | **9.1E-10** | NA | NA | NA | **NA** | NA | NA |
| | | | CARBAZOLE | 7.2E-10 | NA | NA | **7.2E-10** | NA | NA | NA | **NA** | NA | NA |
| | | | CHRYSENE | 9.4E-11 | 3.9E-11 | 1.4E-15 | **1.3E-10** | NA | NA | NA | **NA** | NA | NA |
| | | | DIBENZO(A,H)ANTHRACENE | 1.8E-08 | 7.5E-09 | 2.7E-13 | **2.6E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | DIBENZOFURAN | NA | NA | NA | **NA** | 2.2E-03 | 2.1E-04 | NA | **2.4E-03** | Systemic | NA |
| | | | INDENO(1,2,3-CD)PYRENE | 4.7E-09 | 1.9E-09 | 7.1E-14 | **6.6E-09** | NA | NA | NA | **NA** | NA | NA |
| | | | NAPHTHALENE | NA | NA | 2.1E-08 | **2.1E-08** | 1.6E-03 | 6.6E-04 | 1.4E-02 | **1.7E-02** | Systemic | Respiratory |
| | | | **VOCs** | | | | | | | | | | |
| | | | BENZENE | 8.3E-11 | NA | 2.1E-10 | **2.9E-10** | 2.6E-05 | NA | 6.2E-05 | **8.9E-05** | Immunological | Immunological |
| | | | ETHYLBENZENE | 1.1E-08 | NA | 2.8E-08 | **3.9E-08** | 7.1E-04 | NA | 7.9E-04 | **1.5E-03** | Hepatic | Developmental |
| | | | METHYLCYCLOHEXANE | NA | NA | NA | **NA** | NA | NA | 8.3E-02 | **8.3E-02** | NA | Reproductive |
| | | | TRICHLOROETHYLENE (TCE) | 6.4E-11 | NA | 1.6E-10 | **2.3E-10** | 2.0E-04 | NA | 1.4E-03 | **1.6E-03** | Developmental | Developmental |
| | | | XYLENES (TOTAL) | NA | NA | NA | **NA** | 5.8E-03 | NA | 1.3E-01 | **1.3E-01** | Systemic | Nervous System |
| | | | **TICs** | | | | | | | | | | |
| | | | 1,2,4-TRIMETHYLBENZENE | NA | NA | NA | **NA** | 4.4E-02 | NA | 5.9E-02 | **1.0E-01** | Nervous System | Nervous System |
| | | | BENZENE, 1,2,3-TRIMETHYL- | NA | NA | NA | **NA** | 4.8E-02 | NA | 5.3E-02 | **1.0E-01** | Nervous System | Nervous System |
| | | | BENZENE, 1,3,5-TRIMETHYL- | NA | NA | NA | **NA** | 1.0E-01 | NA | 1.7E-01 | **2.7E-01** | Nervous System | Nervous System |
| | | | NAPHTHALENE, 1-METHYL- | 4.7E-09 | 2.0E-09 | NA | **6.7E-09** | 1.6E-04 | 6.8E-05 | NA | **2.3E-04** | Respiratory | NA |
| **Exposure Point Total - NFA** | | | | 3.7E-06 | 1.1E-06 | 8.1E-08 | **5E-06** | 4.2E+00 | 1.6E+00 | 5.2E-01 | **6E+00** | | |
| | | | | | | | | **Total Organ HI (NFA)** | | | | | |
| | | | | | | | | Developmental | | | 3E-02 | | |
| | | | | | | | | Endocrine | | | 3E-02 | | |
| | | | | | | | | Gastrointestinal | | | 3E-02 | | |
| | | | | | | | | Hematological | | | 1E-02 | | |
| | | | | | | | | Hepatic | | | 6E-03 | | |
| | | | | | | | | Immunological | | | 5E+00 | | |
| | | | | | | | | Nervous System | | | 6E-01 | | |
| | | | | | | | | None Observed | | | 3E-02 | | |
| | | | | | | | | Renal | | | 6E-03 | | |
| | | | | | | | | Reproductive | | | 1E-01 | | |
| | | | | | | | | Respiratory | | | 2E-02 | | |
| | | | | | | | | Skin | | | 2E-01 | | |
| | | | | | | | | Systemic | | | 2E-02 | | |

**Table 9.2**
**Chemical Cancer Risks and Non-cancer Hazards**
**Reasonable Maximum Exposure**
**Construction Worker**

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | | Non-carcinogenic Hazard Quotient | | | | Target Organ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | RfD | RfC |
| Soil | Soil | SFA | **Metals** | | | | | | | | | | |
| | | | ALUMINUM | NA | NA | NA | **NA** | 7.7E-03 | NA | 3.9E-05 | **7.7E-03** | Nervous System | Nervous System |
| | | | ANTIMONY | NA | NA | NA | **NA** | 3.6E-01 | NA | NA | **3.6E-01** | Hematological | NA |
| | | | ARSENIC | 9.4E-07 | 1.5E-07 | 1.1E-10 | **1.1E-06** | 1.5E-01 | 2.3E-02 | 1.2E-04 | **1.7E-01** | Skin | Respiratory |
| | | | BARIUM | NA | NA | NA | **NA** | 6.7E-03 | NA | 6.8E-05 | **6.8E-03** | Renal | Reproductive |
| | | | CADMIUM | NA | NA | 8.6E-13 | **8.6E-13** | 1.3E-03 | 1.7E-04 | 3.4E-06 | **1.5E-03** | Renal | Renal |
| | | | CHROMIUM, HEXAVALENT | 1.8E-08 | NA | 7.8E-11 | **1.8E-08** | 8.6E-04 | NA | 6.5E-07 | **8.6E-04** | None Observed | Respiratory |
| | | | COBALT | NA | NA | 1.7E-11 | **1.7E-11** | 1.7E-02 | NA | 2.2E-05 | **1.7E-02** | Endocrine | Respiratory |
| | | | CYANIDE | NA | NA | NA | **NA** | 3.2E-02 | NA | 2.6E-02 | **5.8E-02** | Reproductive | Endocrine |
| | | | IRON | NA | NA | NA | **NA** | 2.5E-02 | NA | NA | **2.5E-02** | Gastrointestinal | NA |
| | | | LEAD | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | MANGANESE | NA | NA | NA | **NA** | 5.5E-03 | NA | 6.7E-05 | **5.6E-03** | Nervous System | Nervous System |
| | | | MERCURY | NA | NA | NA | **NA** | 3.9E-03 | NA | 9.8E-08 | **3.9E-03** | Immunological | Nervous System |
| | | | THALLIUM | NA | NA | NA | **NA** | 1.3E-01 | NA | NA | **1.3E-01** | Skin | NA |
| | | | VANADIUM | NA | NA | NA | **NA** | 6.4E-03 | NA | 8.1E-06 | **6.4E-03** | Systemic | Respiratory |
| | | | ZINC | NA | NA | NA | **NA** | 4.4E-03 | NA | NA | **4.4E-03** | Hematological | NA |
| | | | **PEST/PCB** | | | | | | | | | | |
| | | | AROCLOR-1254 | 3.4E-09 | 1.5E-09 | 7.3E-11 | **5.0E-09** | 6.0E-03 | 2.7E-03 | NA | **8.7E-03** | Immunological | NA |
| | | | **SVOCs** | | | | | | | | | | |
| | | | 2-METHYLNAPHTHALENE | NA | NA | NA | **NA** | 2.1E-03 | 8.6E-04 | NA | **2.9E-03** | Respiratory | NA |
| | | | BENZO(A)ANTHRACENE | 1.3E-08 | 5.3E-09 | 1.1E-10 | **1.8E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(A)PYRENE | 1.1E-07 | 4.7E-08 | 1.7E-12 | **1.6E-07** | 2.7E-02 | 1.1E-02 | 1.0E-04 | **3.8E-02** | Developmental | Developmental |
| | | | BENZO(B)FLUORANTHENE | 1.8E-08 | 7.7E-09 | 2.8E-13 | **2.6E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(K)FLUORANTHENE | 1.2E-09 | 5.0E-10 | 1.8E-14 | **1.7E-09** | NA | NA | NA | **NA** | NA | NA |
| | | | CHRYSENE | 1.8E-10 | 7.3E-11 | 2.7E-15 | **2.5E-10** | NA | NA | NA | **NA** | NA | NA |
| | | | DIBENZO(A,H)ANTHRACENE | 5.7E-08 | 2.4E-08 | 8.6E-13 | **8.1E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | INDENO(1,2,3-CD)PYRENE | 1.0E-08 | 4.3E-09 | 1.6E-13 | **1.5E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | NAPHTHALENE | NA | NA | 1.5E-08 | **1.5E-08** | 1.1E-03 | 4.7E-04 | 1.0E-02 | **1.2E-02** | Systemic | Respiratory |
| | | | PENTACHLOROPHENOL | 4.8E-09 | 3.9E-09 | 1.6E-15 | **8.7E-09** | 1.7E-04 | 1.4E-04 | NA | **3.0E-04** | Hepatic | NA |
| | | | **VOCs** | | | | | | | | | | |
| | | | BENZENE | 4.4E-10 | NA | 1.1E-09 | **1.6E-09** | 1.4E-04 | NA | 3.3E-04 | **4.7E-04** | Immunological | Immunological |
| | | | ETHYLBENZENE | 1.7E-09 | NA | 4.4E-09 | **6.1E-09** | 1.1E-04 | NA | 1.2E-04 | **2.3E-04** | Hepatic | Developmental |
| | | | XYLENES (TOTAL) | NA | NA | NA | **NA** | 5.0E-04 | NA | 1.1E-02 | **1.1E-02** | Systemic | Nervous System |
| | | | **TICs** | | | | | | | | | | |
| | | | 1,2,4-TRIMETHYLBENZENE | NA | NA | NA | **NA** | 1.4E-01 | NA | 1.8E-01 | **3.2E-01** | Nervous System | Nervous System |
| | | | BENZENE, 1,2,3-TRIMETHYL- | NA | NA | NA | **NA** | 3.1E-02 | NA | 3.5E-02 | **6.6E-02** | Nervous System | Nervous System |
| | | | BENZENE, 1,3,5-TRIMETHYL- | NA | NA | NA | **NA** | 5.1E-02 | NA | 8.1E-02 | **1.3E-01** | Nervous System | Nervous System |
| **Exposure Point Total - SFA** | | | | 1.2E-06 | 2.4E-07 | 2.1E-08 | **1E-06** | 1.0E+00 | 3.9E-02 | 3.4E-01 | **1E+00** | | |

**Table 9.2**
**Chemical Cancer Risks and Non-cancer Hazards**
**Reasonable Maximum Exposure**
**Construction Worker**

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | | Non-carcinogenic Hazard Quotient | | | | Target Organ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | RfD | RfC |
| | | | | | | | | **Total Organ HI (SFA)** | | | | | |
| | | | | | | | | Developmental | | | 4E-02 | | |
| | | | | | | | | Endocrine | | | 4E-02 | | |
| | | | | | | | | Gastrointestinal | | | 3E-02 | | |
| | | | | | | | | Hematological | | | 4E-01 | | |
| | | | | | | | | Hepatic | | | 4E-04 | | |
| | | | | | | | | Immunological | | | 1E-02 | | |
| | | | | | | | | Nervous System | | | 5E-01 | | |
| | | | | | | | | None Observed | | | 9E-04 | | |
| | | | | | | | | Renal | | | 8E-03 | | |
| | | | | | | | | Reproductive | | | 3E-02 | | |
| | | | | | | | | Respiratory | | | 1E-02 | | |
| | | | | | | | | Skin | | | 3E-01 | | |
| | | | | | | | | Systemic | | | 9E-03 | | |
| Soil | Soil | UNDV | **Metals** | | | | | | | | | | |
| | | | ALUMINUM | NA | NA | NA | **NA** | 9.4E-03 | NA | 4.7E-05 | **9.4E-03** | Nervous System | Nervous System |
| | | | ANTIMONY | NA | NA | NA | **NA** | 5.1E-02 | NA | NA | **5.1E-02** | Hematological | NA |
| | | | ARSENIC | 6.2E-06 | 1.0E-06 | 7.5E-10 | **7.2E-06** | 9.7E-01 | 1.6E-01 | 8.2E-04 | **1.1E+00** | Skin | Respiratory |
| | | | BARIUM | NA | NA | NA | **NA** | 1.2E-02 | NA | 1.2E-04 | **1.2E-02** | Renal | Reproductive |
| | | | CADMIUM | NA | NA | 1.7E-12 | **1.7E-12** | 2.6E-03 | 3.3E-04 | 6.4E-06 | **2.9E-03** | Renal | Renal |
| | | | CHROMIUM, HEXAVALENT | 1.7E-08 | NA | 7.2E-11 | **1.7E-08** | 7.9E-04 | NA | 6.0E-07 | **7.9E-04** | None Observed | Respiratory |
| | | | COBALT | NA | NA | 3.8E-11 | **3.8E-11** | 3.9E-02 | NA | 5.0E-05 | **3.9E-02** | Endocrine | Respiratory |
| | | | COPPER | NA | NA | NA | **NA** | 5.8E-03 | NA | NA | **5.8E-03** | Gastrointestinal | NA |
| | | | CYANIDE | NA | NA | NA | **NA** | 2.2E-01 | NA | 1.8E-01 | **4.0E-01** | Reproductive | Endocrine |
| | | | IRON | NA | NA | NA | **NA** | 4.5E-02 | NA | NA | **4.5E-02** | Gastrointestinal | NA |
| | | | LEAD | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | MANGANESE | NA | NA | NA | **NA** | 1.7E-02 | NA | 2.1E-04 | **1.7E-02** | Nervous System | Nervous System |
| | | | MERCURY | NA | NA | NA | **NA** | 1.0E-02 | NA | 2.6E-07 | **1.0E-02** | Immunological | Nervous System |
| | | | THALLIUM | NA | NA | NA | **NA** | 1.3E-01 | NA | NA | **1.3E-01** | Skin | NA |
| | | | VANADIUM | NA | NA | NA | **NA** | 8.2E-03 | NA | 1.0E-05 | **8.2E-03** | Systemic | Respiratory |
| | | | ZINC | NA | NA | NA | **NA** | 4.4E-03 | NA | NA | **4.4E-03** | Hematological | NA |
| | | | **PEST/PCB** | | | | | | | | | | |
| | | | AROCLOR-1254 | 5.0E-09 | 2.2E-09 | 1.1E-10 | **7.4E-09** | 8.8E-03 | 3.9E-03 | NA | **1.3E-02** | Immunological | NA |
| | | | AROCLOR-1260 | 2.1E-08 | 9.6E-09 | 2.9E-10 | **3.1E-08** | 3.7E-02 | 1.7E-02 | NA | **5.4E-02** | Immunological | NA |
| | | | DIELDRIN | 4.1E-09 | 1.3E-09 | 3.0E-14 | **5.4E-09** | 3.6E-04 | 1.2E-04 | NA | **4.8E-04** | Hepatic | NA |

**Table 9.2**
**Chemical Cancer Risks and Non-cancer Hazards**
**Reasonable Maximum Exposure**
**Construction Worker**

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | | Non-carcinogenic Hazard Quotient | | | | Target Organ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | RfD | RfC |
| | | | **SVOCs** | | | | | | | | | | |
| | | | BENZO(A)ANTHRACENE | 8.3E-09 | 3.5E-09 | 7.1E-11 | **1.2E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(A)PYRENE | 9.9E-08 | 4.1E-08 | 1.5E-12 | **1.4E-07** | 2.3E-02 | 9.6E-03 | 8.7E-05 | **3.3E-02** | Developmental | Developmental |
| | | | BENZO(B)FLUORANTHENE | 1.5E-08 | 6.3E-09 | 2.3E-13 | **2.1E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(K)FLUORANTHENE | 1.0E-09 | 4.4E-10 | 1.6E-14 | **1.5E-09** | NA | NA | NA | **NA** | NA | NA |
| | | | CHRYSENE | 1.2E-10 | 4.9E-11 | 1.8E-15 | **1.7E-10** | NA | NA | NA | **NA** | NA | NA |
| | | | DIBENZO(A,H)ANTHRACENE | 1.6E-08 | 6.6E-09 | 2.4E-13 | **2.2E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | INDENO(1,2,3-CD)PYRENE | 6.5E-09 | 2.7E-09 | 9.8E-14 | **9.2E-09** | NA | NA | NA | **NA** | NA | NA |
| | | | PENTACHLOROPHENOL | 3.8E-07 | 3.1E-07 | 1.2E-13 | **6.9E-07** | 1.3E-02 | 1.1E-02 | NA | **2.4E-02** | Hepatic | NA |
| **Exposure Point Total - UNDV** | | | | 6.8E-06 | 1.4E-06 | 1.3E-09 | **8E-06** | 1.6E+00 | 2.0E-01 | 1.8E-01 | **2E+00** | | |
| | | | | | | | | **Total Organ HI (UNDV)** | | | | | |
| | | | | | | | | Developmental | | | 3E-02 | | |
| | | | | | | | | Endocrine | | | 2E-01 | | |
| | | | | | | | | Gastrointestinal | | | 5E-02 | | |
| | | | | | | | | Hematological | | | 6E-02 | | |
| | | | | | | | | Hepatic | | | 2E-02 | | |
| | | | | | | | | Immunological | | | 8E-02 | | |
| | | | | | | | | Nervous System | | | 3E-02 | | |
| | | | | | | | | None Observed | | | 8E-04 | | |
| | | | | | | | | Renal | | | 1E-02 | | |
| | | | | | | | | Reproductive | | | 2E-01 | | |
| | | | | | | | | Respiratory | | | 9E-04 | | |
| | | | | | | | | Skin | | | 1E+00 | | |
| | | | | | | | | Systemic | | | 8E-03 | | |

**Table 9.3**
**Chemical Cancer Risks and Non-cancer Hazards**
**Reasonable Maximum Exposure**
**Outdoor Worker**

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | | Non-carcinogenic Hazard Quotient | | | | Target Organ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | RfD | RfC |
| Soil | Soil | EUSA | **Metals** | | | | | | | | | | |
| | | | ARSENIC | 6.1E-07 | 1.3E-07 | 2.4E-10 | **7.4E-07** | 3.8E-03 | 8.0E-04 | 1.0E-05 | **4.6E-03** | Skin | Respiratory |
| | | | CHROMIUM, HEXAVALENT | 8.3E-08 | NA | 1.2E-09 | **8.5E-08** | 1.6E-04 | NA | 3.9E-07 | **1.6E-04** | None Observed | Respiratory |
| | | | COBALT | NA | NA | 6.4E-10 | **6.4E-10** | 8.0E-03 | NA | 3.3E-05 | **8.0E-03** | Endocrine | Respiratory |
| | | | IRON | NA | NA | NA | **NA** | 7.5E-03 | NA | NA | **7.5E-03** | Gastrointestinal | NA |
| | | | THALLIUM | NA | NA | NA | **NA** | 2.5E-02 | NA | NA | **2.5E-02** | Skin | NA |
| | | | **SVOCs** | | | | | | | | | | |
| | | | BENZO(A)PYRENE | 2.0E-08 | 1.1E-08 | 1.0E-12 | **3.1E-08** | 1.9E-04 | 1.0E-04 | 2.3E-06 | **2.9E-04** | Developmental | Developmental |
| | | | DIBENZO(A,H)ANTHRACENE | 5.8E-09 | 3.2E-09 | 2.9E-13 | **9.0E-09** | NA | NA | NA | **NA** | NA | NA |
| **Exposure Point Total - EUSA** | | | | 7.2E-07 | 1.4E-07 | 2.1E-09 | **9E-07** | 4.5E-02 | 9.0E-04 | 4.6E-05 | **5E-02** | | |
| | | | | | | | | **Total Organ HI (EUSA)** | | | | | |
| | | | | | | | | Developmental | | | 3E-04 | | |
| | | | | | | | | Endocrine | | | 8E-03 | | |
| | | | | | | | | Gastrointestinal | | | 7E-03 | | |
| | | | | | | | | None Observed | | | 2E-04 | | |
| | | | | | | | | Respiratory | | | 4E-05 | | |
| | | | | | | | | Skin | | | 3E-02 | | |
| Soil | Soil | NFA | **Metals** | | | | | | | | | | |
| | | | ALUMINUM | NA | NA | NA | **NA** | 2.8E-03 | NA | 4.7E-05 | **2.9E-03** | Nervous System | Nervous System |
| | | | ANTIMONY | NA | NA | NA | **NA** | 2.0E-03 | NA | NA | **2.0E-03** | Hematological | NA |
| | | | ARSENIC | 1.1E-05 | 2.2E-06 | 4.2E-09 | **1.3E-05** | 6.6E-02 | 1.4E-02 | 1.8E-04 | **8.0E-02** | Skin | Respiratory |
| | | | BARIUM | NA | NA | NA | **NA** | 1.7E-03 | NA | 5.8E-05 | **1.8E-03** | Renal | Reproductive |
| | | | CHROMIUM, HEXAVALENT | 1.0E-06 | NA | 1.4E-08 | **1.0E-06** | 1.9E-03 | NA | 4.8E-06 | **1.9E-03** | None Observed | Respiratory |
| | | | COBALT | NA | NA | 4.8E-10 | **4.8E-10** | 6.0E-03 | NA | 2.5E-05 | **6.0E-03** | Endocrine | Respiratory |
| | | | COPPER | NA | NA | NA | **NA** | 5.3E-04 | NA | NA | **5.3E-04** | Gastrointestinal | NA |
| | | | CYANIDE | NA | NA | NA | **NA** | 5.8E-03 | NA | 1.5E-02 | **2.1E-02** | Reproductive | Endocrine |
| | | | IRON | NA | NA | NA | **NA** | 8.1E-03 | NA | NA | **8.1E-03** | Gastrointestinal | NA |
| | | | LEAD | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | MANGANESE | NA | NA | NA | **NA** | 3.2E-03 | NA | 1.3E-04 | **3.4E-03** | Nervous System | Nervous System |
| | | | THALLIUM | NA | NA | NA | **NA** | 2.6E-02 | NA | NA | **2.6E-02** | Skin | NA |
| | | | VANADIUM | NA | NA | NA | **NA** | 2.2E-03 | NA | 9.3E-06 | **2.2E-03** | Systemic | Respiratory |
| | | | **PEST/PCB** | | | | | | | | | | |
| | | | AROCLOR-1248 | 2.6E-08 | 1.6E-08 | 2.5E-09 | **4.4E-08** | 1.8E-03 | 1.1E-03 | NA | **2.9E-03** | Immunological | NA |
| | | | AROCLOR-1254 | 2.2E-08 | 1.3E-08 | 1.6E-09 | **3.7E-08** | 1.6E-03 | 9.2E-04 | NA | **2.5E-03** | Immunological | NA |
| | | | AROCLOR-1260 | 1.8E-06 | 1.0E-06 | 7.9E-08 | **2.9E-06** | 1.2E-01 | 7.3E-02 | NA | **2.0E-01** | Immunological | NA |
| | | | DIELDRIN | 1.6E-07 | 6.6E-08 | 3.8E-12 | **2.2E-07** | 5.5E-04 | 2.3E-04 | NA | **7.8E-04** | Hepatic | NA |
| | | | **SVOCs** | | | | | | | | | | |
| | | | BENZO(A)ANTHRACENE | 5.7E-08 | 3.2E-08 | 1.6E-09 | **9.1E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(A)PYRENE | 2.9E-07 | 1.6E-07 | 1.4E-11 | **4.5E-07** | 2.7E-03 | 1.5E-03 | 3.4E-05 | **4.2E-03** | Developmental | Developmental |
| | | | BENZO(B)FLUORANTHENE | 6.3E-08 | 3.5E-08 | 3.2E-12 | **9.8E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(K)FLUORANTHENE | 5.3E-09 | 2.9E-09 | 2.7E-13 | **8.3E-09** | NA | NA | NA | **NA** | NA | NA |
| | | | CHRYSENE | 2.1E-10 | 1.1E-10 | 1.0E-14 | **3.2E-10** | NA | NA | NA | **NA** | NA | NA |
| | | | DIBENZO(A,H)ANTHRACENE | 1.9E-07 | 1.0E-07 | 9.5E-12 | **2.9E-07** | NA | NA | NA | **NA** | NA | NA |
| | | | INDENO(1,2,3-CD)PYRENE | 2.7E-08 | 1.5E-08 | 1.4E-12 | **4.2E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | NAPHTHALENE | NA | NA | 4.6E-08 | **4.6E-08** | 4.2E-05 | 2.3E-05 | 1.3E-03 | **1.3E-03** | Systemic | Respiratory |

**Table 9.3**
**Chemical Cancer Risks and Non-cancer Hazards**
**Reasonable Maximum Exposure**
**Outdoor Worker**

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | | Non-carcinogenic Hazard Quotient | | | | Target Organ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | RfD | RfC |
| | | | **VOCs** | | | | | | | | | | |
| | | | BENZENE | 6.4E-09 | NA | 5.3E-08 | **6.0E-08** | 8.1E-05 | NA | 6.4E-04 | **7.2E-04** | Immunological | Immunological |
| | | | ETHYLBENZENE | 1.3E-07 | NA | 1.1E-06 | **1.2E-06** | 3.2E-04 | NA | 1.2E-03 | **1.5E-03** | Hepatic | Developmental |
| | | | METHYLCYCLOHEXANE | NA | NA | NA | **NA** | NA | NA | 1.7E-02 | **1.7E-02** | NA | Reproductive |
| | | | TRICHLOROETHYLENE (TCE) | 6.5E-10 | NA | 5.4E-09 | **6.1E-09** | 7.9E-05 | NA | 1.9E-03 | **1.9E-03** | Developmental | Developmental |
| | | | **TICs** | | | | | | | | | | |
| | | | 1,1-BIPHENYL, 2,3,4,4,5,5-HEXACHLORO | 2.3E-06 | 1.4E-06 | 6.1E-08 | **3.7E-06** | 7.2E-02 | 4.3E-02 | 1.2E-04 | **1.1E-01** | Reproductive | Hepatic |
| | | | BENZO[J]FLUORANTHENE | 1.0E-06 | 5.7E-07 | 8.0E-12 | **1.6E-06** | NA | NA | NA | **NA** | NA | NA |
| **Exposure Point Total - NFA** | | | | 1.8E-05 | 5.7E-06 | 1.3E-06 | **2E-05** | 3.3E-01 | 1.3E-01 | 3.8E-02 | **5E-01** | | |
| | | | | | | | | **Total Organ HI (NFA)** | | | | | |
| | | | | | | | | Developmental | | | 7E-03 | | |
| | | | | | | | | Endocrine | | | 2E-02 | | |
| | | | | | | | | Gastrointestinal | | | 9E-03 | | |
| | | | | | | | | Hematological | | | 2E-03 | | |
| | | | | | | | | Hepatic | | | 1E-03 | | |
| | | | | | | | | Immunological | | | 2E-01 | | |
| | | | | | | | | Nervous System | | | 6E-03 | | |
| | | | | | | | | None Observed | | | 2E-03 | | |
| | | | | | | | | Renal | | | 2E-03 | | |
| | | | | | | | | Reproductive | | | 1E-01 | | |
| | | | | | | | | Respiratory | | | 1E-03 | | |
| | | | | | | | | Skin | | | 1E-01 | | |
| | | | | | | | | Systemic | | | 2E-03 | | |
| Soil | Soil | SFA | **Metals** | | | | | | | | | | |
| | | | ALUMINUM | NA | NA | NA | **NA** | 2.2E-03 | NA | 3.6E-05 | **2.2E-03** | Nervous System | Nervous System |
| | | | ANTIMONY | NA | NA | NA | **NA** | 2.3E-01 | NA | NA | **2.3E-01** | Hematological | NA |
| | | | ARSENIC | 7.3E-06 | 1.6E-06 | 2.9E-09 | **8.9E-06** | 4.6E-02 | 9.7E-03 | 1.3E-04 | **5.5E-02** | Skin | Respiratory |
| | | | BARIUM | NA | NA | NA | **NA** | 2.4E-03 | NA | 8.0E-05 | **2.5E-03** | Renal | Reproductive |
| | | | CADMIUM | NA | NA | 5.1E-11 | **5.1E-11** | 9.5E-04 | 1.6E-04 | 7.9E-06 | **1.1E-03** | Renal | Renal |
| | | | CHROMIUM, HEXAVALENT | 2.9E-07 | NA | 4.0E-09 | **2.9E-07** | 5.3E-04 | NA | 1.3E-06 | **5.3E-04** | None Observed | Respiratory |
| | | | COBALT | NA | NA | 4.6E-10 | **4.6E-10** | 5.7E-03 | NA | 2.4E-05 | **5.7E-03** | Endocrine | Respiratory |
| | | | CYANIDE | NA | NA | NA | **NA** | 1.0E-02 | NA | 2.7E-02 | **3.7E-02** | Reproductive | Endocrine |
| | | | IRON | NA | NA | NA | **NA** | 9.3E-03 | NA | NA | **9.3E-03** | Gastrointestinal | NA |
| | | | LEAD | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | MANGANESE | NA | NA | NA | **NA** | 2.9E-03 | NA | 1.2E-04 | **3.1E-03** | Nervous System | Nervous System |
| | | | THALLIUM | NA | NA | NA | **NA** | 2.7E-02 | NA | NA | **2.7E-02** | Skin | NA |
| | | | VANADIUM | NA | NA | NA | **NA** | 1.9E-03 | NA | 8.1E-06 | **1.9E-03** | Systemic | Respiratory |
| | | | ZINC | NA | NA | NA | **NA** | 1.1E-03 | NA | NA | **1.1E-03** | Hematological | NA |
| | | | **PEST/PCB** | | | | | | | | | | |
| | | | AROCLOR-1254 | 3.0E-08 | 1.8E-08 | 2.1E-09 | **5.0E-08** | 2.1E-03 | 1.2E-03 | NA | **3.3E-03** | Immunological | NA |
| | | | **SVOCs** | | | | | | | | | | |
| | | | BENZO(A)ANTHRACENE | 3.0E-07 | 1.6E-07 | 8.5E-09 | **4.7E-07** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(A)PYRENE | 3.3E-06 | 1.8E-06 | 1.7E-10 | **5.1E-06** | 3.1E-02 | 1.7E-02 | 3.9E-04 | **4.8E-02** | Developmental | Developmental |
| | | | BENZO(B)FLUORANTHENE | 5.1E-07 | 2.8E-07 | 2.5E-11 | **7.8E-07** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(K)FLUORANTHENE | 2.4E-08 | 1.3E-08 | 1.2E-12 | **3.7E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | CHRYSENE | 4.1E-09 | 2.3E-09 | 2.1E-13 | **6.4E-09** | NA | NA | NA | **NA** | NA | NA |

**Table 9.3**
**Chemical Cancer Risks and Non-cancer Hazards**
**Reasonable Maximum Exposure**
**Outdoor Worker**

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | | Non-carcinogenic Hazard Quotient | | | | Target Organ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | RfD | RfC |
| | | | DIBENZO(A,H)ANTHRACENE | 4.4E-07 | 2.4E-07 | 2.2E-11 | **6.8E-07** | NA | NA | NA | **NA** | NA | NA |
| | | | INDENO(1,2,3-CD)PYRENE | 1.5E-07 | 8.4E-08 | 7.7E-12 | **2.4E-07** | NA | NA | NA | **NA** | NA | NA |
| | | | NAPHTHALENE | NA | NA | 2.2E-07 | **2.2E-07** | 2.0E-04 | 1.1E-04 | 6.1E-03 | **6.4E-03** | Systemic | Respiratory |
| | | | **VOCs** | | | | | | | | | | |
| | | | BENZENE | 4.2E-09 | NA | 3.5E-08 | **3.9E-08** | 5.4E-05 | NA | 4.2E-04 | **4.8E-04** | Immunological | Immunological |
| | | | ETHYLBENZENE | 2.1E-08 | NA | 1.8E-07 | **2.0E-07** | 5.3E-05 | NA | 2.0E-04 | **2.5E-04** | Hepatic | Developmental |
| | | | XYLENES (TOTAL) | NA | NA | NA | **NA** | 3.7E-04 | NA | 2.7E-02 | **2.7E-02** | Systemic | Nervous System |
| | | | **TICs** | | | | | | | | | | |
| | | | BENZO[J]FLUORANTHENE | 2.3E-07 | 1.3E-07 | 1.8E-12 | **3.6E-07** | NA | NA | NA | **NA** | NA | NA |
| **Exposure Point Total - SFA** | | | | 1.3E-05 | 4.3E-06 | 4.5E-07 | **2E-05** | 3.7E-01 | 2.8E-02 | 6.1E-02 | **5E-01** | | |
| | | | | | | | | **Total Organ HI (SFA)** | | | | | |
| | | | | | | | | Developmental | | | 5E-02 | | |
| | | | | | | | | Endocrine | | | 3E-02 | | |
| | | | | | | | | Gastrointestinal | | | 9E-03 | | |
| | | | | | | | | Hematological | | | 2E-01 | | |
| | | | | | | | | Hepatic | | | 5E-05 | | |
| | | | | | | | | Immunological | | | 4E-03 | | |
| | | | | | | | | Nervous System | | | 3E-02 | | |
| | | | | | | | | None Observed | | | 5E-04 | | |
| | | | | | | | | Renal | | | 4E-03 | | |
| | | | | | | | | Reproductive | | | 1E-02 | | |
| | | | | | | | | Respiratory | | | 6E-03 | | |
| | | | | | | | | Skin | | | 8E-02 | | |
| | | | | | | | | Systemic | | | 3E-03 | | |
| Soil | Soil | UNDV | **Metals** | | | | | | | | | | |
| | | | ALUMINUM | NA | NA | NA | **NA** | 2.7E-03 | NA | 4.5E-05 | **2.7E-03** | Nervous System | Nervous System |
| | | | ANTIMONY | NA | NA | NA | **NA** | 2.3E-02 | NA | NA | **2.3E-02** | Hematological | NA |
| | | | ARSENIC | 3.1E-05 | 6.5E-06 | 1.2E-08 | **3.7E-05** | 1.9E-01 | 4.1E-02 | 5.3E-04 | **2.3E-01** | Skin | Respiratory |
| | | | BARIUM | NA | NA | NA | **NA** | 5.0E-03 | NA | 1.7E-04 | **5.1E-03** | Renal | Reproductive |
| | | | CADMIUM | NA | NA | 6.0E-11 | **6.0E-11** | 1.1E-03 | 1.9E-04 | 9.3E-06 | **1.3E-03** | Renal | Renal |
| | | | CHROMIUM, HEXAVALENT | 1.2E-07 | NA | 1.6E-09 | **1.2E-07** | 2.1E-04 | NA | 5.4E-07 | **2.2E-04** | None Observed | Respiratory |
| | | | COBALT | NA | NA | 1.7E-09 | **1.7E-09** | 2.1E-02 | NA | 8.9E-05 | **2.1E-02** | Endocrine | Respiratory |
| | | | COPPER | NA | NA | NA | **NA** | 2.5E-03 | NA | NA | **2.5E-03** | Gastrointestinal | NA |
| | | | CYANIDE | NA | NA | NA | **NA** | 1.1E-01 | NA | 3.0E-01 | **4.1E-01** | Reproductive | Endocrine |
| | | | IRON | NA | NA | NA | **NA** | 1.6E-02 | NA | NA | **1.6E-02** | Gastrointestinal | NA |
| | | | LEAD | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | MANGANESE | NA | NA | NA | **NA** | 5.9E-03 | NA | 2.4E-04 | **6.1E-03** | Nervous System | Nervous System |
| | | | MERCURY | NA | NA | NA | **NA** | 4.2E-03 | NA | 3.5E-07 | **4.2E-03** | Immunological | Nervous System |
| | | | THALLIUM | NA | NA | NA | **NA** | 4.0E-02 | NA | NA | **4.0E-02** | Skin | NA |
| | | | VANADIUM | NA | NA | NA | **NA** | 3.0E-03 | NA | 1.2E-05 | **3.0E-03** | Systemic | Respiratory |
| | | | ZINC | NA | NA | NA | **NA** | 1.7E-03 | NA | NA | **1.7E-03** | Hematological | NA |
| | | | **PEST/PCB** | | | | | | | | | | |
| | | | AROCLOR-1254 | 4.1E-08 | 2.4E-08 | 2.9E-09 | **6.7E-08** | 2.8E-03 | 1.7E-03 | NA | **4.5E-03** | Immunological | NA |
| | | | AROCLOR-1260 | 2.3E-07 | 1.4E-07 | 1.0E-08 | **3.8E-07** | 1.6E-02 | 9.5E-03 | NA | **2.6E-02** | Immunological | NA |
| | | | DIELDRIN | 4.6E-08 | 1.9E-08 | 1.1E-12 | **6.5E-08** | 1.6E-04 | 6.8E-05 | NA | **2.3E-04** | Hepatic | NA |

**Table 9.3**
**Chemical Cancer Risks and Non-cancer Hazards**
**Reasonable Maximum Exposure**
**Outdoor Worker**

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | | Non-carcinogenic Hazard Quotient | | | | Target Organ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | RfD | RfC |
| | | | **SVOCs** | | | | | | | | | | |
| | | | BENZO(A)ANTHRACENE | 8.6E-08 | 4.8E-08 | 2.5E-09 | **1.4E-07** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(A)PYRENE | 1.0E-06 | 5.7E-07 | 5.2E-11 | **1.6E-06** | 9.7E-03 | 5.3E-03 | 1.2E-04 | **1.5E-02** | Developmental | Developmental |
| | | | BENZO(B)FLUORANTHENE | 1.2E-07 | 6.8E-08 | 6.2E-12 | **1.9E-07** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(K)FLUORANTHENE | 8.5E-09 | 4.7E-09 | 4.3E-13 | **1.3E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | CHRYSENE | 1.2E-09 | 6.9E-10 | 6.2E-14 | **1.9E-09** | NA | NA | NA | **NA** | NA | NA |
| | | | DIBENZO(A,H)ANTHRACENE | 1.6E-07 | 8.9E-08 | 8.1E-12 | **2.5E-07** | NA | NA | NA | **NA** | NA | NA |
| | | | INDENO(1,2,3-CD)PYRENE | 5.2E-08 | 2.9E-08 | 2.6E-12 | **8.1E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | PENTACHLOROPHENOL | 5.8E-08 | 6.2E-08 | 6.2E-14 | **1.2E-07** | 8.2E-05 | 8.6E-05 | NA | **1.7E-04** | Hepatic | NA |
| **Exposure Point Total - UNDV** | | | | 3.3E-05 | 7.6E-06 | 3.1E-08 | **4E-05** | 4.6E-01 | 5.7E-02 | 3.0E-01 | **8E-01** | | |
| | | | | | | | | **Total Organ HI (UNDV)** | | | | | |
| | | | | | | | | Developmental | | | 2E-02 | | |
| | | | | | | | | Endocrine | | | 3E-01 | | |
| | | | | | | | | Gastrointestinal | | | 2E-02 | | |
| | | | | | | | | Hematological | | | 2E-02 | | |
| | | | | | | | | Hepatic | | | 4E-04 | | |
| | | | | | | | | Immunological | | | 3E-02 | | |
| | | | | | | | | Nervous System | | | 9E-03 | | |
| | | | | | | | | None Observed | | | 2E-04 | | |
| | | | | | | | | Renal | | | 6E-03 | | |
| | | | | | | | | Reproductive | | | 1E-01 | | |
| | | | | | | | | Respiratory | | | 6E-04 | | |
| | | | | | | | | Skin | | | 3E-01 | | |
| | | | | | | | | Systemic | | | 3E-03 | | |

**Table 9.4**
**Chemical Cancer Risks and Non-cancer Hazards**
**Reasonable Maximum Exposure**
**Resident**

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | | Non-carcinogenic Hazard Quotient - Child | | | | Non-carcinogenic Hazard Quotient -Adult | | | | Target Organ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | RfD | RfC |
| Soil | Soil | EUSA | **Metals** | | | | | | | | | | | | | | |
| | | | ARSENIC | 3.2E-06 | 4.5E-07 | 1.2E-09 | **3.6E-06** | 6.3E-02 | 7.4E-03 | 4.9E-05 | **7.0E-02** | 5.9E-03 | 1.2E-03 | 4.9E-05 | **7.2E-03** | Skin | Respiratory |
| | | | CHROMIUM, HEXAVALENT | 2.8E-06 | NA | 1.6E-08 | **2.8E-06** | 2.6E-03 | NA | 1.8E-06 | **2.6E-03** | 2.4E-04 | NA | 1.8E-06 | **2.4E-04** | None Observed | Respiratory |
| | | | COBALT | NA | NA | 3.1E-09 | **3.1E-09** | 1.3E-01 | NA | 1.5E-04 | **1.3E-01** | 1.2E-02 | NA | 1.5E-04 | **1.3E-02** | Endocrine | Respiratory |
| | | | IRON | NA | NA | NA | **NA** | 1.2E-01 | NA | NA | **1.2E-01** | 1.2E-02 | NA | NA | **1.2E-02** | Gastrointestinal | NA |
| | | | THALLIUM | NA | NA | NA | **NA** | 4.2E-01 | NA | NA | **4.2E-01** | 4.0E-02 | NA | NA | **4.0E-02** | Skin | NA |
| | | | **SVOCs** | | | | | | | | | | | | | | |
| | | | BENZO(A)PYRENE | 6.6E-07 | 2.0E-07 | 1.4E-11 | **8.6E-07** | 3.1E-03 | 9.6E-04 | 1.1E-05 | **4.1E-03** | 2.9E-04 | 1.6E-04 | 1.1E-05 | **4.6E-04** | Developmental | Developmental |
| | | | DIBENZO(A,H)ANTHRACENE | 1.9E-07 | 5.6E-08 | 3.9E-12 | **2.5E-07** | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| **Exposure Point Total - EUSA** | | | | 6.8E-06 | 7.0E-07 | 2.0E-08 | **8E-06** | 7.5E-01 | 8.4E-03 | 2.2E-04 | **8E-01** | 7.0E-02 | 1.4E-03 | 2.2E-04 | **7E-02** | | |
| | | | | | | | | **Total Organ HI (EUSA)** | | | **Child** | | | | **Adult** | | |
| | | | | | | | | Developmental | | | 4E-03 | | | | 5E-04 | | |
| | | | | | | | | Endocrine | | | 1E-01 | | | | 1E-02 | | |
| | | | | | | | | Gastrointestinal | | | 1E-01 | | | | 1E-02 | | |
| | | | | | | | | None Observed | | | 3E-03 | | | | 2E-04 | | |
| | | | | | | | | Respiratory | | | 2E-04 | | | | 2E-04 | | |
| | | | | | | | | Skin | | | 5E-01 | | | | 5E-02 | | |
| Soil | Soil | NFA | **Metals** | | | | | | | | | | | | | | |
| | | | ALUMINUM | NA | NA | NA | **NA** | 4.7E-02 | NA | 2.2E-04 | **4.7E-02** | 4.4E-03 | NA | 2.2E-04 | **4.6E-03** | Nervous System | Nervous System |
| | | | ANTIMONY | NA | NA | NA | **NA** | 3.2E-02 | NA | NA | **3.2E-02** | 3.0E-03 | NA | NA | **3.0E-03** | Hematological | NA |
| | | | ARSENIC | 5.5E-05 | 7.8E-06 | 2.0E-08 | **6.3E-05** | 1.1E+00 | 1.3E-01 | 8.5E-04 | **1.2E+00** | 1.0E-01 | 2.2E-02 | 8.5E-04 | **1.2E-01** | Skin | Respiratory |
| | | | BARIUM | NA | NA | NA | **NA** | 2.9E-02 | NA | 2.7E-04 | **2.9E-02** | 2.7E-03 | NA | 2.7E-04 | **3.0E-03** | Renal | Reproductive |
| | | | CHROMIUM, HEXAVALENT | 3.4E-05 | NA | 1.9E-07 | **3.4E-05** | 3.2E-02 | NA | 2.2E-05 | **3.2E-02** | 3.0E-03 | NA | 2.2E-05 | **3.0E-03** | None Observed | Respiratory |
| | | | COBALT | NA | NA | 2.3E-09 | **2.3E-09** | 1.0E-01 | NA | 1.2E-04 | **1.0E-01** | 9.4E-03 | NA | 1.2E-04 | **9.5E-03** | Endocrine | Respiratory |
| | | | COPPER | NA | NA | NA | **NA** | 8.7E-03 | NA | NA | **8.7E-03** | 8.2E-04 | NA | NA | **8.2E-04** | Gastrointestinal | NA |
| | | | CYANIDE | NA | NA | NA | **NA** | 9.6E-02 | NA | 7.2E-02 | **1.7E-01** | 9.0E-03 | NA | 7.2E-02 | **8.1E-02** | Reproductive | Endocrine |
| | | | IRON | NA | NA | NA | **NA** | 1.3E-01 | NA | NA | **1.3E-01** | 1.3E-02 | NA | NA | **1.3E-02** | Gastrointestinal | NA |
| | | | LEAD | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | MANGANESE | NA | NA | NA | **NA** | 5.4E-02 | NA | 6.1E-04 | **5.4E-02** | 5.0E-03 | NA | 6.1E-04 | **5.6E-03** | Nervous System | Nervous System |
| | | | THALLIUM | NA | NA | NA | **NA** | 4.4E-01 | NA | NA | **4.4E-01** | 4.1E-02 | NA | NA | **4.1E-02** | Skin | NA |
| | | | VANADIUM | NA | NA | NA | **NA** | 3.7E-02 | NA | 4.4E-05 | **3.7E-02** | 3.5E-03 | NA | 4.4E-05 | **3.5E-03** | Systemic | Respiratory |
| | | | **PEST/PCB** | | | | | | | | | | | | | | |
| | | | AROCLOR-1248 | 1.4E-07 | 5.4E-08 | 1.2E-08 | **2.0E-07** | 3.1E-02 | 1.0E-02 | NA | **4.1E-02** | 2.9E-03 | 1.7E-03 | NA | **4.6E-03** | Immunological | NA |
| | | | AROCLOR-1254 | 1.2E-07 | 4.6E-08 | 7.6E-09 | **1.7E-07** | 2.6E-02 | 8.6E-03 | NA | **3.4E-02** | 2.4E-03 | 1.4E-03 | NA | **3.9E-03** | Immunological | NA |
| | | | AROCLOR-1260 | 9.2E-06 | 3.6E-06 | 3.8E-07 | **1.3E-05** | 2.0E+00 | 6.8E-01 | NA | **2.7E+00** | 1.9E-01 | 1.1E-01 | NA | **3.0E-01** | Immunological | NA |
| | | | DIELDRIN | 8.2E-07 | 2.3E-07 | 1.8E-11 | **1.0E-06** | 9.1E-03 | 2.2E-03 | NA | **1.1E-02** | 8.5E-04 | 3.6E-04 | NA | **1.2E-03** | Hepatic | NA |
| | | | **SVOCs** | | | | | | | | | | | | | | |
| | | | BENZO(A)ANTHRACENE | 1.9E-06 | 5.6E-07 | 2.2E-08 | **2.5E-06** | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(A)PYRENE | 9.5E-06 | 2.8E-06 | 1.9E-10 | **1.2E-05** | 4.5E-02 | 1.4E-02 | 1.6E-04 | **5.8E-02** | 4.2E-03 | 2.3E-03 | 1.6E-04 | **6.6E-03** | Developmental | Developmental |
| | | | BENZO(B)FLUORANTHENE | 2.1E-06 | 6.2E-07 | 4.2E-11 | **2.7E-06** | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(K)FLUORANTHENE | 1.8E-07 | 5.2E-08 | 3.6E-12 | **2.3E-07** | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | CHRYSENE | 6.9E-09 | 2.0E-09 | 1.4E-13 | **8.9E-09** | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | DIBENZO(A,H)ANTHRACENE | 6.2E-06 | 1.8E-06 | 1.3E-10 | **8.1E-06** | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | INDENO(1,2,3-CD)PYRENE | 9.0E-07 | 2.7E-07 | 1.8E-11 | **1.2E-06** | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | NAPHTHALENE | NA | NA | 2.2E-07 | **2.2E-07** | 7.0E-04 | 2.2E-04 | 5.9E-03 | **6.8E-03** | 6.6E-05 | 3.6E-05 | 5.9E-03 | **6.0E-03** | Systemic | Respiratory |
| | | | **VOCs** | | | | | | | | | | | | | | |
| | | | BENZENE | 3.3E-08 | NA | 2.6E-07 | **2.9E-07** | 1.3E-03 | NA | 3.0E-03 | **4.3E-03** | 1.3E-04 | NA | 3.0E-03 | **3.1E-03** | Immunological | Immunological |
| | | | ETHYLBENZENE | 6.6E-07 | NA | 5.1E-06 | **5.8E-06** | 5.4E-03 | NA | 5.5E-03 | **1.1E-02** | 5.0E-04 | NA | 5.5E-03 | **6.0E-03** | Hepatic | Developmental |
| | | | METHYLCYCLOHEXANE | NA | NA | NA | **NA** | NA | NA | 8.0E-02 | **8.0E-02** | NA | NA | 8.0E-02 | **8.0E-02** | NA | Reproductive |
| | | | TRICHLOROETHYLENE (TCE) | 7.1E-09 | NA | 3.8E-08 | **4.5E-08** | 1.3E-03 | NA | 8.7E-03 | **1.0E-02** | 1.2E-04 | NA | 8.7E-03 | **8.8E-03** | Developmental | Developmental |
| | | | **TICs** | | | | | | | | | | | | | | |
| | | | 1,1-BIPHENYL, 2,3,4,4,5,5-HEXACHLORO | 1.2E-05 | 4.7E-06 | 3.0E-07 | **1.7E-05** | 1.2E+00 | 4.0E-01 | 5.6E-04 | **1.6E+00** | 1.1E-01 | 6.6E-02 | 5.6E-04 | **1.8E-01** | Reproductive | Hepatic |
| | | | BENZO[J]FLUORANTHENE | 5.5E-06 | 2.0E-06 | 3.9E-11 | **7.5E-06** | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| **Exposure Point Total - NFA** | | | | 1.4E-04 | 2.5E-05 | 6.6E-06 | **2E-04** | 5.4E+00 | 1.2E+00 | 1.8E-01 | **7E+00** | 5.1E-01 | 2.1E-01 | 1.8E-01 | **9E-01** | | |

**Table 9.4**
**Chemical Cancer Risks and Non-cancer Hazards**
**Reasonable Maximum Exposure**
**Resident**

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | | Non-carcinogenic Hazard Quotient - Child | | | | Non-carcinogenic Hazard Quotient -Adult | | | | Target Organ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | RfD | RfC |
| | | | | | | | | **Total Organ HI (NFA)** | | | **Child** | | | | **Adult** | | |
| | | | | | | | | Developmental | | | 7E-02 | | | | 2E-02 | | |
| | | | | | | | | Endocrine | | | 2E-01 | | | | 8E-02 | | |
| | | | | | | | | Gastrointestinal | | | 1E-01 | | | | 1E-02 | | |
| | | | | | | | | Hematological | | | 3E-02 | | | | 3E-03 | | |
| | | | | | | | | Hepatic | | | 2E-02 | | | | 2E-03 | | |
| | | | | | | | | Immunological | | | 3E+00 | | | | 3E-01 | | |
| | | | | | | | | Nervous System | | | 1E-01 | | | | 1E-02 | | |
| | | | | | | | | None Observed | | | 3E-02 | | | | 3E-03 | | |
| | | | | | | | | Renal | | | 3E-02 | | | | 3E-03 | | |
| | | | | | | | | Reproductive | | | 2E+00 | | | | 3E-01 | | |
| | | | | | | | | Respiratory | | | 7E-03 | | | | 7E-03 | | |
| | | | | | | | | Skin | | | 2E+00 | | | | 2E-01 | | |
| | | | | | | | | Systemic | | | 4E-02 | | | | 4E-03 | | |
| Soil | Soil | SFA | **Metals** | | | | | | | | | | | | | | |
| | | | ALUMINUM | NA | NA | NA | **NA** | 3.6E-02 | NA | 1.7E-04 | **3.6E-02** | 3.4E-03 | NA | 1.7E-04 | **3.6E-03** | Nervous System | Nervous System |
| | | | ANTIMONY | NA | NA | NA | **NA** | 3.8E+00 | NA | NA | **3.8E+00** | 3.6E-01 | NA | NA | **3.6E-01** | Hematological | NA |
| | | | ARSENIC | 3.8E-05 | 5.4E-06 | 1.4E-08 | **4.4E-05** | 7.6E-01 | 9.0E-02 | 5.9E-04 | **8.5E-01** | 7.1E-02 | 1.5E-02 | 5.9E-04 | **8.7E-02** | Skin | Respiratory |
| | | | BARIUM | NA | NA | NA | **NA** | 4.0E-02 | NA | 3.7E-04 | **4.0E-02** | 3.7E-03 | NA | 3.7E-04 | **4.1E-03** | Renal | Reproductive |
| | | | CADMIUM | NA | NA | 2.5E-10 | **2.5E-10** | 1.6E-02 | 1.5E-03 | 3.7E-05 | **1.7E-02** | 1.5E-03 | 2.5E-04 | 3.7E-05 | **1.8E-03** | Renal | Renal |
| | | | CHROMIUM, HEXAVALENT | 9.4E-06 | NA | 5.4E-08 | **9.5E-06** | 8.9E-03 | NA | 6.2E-06 | **8.9E-03** | 8.3E-04 | NA | 6.2E-06 | **8.4E-04** | None Observed | Respiratory |
| | | | COBALT | NA | NA | 2.2E-09 | **2.2E-09** | 9.5E-02 | NA | 1.1E-04 | **9.5E-02** | 8.9E-03 | NA | 1.1E-04 | **9.0E-03** | Endocrine | Respiratory |
| | | | CYANIDE | NA | NA | NA | **NA** | 1.7E-01 | NA | 1.2E-01 | **2.9E-01** | 1.6E-02 | NA | 1.2E-01 | **1.4E-01** | Reproductive | Endocrine |
| | | | IRON | NA | NA | NA | **NA** | 1.5E-01 | NA | NA | **1.5E-01** | 1.5E-02 | NA | NA | **1.5E-02** | Gastrointestinal | NA |
| | | | LEAD | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | MANGANESE | NA | NA | NA | **NA** | 4.9E-02 | NA | 5.5E-04 | **4.9E-02** | 4.6E-03 | NA | 5.5E-04 | **5.1E-03** | Nervous System | Nervous System |
| | | | THALLIUM | NA | NA | NA | **NA** | 4.5E-01 | NA | NA | **4.5E-01** | 4.2E-02 | NA | NA | **4.2E-02** | Skin | NA |
| | | | VANADIUM | NA | NA | NA | **NA** | 3.2E-02 | NA | 3.8E-05 | **3.2E-02** | 3.0E-03 | NA | 3.8E-05 | **3.1E-03** | Systemic | Respiratory |
| | | | ZINC | NA | NA | NA | **NA** | 1.9E-02 | NA | NA | **1.9E-02** | 1.8E-03 | NA | NA | **1.8E-03** | Hematological | NA |
| | | | **PEST/PCB** | | | | | | | | | | | | | | |
| | | | AROCLOR-1254 | 1.6E-07 | 6.2E-08 | 1.0E-08 | **2.3E-07** | 3.5E-02 | 1.2E-02 | NA | **4.6E-02** | 3.3E-03 | 1.9E-03 | NA | **5.2E-03** | Immunological | NA |
| | | | **SVOCs** | | | | | | | | | | | | | | |
| | | | BENZO(A)ANTHRACENE | 9.9E-06 | 2.9E-06 | 1.1E-07 | **1.3E-05** | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(A)PYRENE | 1.1E-04 | 3.2E-05 | 2.2E-09 | **1.4E-04** | 5.1E-01 | 1.6E-01 | 1.8E-03 | **6.7E-01** | 4.8E-02 | 2.6E-02 | 1.8E-03 | **7.6E-02** | Developmental | Developmental |
| | | | BENZO(B)FLUORANTHENE | 1.7E-05 | 4.9E-06 | 3.4E-10 | **2.2E-05** | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(K)FLUORANTHENE | 7.9E-07 | 2.3E-07 | 1.6E-11 | **1.0E-06** | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | CHRYSENE | 1.4E-07 | 4.0E-08 | 2.8E-12 | **1.8E-07** | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | DIBENZO(A,H)ANTHRACENE | 1.5E-05 | 4.3E-06 | 3.0E-10 | **1.9E-05** | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | INDENO(1,2,3-CD)PYRENE | 5.1E-06 | 1.5E-06 | 1.0E-10 | **6.6E-06** | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | NAPHTHALENE | NA | NA | 1.1E-06 | **1.1E-06** | 3.4E-03 | 1.0E-03 | 2.9E-02 | **3.3E-02** | 3.2E-04 | 1.7E-04 | 2.9E-02 | **2.9E-02** | Systemic | Respiratory |
| | | | **VOCs** | | | | | | | | | | | | | | |
| | | | BENZENE | 2.2E-08 | NA | 1.7E-07 | **1.9E-07** | 8.9E-04 | NA | 2.0E-03 | **2.9E-03** | 8.4E-05 | NA | 2.0E-03 | **2.1E-03** | Immunological | Immunological |
| | | | ETHYLBENZENE | 1.1E-07 | NA | 8.5E-07 | **9.6E-07** | 8.9E-04 | NA | 9.2E-04 | **1.8E-03** | 8.3E-05 | NA | 9.2E-04 | **1.0E-03** | Hepatic | Developmental |
| | | | XYLENES (TOTAL) | NA | NA | NA | **NA** | 6.1E-03 | NA | 1.3E-01 | **1.3E-01** | 5.7E-04 | NA | 1.3E-01 | **1.3E-01** | Systemic | Nervous System |
| | | | **TICs** | | | | | | | | | | | | | | |
| | | | BENZO[J]FLUORANTHENE | 1.2E-06 | 4.4E-07 | 8.6E-12 | **1.7E-06** | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| **Exposure Point Total - SFA** | | | | 2.1E-04 | 5.2E-05 | 2.3E-06 | **3E-04** | 6.2E+00 | 2.6E-01 | 2.8E-01 | **7E+00** | 5.8E-01 | 4.4E-02 | 2.8E-01 | **9E-01** | | |

**Table 9.4**
**Chemical Cancer Risks and Non-cancer Hazards**
**Reasonable Maximum Exposure**
**Resident**

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | | Non-carcinogenic Hazard Quotient - Child | | | | Non-carcinogenic Hazard Quotient -Adult | | | | Target Organ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | RfD | RfC |
| | | | | | | | | **Total Organ HI (SFA)** | | | **Child** | | | | **Adult** | | |
| | | | | | | | | Developmental | | | 7E-01 | | | | 8E-02 | | |
| | | | | | | | | Endocrine | | | 2E-01 | | | | 1E-01 | | |
| | | | | | | | | Gastrointestinal | | | 2E-01 | | | | 1E-02 | | |
| | | | | | | | | Hematological | | | 4E+00 | | | | 4E-01 | | |
| | | | | | | | | Hepatic | | | 9E-04 | | | | 8E-05 | | |
| | | | | | | | | Immunological | | | 5E-02 | | | | 7E-03 | | |
| | | | | | | | | Nervous System | | | 2E-01 | | | | 1E-01 | | |
| | | | | | | | | None Observed | | | 9E-03 | | | | 8E-04 | | |
| | | | | | | | | Renal | | | 6E-02 | | | | 6E-03 | | |
| | | | | | | | | Reproductive | | | 2E-01 | | | | 2E-02 | | |
| | | | | | | | | Respiratory | | | 3E-02 | | | | 3E-02 | | |
| | | | | | | | | Skin | | | 1E+00 | | | | 1E-01 | | |
| | | | | | | | | Systemic | | | 4E-02 | | | | 4E-03 | | |
| Soil | Soil | UNDV | **Metals** | | | | | | | | | | | | | | |
| | | | ALUMINUM | NA | NA | NA | **NA** | 4.5E-02 | NA | 2.1E-04 | **4.5E-02** | 4.2E-03 | NA | 2.1E-04 | **4.4E-03** | Nervous System | Nervous System |
| | | | ANTIMONY | NA | NA | NA | **NA** | 3.8E-01 | NA | NA | **3.8E-01** | 3.6E-02 | NA | NA | **3.6E-02** | Hematological | NA |
| | | | ARSENIC | 1.6E-04 | 2.3E-05 | 5.9E-08 | **1.8E-04** | 3.2E+00 | 3.8E-01 | 2.5E-03 | **3.6E+00** | 3.0E-01 | 6.3E-02 | 2.5E-03 | **3.6E-01** | Skin | Respiratory |
| | | | BARIUM | NA | NA | NA | **NA** | 8.2E-02 | NA | 7.7E-04 | **8.3E-02** | 7.7E-03 | NA | 7.7E-04 | **8.5E-03** | Renal | Reproductive |
| | | | CADMIUM | NA | NA | 2.9E-10 | **2.9E-10** | 1.9E-02 | 1.8E-03 | 4.4E-05 | **2.0E-02** | 1.7E-03 | 2.9E-04 | 4.4E-05 | **2.1E-03** | Renal | Renal |
| | | | CHROMIUM, HEXAVALENT | 3.8E-06 | NA | 2.2E-08 | **3.8E-06** | 3.6E-03 | NA | 2.5E-06 | **3.6E-03** | 3.3E-04 | NA | 2.5E-06 | **3.4E-04** | None Observed | Respiratory |
| | | | COBALT | NA | NA | 8.3E-09 | **8.3E-09** | 3.5E-01 | NA | 4.2E-04 | **3.6E-01** | 3.3E-02 | NA | 4.2E-04 | **3.4E-02** | Endocrine | Respiratory |
| | | | COPPER | NA | NA | NA | **NA** | 4.1E-02 | NA | NA | **4.1E-02** | 3.9E-03 | NA | NA | **3.9E-03** | Gastrointestinal | NA |
| | | | CYANIDE | NA | NA | NA | **NA** | 1.9E+00 | NA | 1.4E+00 | **3.3E+00** | 1.8E-01 | NA | 1.4E+00 | **1.6E+00** | Reproductive | Endocrine |
| | | | IRON | NA | NA | NA | **NA** | 2.7E-01 | NA | NA | **2.7E-01** | 2.6E-02 | NA | NA | **2.6E-02** | Gastrointestinal | NA |
| | | | LEAD | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | MANGANESE | NA | NA | NA | **NA** | 9.8E-02 | NA | 1.1E-03 | **9.9E-02** | 9.2E-03 | NA | 1.1E-03 | **1.0E-02** | Nervous System | Nervous System |
| | | | MERCURY | NA | NA | NA | **NA** | 6.9E-02 | NA | 1.6E-06 | **6.9E-02** | 6.5E-03 | NA | 1.6E-06 | **6.5E-03** | Immunological | Nervous System |
| | | | THALLIUM | NA | NA | NA | **NA** | 6.7E-01 | NA | NA | **6.7E-01** | 6.3E-02 | NA | NA | **6.3E-02** | Skin | NA |
| | | | VANADIUM | NA | NA | NA | **NA** | 4.9E-02 | NA | 5.8E-05 | **4.9E-02** | 4.6E-03 | NA | 5.8E-05 | **4.7E-03** | Systemic | Respiratory |
| | | | ZINC | NA | NA | NA | **NA** | 2.8E-02 | NA | NA | **2.8E-02** | 2.6E-03 | NA | NA | **2.6E-03** | Hematological | NA |
| | | | **PEST/PCB** | | | | | | | | | | | | | | |
| | | | AROCLOR-1254 | 2.1E-07 | 8.3E-08 | 1.4E-08 | **3.1E-07** | 4.7E-02 | 1.6E-02 | NA | **6.3E-02** | 4.4E-03 | 2.6E-03 | NA | **7.0E-03** | Immunological | NA |
| | | | AROCLOR-1260 | 1.2E-06 | 4.7E-07 | 5.0E-08 | **1.7E-06** | 2.7E-01 | 8.9E-02 | NA | **3.6E-01** | 2.5E-02 | 1.5E-02 | NA | **4.0E-02** | Immunological | NA |
| | | | DIELDRIN | 2.4E-07 | 6.7E-08 | 5.3E-12 | **3.1E-07** | 2.7E-03 | 6.3E-04 | NA | **3.3E-03** | 2.5E-04 | 1.1E-04 | NA | **3.5E-04** | Hepatic | NA |
| | | | **SVOCs** | | | | | | | | | | | | | | |
| | | | BENZO(A)ANTHRACENE | 2.9E-06 | 8.4E-07 | 3.3E-08 | **3.7E-06** | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(A)PYRENE | 3.4E-05 | 1.0E-05 | 7.0E-10 | **4.4E-05** | 1.6E-01 | 5.0E-02 | 5.7E-04 | **2.1E-01** | 1.5E-02 | 8.3E-03 | 5.7E-04 | **2.4E-02** | Developmental | Developmental |
| | | | BENZO(B)FLUORANTHENE | 4.1E-06 | 1.2E-06 | 8.3E-11 | **5.3E-06** | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(K)FLUORANTHENE | 2.8E-07 | 8.3E-08 | 5.7E-12 | **3.7E-07** | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | CHRYSENE | 4.1E-08 | 1.2E-08 | 8.4E-13 | **5.3E-08** | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | DIBENZO(A,H)ANTHRACENE | 5.4E-06 | 1.6E-06 | 1.1E-10 | **7.0E-06** | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | INDENO(1,2,3-CD)PYRENE | 1.7E-06 | 5.1E-07 | 3.5E-11 | **2.2E-06** | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | PENTACHLOROPHENOL | 3.0E-07 | 2.1E-07 | 3.0E-13 | **5.2E-07** | 1.4E-03 | 8.0E-04 | NA | **2.2E-03** | 1.3E-04 | 1.3E-04 | NA | **2.6E-04** | Hepatic | NA |
| **Exposure Point Total - UNDV** | | | | 2.2E-04 | 3.8E-05 | 1.9E-07 | **3E-04** | 7.7E+00 | 5.3E-01 | 1.4E+00 | **1E+01** | 7.2E-01 | 8.9E-02 | 1.4E+00 | **2E+00** | | |

**Table 9.4**
**Chemical Cancer Risks and Non-cancer Hazards**
**Reasonable Maximum Exposure**
**Resident**

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | | Non-carcinogenic Hazard Quotient - Child | | | | Non-carcinogenic Hazard Quotient -Adult | | | | Target Organ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | RfD | RfC |
| | | | | | | | | **Total Organ HI (UNDV)** | | | **Child** | | | | **Adult** | | |
| | | | | | | | | Developmental | | | 2E-01 | | | | 2E-02 | | |
| | | | | | | | | Endocrine | | | 2E+00 | | | | 1E+00 | | |
| | | | | | | | | Gastrointestinal | | | 3E-01 | | | | 3E-02 | | |
| | | | | | | | | Hematological | | | 4E-01 | | | | 4E-02 | | |
| | | | | | | | | Hepatic | | | 5E-03 | | | | 6E-04 | | |
| | | | | | | | | Immunological | | | 5E-01 | | | | 5E-02 | | |
| | | | | | | | | Nervous System | | | 1E-01 | | | | 1E-02 | | |
| | | | | | | | | None Observed | | | 4E-03 | | | | 3E-04 | | |
| | | | | | | | | Renal | | | 1E-01 | | | | 1E-02 | | |
| | | | | | | | | Reproductive | | | 2E+00 | | | | 2E-01 | | |
| | | | | | | | | Respiratory | | | 3E-03 | | | | 3E-03 | | |
| | | | | | | | | Skin | | | 4E+00 | | | | 4E-01 | | |
| | | | | | | | | Systemic | | | 5E-02 | | | | 5E-03 | | |

**Table 9.5**
**Chemical Cancer Risks and Non-cancer Hazards**
**Reasonable Maximum Exposure**
**Recreator-Child**

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | | Non-carcinogenic Hazard Quotient | | | | Target Organ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | RfD | RfC |
| Soil | Soil | UNDV | **Metals** | | | | | | | | | | |
| | | | ALUMINUM | NA | NA | NA | **NA** | 1.9E-02 | NA | 3.0E-05 | **1.9E-02** | Nervous System | Nervous System |
| | | | ANTIMONY | NA | NA | NA | **NA** | 1.6E-01 | NA | NA | **1.6E-01** | Hematological | NA |
| | | | ARSENIC | 5.2E-05 | 6.2E-06 | 2.0E-09 | **5.9E-05** | 1.4E+00 | 1.6E-01 | 3.5E-04 | **1.5E+00** | Skin | Respiratory |
| | | | BARIUM | NA | NA | NA | **NA** | 3.5E-02 | NA | 1.1E-04 | **3.5E-02** | Renal | Reproductive |
| | | | CADMIUM | NA | NA | 9.6E-12 | **9.6E-12** | 8.0E-03 | 7.6E-04 | 6.2E-06 | **8.7E-03** | Renal | Renal |
| | | | CHROMIUM, HEXAVALENT | 1.4E-06 | NA | 1.4E-09 | **1.4E-06** | 1.5E-03 | NA | 3.6E-07 | **1.5E-03** | None Observed | Respiratory |
| | | | COBALT | NA | NA | 2.7E-10 | **2.7E-10** | 1.5E-01 | NA | 5.9E-05 | **1.5E-01** | Endocrine | Respiratory |
| | | | COPPER | NA | NA | NA | **NA** | 1.8E-02 | NA | NA | **1.8E-02** | Gastrointestinal | NA |
| | | | CYANIDE | NA | NA | NA | **NA** | 8.1E-01 | NA | 2.0E-01 | **1.0E+00** | Reproductive | Endocrine |
| | | | IRON | NA | NA | NA | **NA** | 1.2E-01 | NA | NA | **1.2E-01** | Gastrointestinal | NA |
| | | | LEAD | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | MANGANESE | NA | NA | NA | **NA** | 4.2E-02 | NA | 1.6E-04 | **4.2E-02** | Nervous System | Nervous System |
| | | | MERCURY | NA | NA | NA | **NA** | 3.0E-02 | NA | 2.3E-07 | **3.0E-02** | Immunological | Nervous System |
| | | | THALLIUM | NA | NA | NA | **NA** | 2.9E-01 | NA | NA | **2.9E-01** | Skin | NA |
| | | | VANADIUM | NA | NA | NA | **NA** | 2.1E-02 | NA | 8.3E-06 | **2.1E-02** | Systemic | Respiratory |
| | | | ZINC | NA | NA | NA | **NA** | 1.2E-02 | NA | NA | **1.2E-02** | Hematological | NA |
| | | | **PEST/PCB** | | | | | | | | | | |
| | | | AROCLOR-1254 | 6.9E-08 | 2.3E-08 | 4.6E-10 | **9.3E-08** | 2.0E-02 | 6.7E-03 | NA | **2.7E-02** | Immunological | NA |
| | | | AROCLOR-1260 | 3.9E-07 | 1.3E-07 | 1.7E-09 | **5.2E-07** | 1.1E-01 | 3.8E-02 | NA | **1.5E-01** | Immunological | NA |
| | | | DIELDRIN | 7.8E-08 | 1.9E-08 | 1.8E-13 | **9.7E-08** | 1.1E-03 | 2.7E-04 | NA | **1.4E-03** | Hepatic | NA |
| | | | **SVOCs** | | | | | | | | | | |
| | | | BENZO(A)ANTHRACENE | 1.1E-06 | 2.9E-07 | 2.1E-09 | **1.4E-06** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(A)PYRENE | 1.3E-05 | 3.5E-06 | 4.4E-11 | **1.6E-05** | 6.9E-02 | 2.1E-02 | 8.1E-05 | **9.0E-02** | Developmental | Developmental |
| | | | BENZO(B)FLUORANTHENE | 1.5E-06 | 4.2E-07 | 5.3E-12 | **2.0E-06** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(K)FLUORANTHENE | 1.1E-07 | 2.9E-08 | 3.6E-13 | **1.4E-07** | NA | NA | NA | **NA** | NA | NA |
| | | | CHRYSENE | 1.6E-08 | 4.2E-09 | 5.3E-14 | **2.0E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | DIBENZO(A,H)ANTHRACENE | 2.0E-06 | 5.5E-07 | 6.9E-12 | **2.6E-06** | NA | NA | NA | **NA** | NA | NA |
| | | | INDENO(1,2,3-CD)PYRENE | 6.5E-07 | 1.8E-07 | 2.2E-12 | **8.3E-07** | NA | NA | NA | **NA** | NA | NA |
| | | | PENTACHLOROPHENOL | 9.9E-08 | 5.9E-08 | 9.9E-15 | **1.6E-07** | 5.8E-04 | 3.4E-04 | NA | **9.2E-04** | Hepatic | NA |
| Sediment | Sediment | UHC | **Metals** | | | | | | | | | | |
| | | | ALUMINUM | NA | NA | | **NA** | 5.4E-03 | NA | | **5.4E-03** | Nervous System | Nervous System |
| | | | ANTIMONY | NA | NA | | **NA** | 6.8E-02 | NA | | **6.8E-02** | Hematological | NA |
| | | | ARSENIC | 7.2E-04 | 8.5E-05 | | **8.0E-04** | 5.5E+00 | 6.5E-01 | | **6.1E+00** | Skin | Respiratory |
| | | | BARIUM | NA | NA | | **NA** | 1.9E-02 | NA | | **1.9E-02** | Renal | Reproductive |
| | | | CHROMIUM | 1.6E-04 | NA | | **1.6E-04** | 4.9E-02 | NA | | **4.9E-02** | None Observed | Respiratory |
| | | | COBALT | NA | NA | | **NA** | 2.9E-02 | NA | | **2.9E-02** | Endocrine | Respiratory |
| | | | COPPER | NA | NA | | **NA** | 6.6E-03 | NA | | **6.6E-03** | Gastrointestinal | NA |
| | | | CYANIDE | NA | NA | | **NA** | 1.7E+00 | NA | | **1.7E+00** | Reproductive | Endocrine |
| | | | IRON | NA | NA | | **NA** | 1.7E-02 | NA | | **1.7E-02** | Gastrointestinal | NA |
| | | | LEAD | NA | NA | | **NA** | NA | NA | | **NA** | NA | NA |
| | | | THALLIUM | NA | NA | | **NA** | 3.9E-01 | NA | | **3.9E-01** | Skin | NA |
| | | | **PEST/PCB** | | | | | | | | | | |
| | | | AROCLOR-1254 | 2.4E-07 | 8.0E-08 | | **3.2E-07** | 2.0E-02 | 6.8E-03 | | **2.7E-02** | Immunological | NA |
| | | | AROCLOR-1260 | 1.4E-07 | 4.7E-08 | | **1.9E-07** | 1.2E-02 | 4.0E-03 | | **1.6E-02** | Immunological | NA |

**Table 9.5**
**Chemical Cancer Risks and Non-cancer Hazards**
**Reasonable Maximum Exposure**
**Recreator-Child**

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | | Non-carcinogenic Hazard Quotient | | | | Target Organ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | RfD | RfC |
| | | | **SVOCs** | | | | | | | | | | |
| | | | BENZO(A)ANTHRACENE | 2.1E-06 | 5.7E-07 | | **2.7E-06** | NA | NA | | **NA** | NA | NA |
| | | | BENZO(A)PYRENE | 2.1E-05 | 5.8E-06 | | **2.7E-05** | 3.3E-02 | 1.0E-02 | | **4.3E-02** | Developmental | Developmental |
| | | | BENZO(B)FLUORANTHENE | 2.0E-06 | 5.6E-07 | | **2.6E-06** | NA | NA | | **NA** | NA | NA |
| | | | BENZO(K)FLUORANTHENE | 2.8E-07 | 7.8E-08 | | **3.6E-07** | NA | NA | | **NA** | NA | NA |
| | | | CHRYSENE | 3.4E-08 | 9.2E-09 | | **4.3E-08** | NA | NA | | **NA** | NA | NA |
| | | | DIBENZO(A,H)ANTHRACENE | 4.2E-06 | 1.1E-06 | | **5.3E-06** | NA | NA | | **NA** | NA | NA |
| | | | INDENO(1,2,3-CD)PYRENE | 1.4E-06 | 3.9E-07 | | **1.8E-06** | NA | NA | | **NA** | NA | NA |
| | | | **TICs** | | | | | | | | | | |
| | | | BENZO[J]FLUORANTHENE | 6.2E-07 | 1.9E-07 | | **8.1E-07** | NA | NA | | **NA** | NA | NA |
| Surface Water | Surface Water | UHC | **Metals** | | | | | | | | | | |
| | | | ANTIMONY | | NA | | **NA** | | 1.9E-03 | | **1.9E-03** | Hematological | NA |
| | | | ARSENIC | | 7.6E-07 | | **7.6E-07** | | 5.7E-03 | | **5.7E-03** | Skin | Respiratory |
| | | | BARIUM | | NA | | **NA** | | 8.6E-04 | | **8.6E-04** | Renal | Reproductive |
| | | | CHROMIUM | | 3.9E-06 | | **3.9E-06** | | 1.4E-03 | | **1.4E-03** | None Observed | Respiratory |
| | | | CYANIDE | | NA | | **NA** | | 4.0E-04 | | **4.0E-04** | Reproductive | Endocrine |
| | | | IRON | | NA | | **NA** | | 2.4E-04 | | **2.4E-04** | Gastrointestinal | NA |
| | | | LEAD | | NA | | **NA** | | NA | | **NA** | NA | NA |
| | | | MANGANESE | | NA | | **NA** | | 8.2E-03 | | **8.2E-03** | Nervous System | Nervous System |
| | | | THALLIUM | | NA | | **NA** | | 2.3E-02 | | **2.3E-02** | Skin | NA |
| | | | VANADIUM | | NA | | **NA** | | 5.7E-04 | | **5.7E-04** | Systemic | Respiratory |
| | | | **SVOCs** | | | | | | | | | | |
| | | | BENZO(A)PYRENE | | 1.2E-04 | | **1.2E-04** | | 2.1E-01 | | **2.1E-01** | Developmental | Developmental |
| | | | BENZO(B)FLUORANTHENE | | 1.4E-05 | | **1.4E-05** | | NA | | **NA** | NA | NA |
| | | | INDENO(1,2,3-CD)PYRENE | | 2.4E-05 | | **2.4E-05** | | NA | | **NA** | NA | NA |
| | | | NAPHTHALENE | | NA | | **NA** | | 4.6E-05 | | **4.6E-05** | Systemic | Respiratory |
| | | | **VOCs** | | | | | | | | | | |
| | | | 1,4-DICHLOROBENZENE | | 2.2E-09 | | **2.2E-09** | | 2.0E-05 | | **2.0E-05** | Hepatic | Hepatic |
| | | | BENZENE | | 3.8E-08 | | **3.8E-08** | | 5.9E-04 | | **5.9E-04** | Immunological | Immunological |
| | | | DICHLOROMETHANE | | 2.9E-09 | | **2.9E-09** | | 1.3E-04 | | **1.3E-04** | Hepatic | Hepatic |
| | | | VINYL CHLORIDE | | 1.4E-06 | | **1.4E-06** | | 7.8E-05 | | **7.8E-05** | Hepatic | Hepatic |
| **Exposure Point Total - UNDV+UHC** | | | | 9.8E-04 | 2.7E-04 | 7.9E-09 | **1E-03** | 1.1E+01 | 1.1E+00 | 2.0E-01 | **1E+01** | | |
| | | | | | | | | **Total Organ HI (UNDV)** | | | | | |
| | | | | | | | | Developmental | | | 3E-01 | | |
| | | | | | | | | Endocrine | | | 4E-01 | | |
| | | | | | | | | Gastrointestinal | | | 2E-01 | | |
| | | | | | | | | Hematological | | | 2E-01 | | |
| | | | | | | | | Hepatic | | | 3E-03 | | |
| | | | | | | | | Immunological | | | 3E-01 | | |
| | | | | | | | | Nervous System | | | 7E-02 | | |
| | | | | | | | | None Observed | | | 5E-02 | | |
| | | | | | | | | Renal | | | 6E-02 | | |
| | | | | | | | | Reproductive | | | 3E+00 | | |
| | | | | | | | | Respiratory | | | 4E-04 | | |
| | | | | | | | | Skin | | | 8E+00 | | |
| | | | | | | | | Systemic | | | 2E-02 | | |

**Table 9.6**
**Chemical Cancer Risks and Non-cancer Hazards**
**Reasonable Maximum Exposure**
**Recreator-Adolescent**

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | | Non-carcinogenic Hazard Quotient | | | | Target Organ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | RfD | RfC |
| Soil | Soil | UNDV | **Metals** | | | | | | | | | | |
| | | | ALUMINUM | NA | NA | NA | **NA** | 3.2E-03 | NA | 3.0E-05 | **3.3E-03** | Nervous System | Nervous System |
| | | | ANTIMONY | NA | NA | NA | **NA** | 2.8E-02 | NA | NA | **2.8E-02** | Hematological | NA |
| | | | ARSENIC | 1.5E-05 | 2.4E-06 | 3.3E-09 | **1.7E-05** | 2.3E-01 | 3.7E-02 | 3.5E-04 | **2.7E-01** | Skin | Respiratory |
| | | | BARIUM | NA | NA | NA | **NA** | 6.0E-03 | NA | 1.1E-04 | **6.1E-03** | Renal | Reproductive |
| | | | CADMIUM | NA | NA | 1.6E-11 | **1.6E-11** | 1.3E-03 | 1.7E-04 | 6.2E-06 | **1.5E-03** | Renal | Renal |
| | | | CHROMIUM, HEXAVALENT | 1.7E-07 | NA | 1.3E-09 | **1.7E-07** | 2.6E-04 | NA | 3.6E-07 | **2.6E-04** | None Observed | Respiratory |
| | | | COBALT | NA | NA | 4.6E-10 | **4.6E-10** | 2.6E-02 | NA | 5.9E-05 | **2.6E-02** | Endocrine | Respiratory |
| | | | COPPER | NA | NA | NA | **NA** | 3.0E-03 | NA | NA | **3.0E-03** | Gastrointestinal | NA |
| | | | CYANIDE | NA | NA | NA | **NA** | 1.4E-01 | NA | 2.0E-01 | **3.4E-01** | Reproductive | Endocrine |
| | | | IRON | NA | NA | NA | **NA** | 2.0E-02 | NA | NA | **2.0E-02** | Gastrointestinal | NA |
| | | | LEAD | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | MANGANESE | NA | NA | NA | **NA** | 7.1E-03 | NA | 1.6E-04 | **7.3E-03** | Nervous System | Nervous System |
| | | | MERCURY | NA | NA | NA | **NA** | 5.0E-03 | NA | 2.3E-07 | **5.0E-03** | Immunological | Nervous System |
| | | | THALLIUM | NA | NA | NA | **NA** | 4.8E-02 | NA | NA | **4.8E-02** | Skin | NA |
| | | | VANADIUM | NA | NA | NA | **NA** | 3.6E-03 | NA | 8.3E-06 | **3.6E-03** | Systemic | Respiratory |
| | | | ZINC | NA | NA | NA | **NA** | 2.0E-03 | NA | NA | **2.0E-03** | Hematological | NA |
| | | | **PEST/PCB** | | | | | | | | | | |
| | | | AROCLOR-1254 | 2.0E-08 | 8.9E-09 | 7.6E-10 | **2.9E-08** | 3.4E-03 | 1.6E-03 | NA | **5.0E-03** | Immunological | NA |
| | | | AROCLOR-1260 | 1.1E-07 | 5.0E-08 | 2.8E-09 | **1.6E-07** | 1.9E-02 | 8.8E-03 | NA | **2.8E-02** | Immunological | NA |
| | | | DIELDRIN | 2.2E-08 | 7.2E-09 | 2.9E-13 | **2.9E-08** | 1.9E-04 | 6.3E-05 | NA | **2.6E-04** | Hepatic | NA |
| | | | **SVOCs** | | | | | | | | | | |
| | | | BENZO(A)ANTHRACENE | 1.2E-07 | 5.3E-08 | 2.0E-09 | **1.8E-07** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(A)PYRENE | 1.5E-06 | 6.3E-07 | 4.2E-11 | **2.1E-06** | 1.2E-02 | 4.9E-03 | 8.1E-05 | **1.7E-02** | Developmental | Developmental |
| | | | BENZO(B)FLUORANTHENE | 1.8E-07 | 7.5E-08 | 4.9E-12 | **2.5E-07** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(K)FLUORANTHENE | 1.2E-08 | 5.2E-09 | 3.4E-13 | **1.8E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | CHRYSENE | 1.8E-09 | 7.6E-10 | 5.0E-14 | **2.6E-09** | NA | NA | NA | **NA** | NA | NA |
| | | | DIBENZO(A,H)ANTHRACENE | 2.3E-07 | 9.9E-08 | 6.5E-12 | **3.3E-07** | NA | NA | NA | **NA** | NA | NA |
| | | | INDENO(1,2,3-CD)PYRENE | 7.6E-08 | 3.2E-08 | 2.1E-12 | **1.1E-07** | NA | NA | NA | **NA** | NA | NA |
| | | | PENTACHLOROPHENOL | 2.8E-08 | 2.3E-08 | 1.6E-14 | **5.1E-08** | 9.8E-05 | 8.0E-05 | NA | **1.8E-04** | Hepatic | NA |
| Sediment | Sediment | UHC | **Metals** | | | | | | | | | | |
| | | | ALUMINUM | NA | NA | | **NA** | 9.1E-04 | NA | | **9.1E-04** | Nervous System | Nervous System |
| | | | ANTIMONY | NA | NA | | **NA** | 1.1E-02 | NA | | **1.1E-02** | Hematological | NA |
| | | | ARSENIC | 5.9E-05 | 2.8E-05 | | **8.7E-05** | 9.3E-01 | 4.3E-01 | | **1.4E+00** | Skin | Respiratory |
| | | | BARIUM | NA | NA | | **NA** | 3.2E-03 | NA | | **3.2E-03** | Renal | Reproductive |
| | | | CHROMIUM | 5.3E-06 | NA | | **5.3E-06** | 8.3E-03 | NA | | **8.3E-03** | None Observed | Respiratory |
| | | | COBALT | NA | NA | | **NA** | 4.9E-03 | NA | | **4.9E-03** | Endocrine | Respiratory |
| | | | COPPER | NA | NA | | **NA** | 1.1E-03 | NA | | **1.1E-03** | Gastrointestinal | NA |
| | | | CYANIDE | NA | NA | | **NA** | 3.0E-01 | NA | | **3.0E-01** | Reproductive | Endocrine |
| | | | IRON | NA | NA | | **NA** | 2.8E-03 | NA | | **2.8E-03** | Gastrointestinal | NA |
| | | | LEAD | NA | NA | | **NA** | NA | NA | | **NA** | NA | NA |
| | | | THALLIUM | NA | NA | | **NA** | 6.6E-02 | NA | | **6.6E-02** | Skin | NA |
| | | | **PEST/PCB** | | | | | | | | | | |
| | | | AROCLOR-1254 | 2.0E-08 | 2.6E-08 | | **4.6E-08** | 3.5E-03 | 4.5E-03 | | **8.0E-03** | Immunological | NA |
| | | | AROCLOR-1260 | 1.2E-08 | 1.5E-08 | | **2.7E-08** | 2.1E-03 | 2.7E-03 | | **4.7E-03** | Immunological | NA |

**Table 9.6**
**Chemical Cancer Risks and Non-cancer Hazards**
**Reasonable Maximum Exposure**
**Recreator-Adolescent**

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | | Non-carcinogenic Hazard Quotient | | | | Target Organ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | RfD | RfC |
| | | | **SVOCs** | | | | | | | | | | |
| | | | BENZO(A)ANTHRACENE | 7.1E-08 | 8.6E-08 | | **1.6E-07** | NA | NA | | **NA** | NA | NA |
| | | | BENZO(A)PYRENE | 7.2E-07 | 8.7E-07 | | **1.6E-06** | 5.6E-03 | 6.7E-03 | | **1.2E-02** | Developmental | Developmental |
| | | | BENZO(B)FLUORANTHENE | 7.0E-08 | 8.4E-08 | | **1.5E-07** | NA | NA | | **NA** | NA | NA |
| | | | BENZO(K)FLUORANTHENE | 9.7E-09 | 1.2E-08 | | **2.1E-08** | NA | NA | | **NA** | NA | NA |
| | | | CHRYSENE | 1.2E-09 | 1.4E-09 | | **2.5E-09** | NA | NA | | **NA** | NA | NA |
| | | | DIBENZO(A,H)ANTHRACENE | 1.4E-07 | 1.7E-07 | | **3.1E-07** | NA | NA | | **NA** | NA | NA |
| | | | INDENO(1,2,3-CD)PYRENE | 4.9E-08 | 5.9E-08 | | **1.1E-07** | NA | NA | | **NA** | NA | NA |
| | | | **TICs** | | | | | | | | | | |
| | | | BENZO[J]FLUORANTHENE | 5.1E-08 | 6.2E-08 | | **1.1E-07** | NA | NA | | **NA** | NA | NA |
| Surface Water | Surface Water | UHC | **Metals** | | | | | | | | | | |
| | | | ANTIMONY | | NA | | **NA** | | 1.2E-03 | | **1.2E-03** | Hematological | NA |
| | | | ARSENIC | | 2.4E-07 | | **2.4E-07** | | 3.8E-03 | | **3.8E-03** | Skin | Respiratory |
| | | | BARIUM | | NA | | **NA** | | 5.7E-04 | | **5.7E-04** | Renal | Reproductive |
| | | | CHROMIUM | | 5.8E-07 | | **5.8E-07** | | 9.1E-04 | | **9.1E-04** | None Observed | Respiratory |
| | | | CYANIDE | | NA | | **NA** | | 2.6E-04 | | **2.6E-04** | Reproductive | Endocrine |
| | | | IRON | | NA | | **NA** | | 1.6E-04 | | **1.6E-04** | Gastrointestinal | NA |
| | | | LEAD | | NA | | **NA** | | NA | | **NA** | NA | NA |
| | | | MANGANESE | | NA | | **NA** | | 5.4E-03 | | **5.4E-03** | Nervous System | Nervous System |
| | | | THALLIUM | | NA | | **NA** | | 1.5E-02 | | **1.5E-02** | Skin | NA |
| | | | VANADIUM | | NA | | **NA** | | 3.8E-04 | | **3.8E-04** | Systemic | Respiratory |
| | | | **SVOCs** | | | | | | | | | | |
| | | | BENZO(A)PYRENE | | 1.8E-05 | | **1.8E-05** | | 1.4E-01 | | **1.4E-01** | Developmental | Developmental |
| | | | BENZO(B)FLUORANTHENE | | 2.1E-06 | | **2.1E-06** | | NA | | **NA** | NA | NA |
| | | | INDENO(1,2,3-CD)PYRENE | | 3.6E-06 | | **3.6E-06** | | NA | | **NA** | NA | NA |
| | | | NAPHTHALENE | | NA | | **NA** | | 3.0E-05 | | **3.0E-05** | Systemic | Respiratory |
| | | | **VOCs** | | | | | | | | | | |
| | | | 1,4-DICHLOROBENZENE | | 7.2E-10 | | **7.2E-10** | | 1.3E-05 | | **1.3E-05** | Hepatic | Hepatic |
| | | | BENZENE | | 1.2E-08 | | **1.2E-08** | | 3.9E-04 | | **3.9E-04** | Immunological | Immunological |
| | | | DICHLOROMETHANE | | 4.4E-10 | | **4.4E-10** | | 8.6E-05 | | **8.6E-05** | Hepatic | Hepatic |
| | | | VINYL CHLORIDE | | 9.4E-07 | | **9.4E-07** | | 5.2E-05 | | **5.2E-05** | Hepatic | Hepatic |
| **Exposure Point Total - UNDV+UHC** | | | | 8.3E-05 | 5.8E-05 | 1.1E-08 | **1E-04** | 1.9E+00 | 6.6E-01 | 2.0E-01 | **3E+00** | | |
| | | | | | | | | **Total Organ HI (UNDV)** | | | | | |
| | | | | | | | | Developmental | | | 2E-01 | | |
| | | | | | | | | Endocrine | | | 2E-01 | | |
| | | | | | | | | Gastrointestinal | | | 3E-02 | | |
| | | | | | | | | Hematological | | | 4E-02 | | |
| | | | | | | | | Hepatic | | | 6E-04 | | |
| | | | | | | | | Immunological | | | 5E-02 | | |
| | | | | | | | | Nervous System | | | 2E-02 | | |
| | | | | | | | | None Observed | | | 9E-03 | | |
| | | | | | | | | Renal | | | 1E-02 | | |
| | | | | | | | | Reproductive | | | 4E-01 | | |
| | | | | | | | | Respiratory | | | 4E-04 | | |
| | | | | | | | | Skin | | | 2E+00 | | |
| | | | | | | | | Systemic | | | 4E-03 | | |

**Table 9.7**
**Chemical Cancer Risks and Non-cancer Hazards**
**Reasonable Maximum Exposure**
**Recreator-Adult**

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | | Non-carcinogenic Hazard Quotient | | | | Target Organ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | RfD | RfC |
| Soil | Soil | UNDV | **Metals** | | | | | | | | | | |
| | | | ALUMINUM | NA | NA | NA | **NA** | 1.8E-03 | NA | 3.0E-05 | **1.8E-03** | Nervous System | Nervous System |
| | | | ANTIMONY | NA | NA | NA | **NA** | 1.5E-02 | NA | NA | **1.5E-02** | Hematological | NA |
| | | | ARSENIC | 2.1E-05 | 4.5E-06 | 8.5E-09 | **2.6E-05** | 1.3E-01 | 2.7E-02 | 3.5E-04 | **1.5E-01** | Skin | Respiratory |
| | | | BARIUM | NA | NA | NA | **NA** | 3.3E-03 | NA | 1.1E-04 | **3.4E-03** | Renal | Reproductive |
| | | | CADMIUM | NA | NA | 4.2E-11 | **4.2E-11** | 7.5E-04 | 1.3E-04 | 6.2E-06 | **8.8E-04** | Renal | Renal |
| | | | CHROMIUM, HEXAVALENT | 8.0E-08 | NA | 1.1E-09 | **8.1E-08** | 1.4E-04 | NA | 3.6E-07 | **1.4E-04** | None Observed | Respiratory |
| | | | COBALT | NA | NA | 1.2E-09 | **1.2E-09** | 1.4E-02 | NA | 5.9E-05 | **1.4E-02** | Endocrine | Respiratory |
| | | | COPPER | NA | NA | NA | **NA** | 1.7E-03 | NA | NA | **1.7E-03** | Gastrointestinal | NA |
| | | | CYANIDE | NA | NA | NA | **NA** | 7.6E-02 | NA | 2.0E-01 | **2.8E-01** | Reproductive | Endocrine |
| | | | IRON | NA | NA | NA | **NA** | 1.1E-02 | NA | NA | **1.1E-02** | Gastrointestinal | NA |
| | | | LEAD | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | MANGANESE | NA | NA | NA | **NA** | 3.9E-03 | NA | 1.6E-04 | **4.1E-03** | Nervous System | Nervous System |
| | | | MERCURY | NA | NA | NA | **NA** | 2.8E-03 | NA | 2.3E-07 | **2.8E-03** | Immunological | Nervous System |
| | | | THALLIUM | NA | NA | NA | **NA** | 2.7E-02 | NA | NA | **2.7E-02** | Skin | NA |
| | | | VANADIUM | NA | NA | NA | **NA** | 2.0E-03 | NA | 8.3E-06 | **2.0E-03** | Systemic | Respiratory |
| | | | ZINC | NA | NA | NA | **NA** | 1.1E-03 | NA | NA | **1.1E-03** | Hematological | NA |
| | | | **PEST/PCB** | | | | | | | | | | |
| | | | AROCLOR-1254 | 2.8E-08 | 1.7E-08 | 2.0E-09 | **4.7E-08** | 1.9E-03 | 1.1E-03 | NA | **3.0E-03** | Immunological | NA |
| | | | AROCLOR-1260 | 1.6E-07 | 9.4E-08 | 7.2E-09 | **2.6E-07** | 1.1E-02 | 6.3E-03 | NA | **1.7E-02** | Immunological | NA |
| | | | DIELDRIN | 3.2E-08 | 1.3E-08 | 7.6E-13 | **4.5E-08** | 1.1E-04 | 4.5E-05 | NA | **1.5E-04** | Hepatic | NA |
| | | | **SVOCs** | | | | | | | | | | |
| | | | BENZO(A)ANTHRACENE | 6.0E-08 | 3.3E-08 | 1.7E-09 | **9.5E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(A)PYRENE | 7.2E-07 | 4.0E-07 | 3.6E-11 | **1.1E-06** | 6.5E-03 | 3.5E-03 | 8.1E-05 | **1.0E-02** | Developmental | Developmental |
| | | | BENZO(B)FLUORANTHENE | 8.5E-08 | 4.7E-08 | 4.3E-12 | **1.3E-07** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(K)FLUORANTHENE | 5.9E-09 | 3.3E-09 | 3.0E-13 | **9.2E-09** | NA | NA | NA | **NA** | NA | NA |
| | | | CHRYSENE | 8.6E-10 | 4.7E-10 | 4.3E-14 | **1.3E-09** | NA | NA | NA | **NA** | NA | NA |
| | | | DIBENZO(A,H)ANTHRACENE | 1.1E-07 | 6.2E-08 | 5.6E-12 | **1.7E-07** | NA | NA | NA | **NA** | NA | NA |
| | | | INDENO(1,2,3-CD)PYRENE | 3.6E-08 | 2.0E-08 | 1.8E-12 | **5.6E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | PENTACHLOROPHENOL | 4.0E-08 | 4.3E-08 | 4.3E-14 | **8.3E-08** | 5.4E-05 | 5.7E-05 | NA | **1.1E-04** | Hepatic | NA |
| Sediment | Sediment | UHC | **Metals** | | | | | | | | | | |
| | | | ALUMINUM | NA | NA | | **NA** | 5.0E-04 | NA | | **5.0E-04** | Nervous System | Nervous System |
| | | | ANTIMONY | NA | NA | | **NA** | 6.4E-03 | NA | | **6.4E-03** | Hematological | NA |
| | | | ARSENIC | 8.6E-05 | 5.2E-05 | | **1.4E-04** | 5.1E-01 | 3.1E-01 | | **8.2E-01** | Skin | Respiratory |
| | | | BARIUM | NA | NA | | **NA** | 1.8E-03 | NA | | **1.8E-03** | Renal | Reproductive |
| | | | CHROMIUM | 2.6E-06 | NA | | **2.6E-06** | 4.6E-03 | NA | | **4.6E-03** | None Observed | Respiratory |
| | | | COBALT | NA | NA | | **NA** | 2.7E-03 | NA | | **2.7E-03** | Endocrine | Respiratory |
| | | | COPPER | NA | NA | | **NA** | 6.2E-04 | NA | | **6.2E-04** | Gastrointestinal | NA |
| | | | CYANIDE | NA | NA | | **NA** | 1.6E-01 | NA | | **1.6E-01** | Reproductive | Endocrine |
| | | | IRON | NA | NA | | **NA** | 1.6E-03 | NA | | **1.6E-03** | Gastrointestinal | NA |
| | | | LEAD | NA | NA | | **NA** | NA | NA | | **NA** | NA | NA |
| | | | THALLIUM | NA | NA | | **NA** | 3.6E-02 | NA | | **3.6E-02** | Skin | NA |
| | | | **PEST/PCB** | | | | | | | | | | |
| | | | AROCLOR-1254 | 2.9E-08 | 4.8E-08 | | **7.7E-08** | 1.9E-03 | 3.2E-03 | | **5.2E-03** | Immunological | NA |
| | | | AROCLOR-1260 | 1.7E-08 | 2.9E-08 | | **4.5E-08** | 1.1E-03 | 1.9E-03 | | **3.1E-03** | Immunological | NA |

**Table 9.7**
**Chemical Cancer Risks and Non-cancer Hazards**
**Reasonable Maximum Exposure**
**Recreator-Adult**

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | | Non-carcinogenic Hazard Quotient | | | | Target Organ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | RfD | RfC |
| | | | **SVOCs** | | | | | | | | | | |
| | | | BENZO(A)ANTHRACENE | 3.4E-08 | 5.4E-08 | | **8.8E-08** | NA | NA | | **NA** | NA | NA |
| | | | BENZO(A)PYRENE | 3.4E-07 | 5.4E-07 | | **8.9E-07** | 3.1E-03 | 4.9E-03 | | **7.9E-03** | Developmental | Developmental |
| | | | BENZO(B)FLUORANTHENE | 3.3E-08 | 5.3E-08 | | **8.6E-08** | NA | NA | | **NA** | NA | NA |
| | | | BENZO(K)FLUORANTHENE | 4.7E-09 | 7.3E-09 | | **1.2E-08** | NA | NA | | **NA** | NA | NA |
| | | | CHRYSENE | 5.5E-10 | 8.7E-10 | | **1.4E-09** | NA | NA | | **NA** | NA | NA |
| | | | DIBENZO(A,H)ANTHRACENE | 6.8E-08 | 1.1E-07 | | **1.8E-07** | NA | NA | | **NA** | NA | NA |
| | | | INDENO(1,2,3-CD)PYRENE | 2.4E-08 | 3.7E-08 | | **6.1E-08** | NA | NA | | **NA** | NA | NA |
| | | | **TICs** | | | | | | | | | | |
| | | | BENZO[J]FLUORANTHENE | 7.4E-08 | 1.2E-07 | | **1.9E-07** | NA | NA | | **NA** | NA | NA |
| Surface Water | Surface Water | UHC | **Metals** | | | | | | | | | | |
| | | | ANTIMONY | | NA | | **NA** | | 8.9E-04 | | **8.9E-04** | Hematological | NA |
| | | | ARSENIC | | 4.6E-07 | | **4.6E-07** | | 2.7E-03 | | **2.7E-03** | Skin | Respiratory |
| | | | BARIUM | | NA | | **NA** | | 4.1E-04 | | **4.1E-04** | Renal | Reproductive |
| | | | CHROMIUM | | 3.6E-07 | | **3.6E-07** | | 6.6E-04 | | **6.6E-04** | None Observed | Respiratory |
| | | | CYANIDE | | NA | | **NA** | | 1.9E-04 | | **1.9E-04** | Reproductive | Endocrine |
| | | | IRON | | NA | | **NA** | | 1.2E-04 | | **1.2E-04** | Gastrointestinal | NA |
| | | | LEAD | | NA | | **NA** | | NA | | **NA** | NA | NA |
| | | | MANGANESE | | NA | | **NA** | | 3.9E-03 | | **3.9E-03** | Nervous System | Nervous System |
| | | | THALLIUM | | NA | | **NA** | | 1.1E-02 | | **1.1E-02** | Skin | NA |
| | | | VANADIUM | | NA | | **NA** | | 2.7E-04 | | **2.7E-04** | Systemic | Respiratory |
| | | | **SVOCs** | | | | | | | | | | |
| | | | BENZO(A)PYRENE | | 1.1E-05 | | **1.1E-05** | | 9.9E-02 | | **9.9E-02** | Developmental | Developmental |
| | | | BENZO(B)FLUORANTHENE | | 1.3E-06 | | **1.3E-06** | | NA | | **NA** | NA | NA |
| | | | INDENO(1,2,3-CD)PYRENE | | 2.3E-06 | | **2.3E-06** | | NA | | **NA** | NA | NA |
| | | | NAPHTHALENE | | NA | | **NA** | | 2.2E-05 | | **2.2E-05** | Systemic | Respiratory |
| | | | **VOCs** | | | | | | | | | | |
| | | | 1,4-DICHLOROBENZENE | | 1.3E-09 | | **1.3E-09** | | 9.6E-06 | | **9.6E-06** | Hepatic | Hepatic |
| | | | BENZENE | | 2.3E-08 | | **2.3E-08** | | 2.8E-04 | | **2.8E-04** | Immunological | Immunological |
| | | | DICHLOROMETHANE | | 2.8E-10 | | **2.8E-10** | | 6.2E-05 | | **6.2E-05** | Hepatic | Hepatic |
| | | | VINYL CHLORIDE | | 3.0E-08 | | **3.0E-08** | | 3.7E-05 | | **3.7E-05** | Hepatic | Hepatic |
| **Exposure Point Total - UNDV+UHC** | | | | 1.1E-04 | 7.3E-05 | 2.2E-08 | **2E-04** | 1.0E+00 | 4.8E-01 | 2.0E-01 | **2E+00** | | |
| | | | | | | | | **Total Organ HI (UNDV)** | | | | | |
| | | | | | | | | Developmental | | | 1E-01 | | |
| | | | | | | | | Endocrine | | | 2E-01 | | |
| | | | | | | | | Gastrointestinal | | | 1E-02 | | |
| | | | | | | | | Hematological | | | 2E-02 | | |
| | | | | | | | | Hepatic | | | 4E-04 | | |
| | | | | | | | | Immunological | | | 3E-02 | | |
| | | | | | | | | Nervous System | | | 1E-02 | | |
| | | | | | | | | None Observed | | | 5E-03 | | |
| | | | | | | | | Renal | | | 6E-03 | | |
| | | | | | | | | Reproductive | | | 2E-01 | | |
| | | | | | | | | Respiratory | | | 4E-04 | | |
| | | | | | | | | Skin | | | 1E+00 | | |
| | | | | | | | | Systemic | | | 2E-03 | | |

**Table 11**

**Summary of Total Cancer Risks and Non-cancer Hazards by Exposure Area**

| Exposure Area | Utility Worker | | Construction Worker | | Outdoor Worker | | Child Recreator | | Adolescent Recreator | | Adult Recreator | | Resident | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Excess Lifetime Cancer Risk | Non-cancer Hazard | Total Excess Lifetime Cancer Risk | Non-cancer Hazard | Total Excess Lifetime Cancer Risk | Non-cancer Hazard | Total Excess Lifetime Cancer Risk | Non-cancer Hazard | Total Excess Lifetime Cancer Risk | Non-cancer Hazard | Total Excess Lifetime Cancer Risk | Non-cancer Hazard | Total Excess Lifetime Cancer Risk | Non-cancer Hazard, Child | Non-cancer Hazard, Adult |
| EUSA | 1E-07 | 0.007 | 1E-07 | 0.2 | 9E-07 | 0.05 | | | | | | | 8E-06 | 0.8 | 0.07 |
| NFA | 5E-06 | 0.3 | 5E-06 | **6** | 2E-05 | 0.5 | | | | | | | **2E-04** | **7** | 0.9 |
| SFA | 1E-06 | 0.06 | 1E-06 | 1 | 2E-05 | 0.5 | | | | | | | **3E-04** | **7** | 0.9 |
| UNDV | 8E-06 | 0.08 | 8E-06 | **2** | 4E-05 | 0.8 | | | | | | | **3E-04** | **10** | **2** |
| UNDV+UHC | | | | | | | **1E-03** | **12** | 1E-04 | **3** | **2E-04** | **2** | | | |

Notes:

**BOLD** – Cancer Risk >1 x $10^{-4}$ or Hazard Index > 1.

Blank – Receptor not evaluated in this exposure area.

**Table 12**
**Risk Summary Detail**

| Receptor/Exposure Pathway | EUSA | | | NFA | | | SFA | | | UNDV | | | UNDV+UHC | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cancer Risk** | **Cancer Risk** | **Percent Contribution** | **Major Contributor** | **Cancer Risk** | **Percent Contribution** | **Major Contributor** | **Cancer Risk** | **Percent Contribution** | **Major Contributor** | **Cancer Risk** | **Percent Contribution** | **Major Contributor** | **Cancer Risk** | **Percent Contribution** | **Major Contributor** |
| **Utility Worker** | | | | | | | | | | | | | | | |
| Incidental Ingestion of Soil | 1.1E-07 | 87% | ARSENIC (83%) | 3.7E-06 | 76% | AROCLOR-1260 (54%) | 1.2E-06 | 82% | ARSENIC (79%) | 6.8E-06 | 83% | ARSENIC (92%) | | | |
| Dermal Contact with Soil | 1.6E-08 | 13% | ARSENIC (90%) | 1.1E-06 | 22% | AROCLOR-1260 (82%) | 2.4E-07 | 17% | ARSENIC (61%) | 1.4E-06 | 17% | ARSENIC (72%) | | | |
| Inhalation of Particulates | 1.0E-10 | <1% | CHROMIUM, HEXAVALENT (62%) | 8.1E-08 | 2% | ETHYLBENZENE (35%) | 2.1E-08 | 1% | NAPHTHALENE (71%) | 1.3E-09 | <1% | ARSENIC (56%) | | | |
| **Total Risk:** | **1E-07** | | | **5E-06** | | | **1E-06** | | | **8E-06** | | | | | |
| **Construction Worker** | | | | | | | | | | | | | | | |
| Incidental Ingestion of Soil | 1.1E-07 | 87% | ARSENIC (83%) | 3.7E-06 | 76% | AROCLOR-1260 (54%) | 1.2E-06 | 82% | ARSENIC (79%) | 6.8E-06 | 83% | ARSENIC (92%) | | | |
| Dermal Contact with Soil | 1.6E-08 | 13% | ARSENIC (90%) | 1.1E-06 | 22% | AROCLOR-1260 (82%) | 2.4E-07 | 17% | ARSENIC (61%) | 1.4E-06 | 17% | ARSENIC (72%) | | | |
| Inhalation of Particulates | 1.0E-10 | <1% | CHROMIUM, HEXAVALENT (62%) | 8.1E-08 | 2% | ETHYLBENZENE (35%) | 2.1E-08 | 1% | NAPHTHALENE (71%) | 1.3E-09 | <1% | ARSENIC (56%) | | | |
| **Total Risk:** | **1E-07** | | | **5E-06** | | | **1E-06** | | | **8E-06** | | | | | |
| **Outdoor Worker** | | | | | | | | | | | | | | | |
| Incidental Ingestion of Soil | 7.2E-07 | 83% | ARSENIC (85%) | 1.8E-05 | 72% | ARSENIC (60%) | 1.3E-05 | 73% | ARSENIC (58%) | 3.3E-05 | 81% | ARSENIC (94%) | | | |
| Dermal Contact with Soil | 1.4E-07 | 17% | ARSENIC (90%) | 5.7E-06 | 23% | ARSENIC (40%) | 4.3E-06 | 25% | BENZO(A)PYRENE (42%) | 7.6E-06 | 19% | ARSENIC (86%) | | | |
| Inhalation of Particulates | 2.1E-09 | <1% | CHROMIUM, HEXAVALENT (57%) | 1.3E-06 | 5% | ETHYLBENZENE (80%) | 4.5E-07 | 3% | NAPHTHALENE (49%) | 3.1E-08 | <1% | ARSENIC (39%) | | | |
| **Total Risk:** | **9E-07** | | | **2E-05** | | | **2E-05** | | | **4E-05** | | | | | |
| **Child Recreator** | | | | | | | | | | | | | | | |
| Incidental Ingestion of Soil | | | | | | | | | | | | | 7.3E-05 | 6% | ARSENIC (72%) |
| Dermal Contact with Soil | | | | | | | | | | | | | 1.1E-05 | <1% | ARSENIC (54%) |
| Inhalation of Particulates | | | | | | | | | | | | | 7.9E-09 | <1% | BENZO(A)ANTHRACENE (27%) |
| Incidental Ingestion of Sediment | | | | | | | | | | | | | 9.1E-04 | 73% | ARSENIC (79%) |
| Dermal Contact with Sediment | | | | | | | | | | | | | 9.4E-05 | 8% | ARSENIC (91%) |
| Dermal Contact with Surface Water | | | | | | | | | | | | | 1.6E-04 | 13% | BENZO(A)PYRENE (73%) |
| **Total Risk:** | | | | | | | | | | | | | **1E-03** | | |
| **Adolescent Recreator** | | | | | | | | | | | | | | | |
| Incidental Ingestion of Soil | | | | | | | | | | | | | 1.7E-05 | 12% | ARSENIC (86%) |
| Dermal Contact with Soil | | | | | | | | | | | | | 3.4E-06 | 2% | ARSENIC (71%) |
| Inhalation of Particulates | | | | | | | | | | | | | 1.1E-08 | <1% | ARSENIC (31%) |
| Incidental Ingestion of Sediment | | | | | | | | | | | | | 6.6E-05 | 47% | ARSENIC (90%) |
| Dermal Contact with Sediment | | | | | | | | | | | | | 2.9E-05 | 21% | ARSENIC (95%) |
| Dermal Contact with Surface Water | | | | | | | | | | | | | 2.5E-05 | 18% | BENZO(A)PYRENE (70%) |
| **Total Risk:** | | | | | | | | | | | | | **1E-04** | | |
| **Adult Recreator** | | | | | | | | | | | | | | | |
| Incidental Ingestion of Soil | | | | | | | | | | | | | 2.3E-05 | 12% | ARSENIC (94%) |
| Dermal Contact with Soil | | | | | | | | | | | | | 5.2E-06 | 3% | ARSENIC (86%) |
| Inhalation of Particulates | | | | | | | | | | | | | 2.2E-08 | <1% | ARSENIC (39%) |
| Incidental Ingestion of Sediment | | | | | | | | | | | | | 8.9E-05 | 48% | ARSENIC (96%) |
| Dermal Contact with Sediment | | | | | | | | | | | | | 5.3E-05 | 28% | ARSENIC (98%) |
| Dermal Contact with Surface Water | | | | | | | | | | | | | 1.6E-05 | 8% | BENZO(A)PYRENE (71%) |
| **Total Risk:** | | | | | | | | | | | | | **2E-04** | | |
| **Child and Adult Resident** | | | | | | | | | | | | | | | |
| Incidental Ingestion of Soil | 6.8E-06 | 90% | ARSENIC (47%) | 1.4E-04 | 82% | ARSENIC (40%) | 2.1E-04 | 79% | BENZO(A)PYRENE (53%) | 2.2E-04 | 85% | ARSENIC (75%) | | | |
| Dermal Contact with Soil | 7.0E-07 | 9% | ARSENIC (64%) | 2.5E-05 | 15% | ARSENIC (32%) | 5.2E-05 | 20% | BENZO(A)PYRENE (62%) | 3.8E-05 | 15% | ARSENIC (60%) | | | |
| Inhalation of Particulates | 2.0E-08 | <1% | CHROMIUM, HEXAVALENT (79%) | 6.6E-06 | 4% | ETHYLBENZENE (78%) | 2.3E-06 | <1% | NAPHTHALENE (47%) | 1.9E-07 | <1% | ARSENIC (32%) | | | |
| **Total Risk:** | **8E-06** | | | **2E-04** | | | **3E-04** | | | **3E-04** | | | | | |

**Table 12**
**Risk Summary Detail**

| Receptor/Exposure Pathway | EUSA | | | NFA | | | SFA | | | UNDV | | | UNDV+UHC | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Non-cancer Hazard** | **Non-cancer Hazard** | **Percent Contribution** | **Major Contributor** | **Non-cancer Hazard** | **Percent Contribution** | **Major Contributor** | **Non-cancer Hazard** | **Percent Contribution** | **Major Contributor** | **Non-cancer Hazard** | **Percent Contribution** | **Major Contributor** | **Non-cancer Hazard** | **Percent Contribution** | **Major Contributor** |
| **Utility Worker** | | | | | | | | | | | | | | | |
| Incidental Ingestion of Soil | 6.5E-03 | 98% | THALLIUM (57%) | 1.7E-01 | 66% | AROCLOR-1260 (86%) | 4.0E-02 | 72% | ANTIMONY (36%) | 6.4E-02 | 81% | ARSENIC (60%) | | | |
| Dermal Contact with Soil | 9.9E-05 | 1% | ARSENIC (88%) | 6.5E-02 | 26% | AROCLOR-1260 (98%) | 1.5E-03 | 3% | ARSENIC (60%) | 7.9E-03 | 10% | ARSENIC (79%) | | | |
| Inhalation of Particulates | 2.0E-06 | <1% | COBALT (71%) | 2.1E-02 | 8% | BENZENE, 1,3,5-TRIMETHYL- (32%) | 1.4E-02 | 25% | 1,2,4-TRIMETHYLBENZENE (52%) | 7.1E-03 | 9% | CYANIDE (99%) | | | |
| **Total Hazard:** | **7E-03** | | | **3E-01** | | | **6E-02** | | | **8E-02** | | | | | |
| **Construction Worker** | | | | | | | | | | | | | | | |
| Incidental Ingestion of Soil | 1.6E-01 | 98% | THALLIUM (57%) | 4.2E+00 | 66% | AROCLOR-1260 (86%) | 1.0E+00 | 72% | ANTIMONY (36%) | 1.6E+00 | 81% | ARSENIC (60%) | | | |
| Dermal Contact with Soil | 2.5E-03 | 1% | ARSENIC (88%) | 1.6E+00 | 26% | AROCLOR-1260 (98%) | 3.9E-02 | 3% | ARSENIC (60%) | 2.0E-01 | 10% | ARSENIC (79%) | | | |
| Inhalation of Particulates | 5.1E-05 | <1% | COBALT (71%) | 5.2E-01 | 8% | BENZENE, 1,3,5-TRIMETHYL- (32%) | 3.4E-01 | 25% | 1,2,4-TRIMETHYLBENZENE (52%) | 1.8E-01 | 9% | CYANIDE (99%) | | | |
| **Total Hazard:** | **2E-01** | | | **6E+00** | | | **1E+00** | | | **2E+00** | | | | | |
| **Outdoor Worker** | | | | | | | | | | | | | | | |
| Incidental Ingestion of Soil | 4.5E-02 | 98% | THALLIUM (57%) | 3.3E-01 | 66% | AROCLOR-1260 (37%) | 3.7E-01 | 81% | ANTIMONY (61%) | 4.6E-01 | 56% | ARSENIC (42%) | | | |
| Dermal Contact with Soil | 9.0E-04 | 2% | ARSENIC (89%) | 1.3E-01 | 27% | AROCLOR-1260 (55%) | 2.8E-02 | 6% | BENZO(A)PYRENE (60%) | 5.7E-02 | 7% | ARSENIC (71%) | | | |
| Inhalation of Particulates | 4.6E-05 | <1% | COBALT (71%) | 3.8E-02 | 8% | METHYLCYCLOHEXANE (45%) | 6.1E-02 | 13% | XYLENES (TOTAL) (44%) | 3.0E-01 | 37% | CYANIDE (100%) | | | |
| **Total Hazard:** | **5E-02** | | | **5E-01** | | | **5E-01** | | | **8E-01** | | | | | |
| **Child Recreator** | | | | | | | | | | | | | | | |
| Incidental Ingestion of Soil | | | | | | | | | | | | | 3.3E+00 | 26% | ARSENIC (42%) |
| Dermal Contact with Soil | | | | | | | | | | | | | 2.3E-01 | 2% | ARSENIC (71%) |
| Inhalation of Particulates | | | | | | | | | | | | | 2.0E-01 | 2% | CYANIDE (100%) |
| Incidental Ingestion of Sediment | | | | | | | | | | | | | 7.9E+00 | 63% | ARSENIC (70%) |
| Dermal Contact with Sediment | | | | | | | | | | | | | 6.7E-01 | 5% | ARSENIC (97%) |
| Dermal Contact with Surface Water | | | | | | | | | | | | | 2.5E-01 | 2% | BENZO(A)PYRENE (83%) |
| **Total Hazard:** | | | | | | | | | | | | | **1E+01** | | |
| **Adolescent Recreator** | | | | | | | | | | | | | | | |
| Incidental Ingestion of Soil | | | | | | | | | | | | | 5.6E-01 | 20% | ARSENIC (42%) |
| Dermal Contact with Soil | | | | | | | | | | | | | 5.3E-02 | 2% | ARSENIC (71%) |
| Inhalation of Particulates | | | | | | | | | | | | | 2.0E-01 | 7% | CYANIDE (100%) |
| Incidental Ingestion of Sediment | | | | | | | | | | | | | 1.3E+00 | 48% | ARSENIC (70%) |
| Dermal Contact with Sediment | | | | | | | | | | | | | 4.4E-01 | 16% | ARSENIC (97%) |
| Dermal Contact with Surface Water | | | | | | | | | | | | | 1.7E-01 | 6% | BENZO(A)PYRENE (83%) |
| **Total Hazard:** | | | | | | | | | | | | | **3E+00** | | |
| **Adult Recreator** | | | | | | | | | | | | | | | |
| Incidental Ingestion of Soil | | | | | | | | | | | | | 3.1E-01 | 18% | ARSENIC (42%) |
| Dermal Contact with Soil | | | | | | | | | | | | | 3.8E-02 | 2% | ARSENIC (71%) |
| Inhalation of Particulates | | | | | | | | | | | | | 2.0E-01 | 12% | CYANIDE (100%) |
| Incidental Ingestion of Sediment | | | | | | | | | | | | | 7.4E-01 | 43% | ARSENIC (70%) |
| Dermal Contact with Sediment | | | | | | | | | | | | | 3.2E-01 | 19% | ARSENIC (97%) |
| Dermal Contact with Surface Water | | | | | | | | | | | | | 1.2E-01 | 7% | BENZO(A)PYRENE (83%) |
| **Total Hazard:** | | | | | | | | | | | | | **2E+00** | | |
| **Child Resident** | | | | | | | | | | | | | | | |
| Incidental Ingestion of Soil | 7.5E-01 | 99% | THALLIUM (57%) | 5.4E+00 | 79% | AROCLOR-1260 (37%) | 6.2E+00 | 92% | ANTIMONY (61%) | 7.7E+00 | 80% | ARSENIC (42%) | | | |
| Dermal Contact with Soil | 8.4E-03 | 1% | ARSENIC (89%) | 1.2E+00 | 18% | AROCLOR-1260 (55%) | 2.6E-01 | 4% | BENZO(A)PYRENE (60%) | 5.3E-01 | 6% | ARSENIC (71%) | | | |
| Inhalation of Particulates | 2.2E-04 | <1% | COBALT (71%) | 1.8E-01 | 3% | METHYLCYCLOHEXANE (45%) | 2.8E-01 | 4% | XYLENES (TOTAL) (44%) | 1.4E+00 | 15% | CYANIDE (100%) | | | |
| **Total Hazard:** | **8E-01** | | | **7E+00** | | | **7E+00** | | | **1E+01** | | | | | |
| **Adult Resident** | | | | | | | | | | | | | | | |
| Incidental Ingestion of Soil | 7.0E-02 | 98% | THALLIUM (57%) | 5.1E-01 | 57% | AROCLOR-1260 (37%) | 5.8E-01 | 64% | ANTIMONY (61%) | 7.2E-01 | 32% | ARSENIC (42%) | | | |
| Dermal Contact with Soil | 1.4E-03 | 2% | ARSENIC (89%) | 2.1E-01 | 23% | AROCLOR-1260 (55%) | 4.4E-02 | 5% | BENZO(A)PYRENE (60%) | 8.9E-02 | 4% | ARSENIC (71%) | | | |
| Inhalation of Particulates | 2.2E-04 | <1% | COBALT (71%) | 1.8E-01 | 20% | METHYLCYCLOHEXANE (45%) | 2.8E-01 | 31% | XYLENES (TOTAL) (44%) | 1.4E+00 | 64% | CYANIDE (100%) | | | |
| **Total Hazard:** | **7E-02** | | | **9E-01** | | | **9E-01** | | | **2E+00** | | | | | |

Note:
Major Contributor – COPC contributing majority of risk, by receptor & pathway (% contribution)

## Table 13
## Risk Summary Detail by Media

| Receptor/Exposure Media | UNDV+UHC | |
|---|---|---|
| **Non-cancer Hazard** | **Non-cancer Hazard** | **Percent Contribution** |
| **Child Recreator** | | |
| Soil | 3.7E+00 | 30% |
| Sediment | 8.5E+00 | 68% |
| Surface Water | 2.5E-01 | 2% |
| **Total Hazard:** | **1E+01** | |
| **Adolescent Recreator** | | |
| Soil | 8.1E-01 | 29% |
| Sediment | 1.8E+00 | 64% |
| Surface Water | 1.7E-01 | 6% |
| **Total Hazard:** | **3E+00** | |
| **Adult Recreator** | | |
| Soil | 5.5E-01 | 32% |
| Sediment | 1.1E+00 | 61% |
| Surface Water | 1.2E-01 | 7% |
| **Total Hazard:** | **2E+00** | |
| **Cancer Risk** | **Cancer Risk** | **Percent Contribution** |
| **Child Recreator** | | |
| Soil | 8.4E-05 | 7% |
| Sediment | 1.0E-03 | 80% |
| Surface Water | 1.6E-04 | 13% |
| **Total Risk:** | **1E-03** | |
| **Adolescent Recreator** | | |
| Soil | 2.1E-05 | 15% |
| Sediment | 9.5E-05 | 67% |
| Surface Water | 2.5E-05 | 18% |
| **Total Risk:** | **1E-04** | |
| **Adult Recreator** | | |
| Soil | 2.8E-05 | 15% |
| Sediment | 1.4E-04 | 77% |
| Surface Water | 1.6E-05 | 8% |
| **Total Risk:** | **2E-04** | |

**Table 14.1**

**Cancer Risk and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | EUSA | | NFA | | SFA | | UNDV | | UNDV+UHC | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Cancer Risk | % Contribution | Cancer Risk | % Contribution | Cancer Risk | % Contribution | Cancer Risk | % Contribution | Cancer Risk | % Contribution |
| Utility Worker | Soil | **Metals** | | | | | | | | | | |
| | | ALUMINUM | | | NA | NA | NA | NA | NA | NA | | |
| | | ANTIMONY | | | NA | NA | NA | NA | NA | NA | | |
| | | ARSENIC | 1.0E-07 | **84%** | 9.9E-07 | **20%** | 1.1E-06 | **75%** | 7.2E-06 | **88%** | | |
| | | BARIUM | | | NA | NA | NA | NA | NA | NA | | |
| | | CADMIUM | | | 6.2E-13 | <1% | 8.6E-13 | <1% | 1.7E-12 | <1% | | |
| | | CHROMIUM, HEXAVALENT | 1.5E-08 | **12%** | 7.0E-07 | **14%** | 1.8E-08 | 1% | 1.7E-08 | <1% | | |
| | | COBALT | 2.8E-11 | <1% | 1.7E-11 | <1% | 1.7E-11 | <1% | 3.8E-11 | <1% | | |
| | | COPPER | | | NA | NA | | | NA | NA | | |
| | | CYANIDE | | | NA | NA | NA | NA | NA | NA | | |
| | | IRON | NA | NA | NA | NA | NA | NA | NA | NA | | |
| | | LEAD | | | NA | NA | NA | NA | NA | NA | | |
| | | MANGANESE | | | NA | NA | NA | NA | NA | NA | | |
| | | MERCURY | | | | | NA | NA | NA | NA | | |
| | | THALLIUM | NA | NA | NA | NA | NA | NA | NA | NA | | |
| | | VANADIUM | | | NA | NA | NA | NA | NA | NA | | |
| | | ZINC | | | NA | NA | NA | NA | NA | NA | | |
| | | **PEST/PCB** | | | | | | | | | | |
| | | ALDRIN | | | 8.2E-09 | <1% | | | | | | |
| | | AROCLOR-1254 | | | 3.2E-09 | <1% | 5.0E-09 | <1% | 7.4E-09 | <1% | | |
| | | AROCLOR-1260 | | | 3.0E-06 | **60%** | | | 3.1E-08 | <1% | | |
| | | DIELDRIN | | | 1.5E-08 | <1% | | | 5.4E-09 | <1% | | |
| | | **SVOCs** | | | | | | | | | | |
| | | 1,1'-BIPHENYL | | | 2.0E-10 | <1% | | | | | | |
| | | 2-METHYLNAPHTHALENE | | | NA | NA | NA | NA | | | | |
| | | BENZO(A)ANTHRACENE | | | 1.4E-08 | <1% | 1.8E-08 | 1% | 1.2E-08 | <1% | | |
| | | BENZO(A)PYRENE | 4.2E-09 | 3% | 1.2E-07 | 2% | 1.6E-07 | **11%** | 1.4E-07 | 2% | | |
| | | BENZO(B)FLUORANTHENE | | | 1.3E-08 | <1% | 2.6E-08 | 2% | 2.1E-08 | <1% | | |
| | | BENZO(K)FLUORANTHENE | | | 9.1E-10 | <1% | 1.7E-09 | <1% | 1.5E-09 | <1% | | |
| | | CARBAZOLE | | | 7.2E-10 | <1% | | | | | | |
| | | CHRYSENE | | | 1.3E-10 | <1% | 2.5E-10 | <1% | 1.7E-10 | <1% | | |
| | | DIBENZO(A,H)ANTHRACENE | 1.2E-09 | <1% | 2.6E-08 | <1% | 8.1E-08 | **6%** | 2.2E-08 | <1% | | |
| | | DIBENZOFURAN | | | NA | NA | | | | | | |
| | | INDENO(1,2,3-CD)PYRENE | | | 6.6E-09 | <1% | 1.5E-08 | 1% | 9.2E-09 | <1% | | |
| | | NAPHTHALENE | | | 2.1E-08 | <1% | 1.5E-08 | 1% | | | | |
| | | PENTACHLOROPHENOL | | | | | 8.7E-09 | <1% | 6.9E-07 | **8%** | | |
| | | **VOCs** | | | | | | | | | | |
| | | BENZENE | | | 2.9E-10 | <1% | 1.6E-09 | <1% | | | | |
| | | ETHYLBENZENE | | | 3.9E-08 | <1% | 6.1E-09 | <1% | | | | |
| | | METHYLCYCLOHEXANE | | | NA | NA | | | | | | |
| | | TRICHLOROETHYLENE (TCE) | | | 2.3E-10 | <1% | | | | | | |
| | | XYLENES (TOTAL) | | | NA | NA | NA | NA | | | | |
| | | **TICs** | | | | | | | | | | |
| | | 1,2,4-TRIMETHYLBENZENE | | | NA | NA | NA | NA | | | | |
| | | BENZENE, 1,2,3-TRIMETHYL- | | | NA | NA | NA | NA | | | | |
| | | BENZENE, 1,3,5-TRIMETHYL- | | | NA | NA | NA | NA | | | | |
| | | NAPHTHALENE, 1-METHYL- | | | 6.7E-09 | <1% | | | | | | |
| | | **Total Risks - Soil** | **1.2E-07** | | **4.9E-06** | | **1.4E-06** | | **8.2E-06** | | | |
| | | **Total Risks - Utility Worker** | **1E-07** | | **5E-06** | | **1E-06** | | **8E-06** | | | |

**Table 14.1**

**Cancer Risk and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | EUSA | | NFA | | SFA | | UNDV | | UNDV+UHC | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Cancer Risk | % Contribution | Cancer Risk | % Contribution | Cancer Risk | % Contribution | Cancer Risk | % Contribution | Cancer Risk | % Contribution |
| Construction Worker | Soil | **Metals** | | | | | | | | | | |
| | | ALUMINUM | | | NA | NA | NA | NA | NA | NA | | |
| | | ANTIMONY | | | NA | NA | NA | NA | NA | NA | | |
| | | ARSENIC | 1.0E-07 | **84%** | 9.9E-07 | **20%** | 1.1E-06 | **75%** | 7.2E-06 | **88%** | | |
| | | BARIUM | | | NA | NA | NA | NA | NA | NA | | |
| | | CADMIUM | | | 6.2E-13 | <1% | 8.6E-13 | <1% | 1.7E-12 | <1% | | |
| | | CHROMIUM, HEXAVALENT | 1.5E-08 | **12%** | 7.0E-07 | **14%** | 1.8E-08 | 1% | 1.7E-08 | <1% | | |
| | | COBALT | 2.8E-11 | <1% | 1.7E-11 | <1% | 1.7E-11 | <1% | 3.8E-11 | <1% | | |
| | | COPPER | | | NA | NA | | | NA | NA | | |
| | | CYANIDE | | | NA | NA | NA | NA | NA | NA | | |
| | | IRON | NA | NA | NA | NA | NA | NA | NA | NA | | |
| | | LEAD | | | NA | NA | NA | NA | NA | NA | | |
| | | MANGANESE | | | NA | NA | NA | NA | NA | NA | | |
| | | MERCURY | | | | | NA | NA | NA | NA | | |
| | | THALLIUM | NA | NA | NA | NA | NA | NA | NA | NA | | |
| | | VANADIUM | | | NA | NA | NA | NA | NA | NA | | |
| | | ZINC | | | NA | NA | NA | NA | NA | NA | | |
| | | **PEST/PCB** | | | | | | | | | | |
| | | ALDRIN | | | 8.2E-09 | <1% | | | | | | |
| | | AROCLOR-1254 | | | 3.2E-09 | <1% | 5.0E-09 | <1% | 7.4E-09 | <1% | | |
| | | AROCLOR-1260 | | | 3.0E-06 | **60%** | | | 3.1E-08 | <1% | | |
| | | DIELDRIN | | | 1.5E-08 | <1% | | | 5.4E-09 | <1% | | |
| | | **SVOCs** | | | | | | | | | | |
| | | 1,1'-BIPHENYL | | | 2.0E-10 | <1% | | | | | | |
| | | 2-METHYLNAPHTHALENE | | | NA | NA | NA | NA | | | | |
| | | BENZO(A)ANTHRACENE | | | 1.4E-08 | <1% | 1.8E-08 | 1% | 1.2E-08 | <1% | | |
| | | BENZO(A)PYRENE | 4.2E-09 | 3% | 1.2E-07 | 2% | 1.6E-07 | **11%** | 1.4E-07 | 2% | | |
| | | BENZO(B)FLUORANTHENE | | | 1.3E-08 | <1% | 2.6E-08 | 2% | 2.1E-08 | <1% | | |
| | | BENZO(K)FLUORANTHENE | | | 9.1E-10 | <1% | 1.7E-09 | <1% | 1.5E-09 | <1% | | |
| | | CARBAZOLE | | | 7.2E-10 | <1% | | | | | | |
| | | CHRYSENE | | | 1.3E-10 | <1% | 2.5E-10 | <1% | 1.7E-10 | <1% | | |
| | | DIBENZO(A,H)ANTHRACENE | 1.2E-09 | <1% | 2.6E-08 | <1% | 8.1E-08 | **6%** | 2.2E-08 | <1% | | |
| | | DIBENZOFURAN | | | NA | NA | | | | | | |
| | | INDENO(1,2,3-CD)PYRENE | | | 6.6E-09 | <1% | 1.5E-08 | 1% | 9.2E-09 | <1% | | |
| | | NAPHTHALENE | | | 2.1E-08 | <1% | 1.5E-08 | 1% | | | | |
| | | PENTACHLOROPHENOL | | | | | 8.7E-09 | <1% | 6.9E-07 | **8%** | | |
| | | **VOCs** | | | | | | | | | | |
| | | BENZENE | | | 2.9E-10 | <1% | 1.6E-09 | <1% | | | | |
| | | ETHYLBENZENE | | | 3.9E-08 | <1% | 6.1E-09 | <1% | | | | |
| | | METHYLCYCLOHEXANE | | | NA | NA | | | | | | |
| | | TRICHLOROETHYLENE (TCE) | | | 2.3E-10 | <1% | | | | | | |
| | | XYLENES (TOTAL) | | | NA | NA | NA | NA | | | | |
| | | **TICs** | | | | | | | | | | |
| | | 1,2,4-TRIMETHYLBENZENE | | | NA | NA | NA | NA | | | | |
| | | BENZENE, 1,2,3-TRIMETHYL- | | | NA | NA | NA | NA | | | | |
| | | BENZENE, 1,3,5-TRIMETHYL- | | | NA | NA | NA | NA | | | | |
| | | NAPHTHALENE, 1-METHYL- | | | 6.7E-09 | <1% | | | | | | |
| | | **Total Risks - Soil** | **1.2E-07** | | **4.9E-06** | | **1.4E-06** | | **8.2E-06** | | | |
| | | **Total Risks - Construction Worker** | **1E-07** | | **5E-06** | | **1E-06** | | **8E-06** | | | |

**Table 14.1**

**Cancer Risk and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | EUSA | | NFA | | SFA | | UNDV | | UNDV+UHC | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Cancer Risk | % Contribution | Cancer Risk | % Contribution | Cancer Risk | % Contribution | Cancer Risk | % Contribution | Cancer Risk | % Contribution |
| Outdoor Worker | Soil | **Metals** | | | | | | | | | | |
| | | ALUMINUM | | | NA | NA | NA | NA | NA | NA | | |
| | | ANTIMONY | | | NA | NA | NA | NA | NA | NA | | |
| | | ARSENIC | 7.4E-07 | **85%** | 1.3E-05 | **52%** | 8.9E-06 | **51%** | 3.7E-05 | **92%** | | |
| | | BARIUM | | | NA | NA | NA | NA | NA | NA | | |
| | | CADMIUM | | | | | 5.1E-11 | <1% | 6.0E-11 | <1% | | |
| | | CHROMIUM, HEXAVALENT | 8.5E-08 | **10%** | 1.0E-06 | 4% | 2.9E-07 | 2% | 1.2E-07 | <1% | | |
| | | COBALT | 6.4E-10 | <1% | 4.8E-10 | <1% | 4.6E-10 | <1% | 1.7E-09 | <1% | | |
| | | COPPER | | | NA | NA | | | NA | NA | | |
| | | CYANIDE | | | NA | NA | NA | NA | NA | NA | | |
| | | IRON | NA | NA | NA | NA | NA | NA | NA | NA | | |
| | | LEAD | | | NA | NA | NA | NA | NA | NA | | |
| | | MANGANESE | | | NA | NA | NA | NA | NA | NA | | |
| | | MERCURY | | | | | | | NA | NA | | |
| | | THALLIUM | NA | NA | NA | NA | NA | NA | NA | NA | | |
| | | VANADIUM | | | NA | NA | NA | NA | NA | NA | | |
| | | ZINC | | | | | NA | NA | NA | NA | | |
| | | **PEST/PCB** | | | | | | | | | | |
| | | AROCLOR-1248 | | | 4.4E-08 | <1% | | | | | | |
| | | AROCLOR-1254 | | | 3.7E-08 | <1% | 5.0E-08 | <1% | 6.7E-08 | <1% | | |
| | | AROCLOR-1260 | | | 2.9E-06 | **12%** | | | 3.8E-07 | <1% | | |
| | | DIELDRIN | | | 2.2E-07 | <1% | | | 6.5E-08 | <1% | | |
| | | **SVOCs** | | | | | | | | | | |
| | | BENZO(A)ANTHRACENE | | | 9.1E-08 | <1% | 4.7E-07 | 3% | 1.4E-07 | <1% | | |
| | | BENZO(A)PYRENE | 3.1E-08 | 4% | 4.5E-07 | 2% | 5.1E-06 | **30%** | 1.6E-06 | 4% | | |
| | | BENZO(B)FLUORANTHENE | | | 9.8E-08 | <1% | 7.8E-07 | 5% | 1.9E-07 | <1% | | |
| | | BENZO(K)FLUORANTHENE | | | 8.3E-09 | <1% | 3.7E-08 | <1% | 1.3E-08 | <1% | | |
| | | CHRYSENE | | | 3.2E-10 | <1% | 6.4E-09 | <1% | 1.9E-09 | <1% | | |
| | | DIBENZO(A,H)ANTHRACENE | 9.0E-09 | 1% | 2.9E-07 | 1% | 6.8E-07 | 4% | 2.5E-07 | <1% | | |
| | | INDENO(1,2,3-CD)PYRENE | | | 4.2E-08 | <1% | 2.4E-07 | 1% | 8.1E-08 | <1% | | |
| | | NAPHTHALENE | | | 4.6E-08 | <1% | 2.2E-07 | 1% | | | | |
| | | PENTACHLOROPHENOL | | | | | | | 1.2E-07 | <1% | | |
| | | **VOCs** | | | | | | | | | | |
| | | BENZENE | | | 6.0E-08 | <1% | 3.9E-08 | <1% | | | | |
| | | ETHYLBENZENE | | | 1.2E-06 | **5%** | 2.0E-07 | 1% | | | | |
| | | METHYLCYCLOHEXANE | | | NA | NA | | | | | | |
| | | TRICHLOROETHYLENE (TCE) | | | 6.1E-09 | <1% | | | | | | |
| | | XYLENES (TOTAL) | | | | | NA | NA | | | | |
| | | **TICs** | | | | | | | | | | |
| | | 1,1-BIPHENYL, 2,3,4,4,5,5-HE | | | 3.7E-06 | **15%** | | | | | | |
| | | BENZO[J]FLUORANTHENE | | | 1.6E-06 | **7%** | 3.6E-07 | 2% | | | | |
| | | **Total Risks - Soil** | **8.6E-07** | | **2.5E-05** | | **1.7E-05** | | **4.0E-05** | | | |
| | | **Total Risks - Outdoor Worker** | **9E-07** | | **2E-05** | | **2E-05** | | **4E-05** | | | |

**Table 14.1**

**Cancer Risk and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | EUSA | | NFA | | SFA | | UNDV | | UNDV+UHC | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Cancer Risk | % Contribution | Cancer Risk | % Contribution | Cancer Risk | % Contribution | Cancer Risk | % Contribution | Cancer Risk | % Contribution |
| Child Recreator | Soil | **Metals** | | | | | | | | | | |
| | | ALUMINUM | | | | | | | | | NA | NA |
| | | ANTIMONY | | | | | | | | | NA | NA |
| | | ARSENIC | | | | | | | | | 5.9E-05 | **70%** |
| | | BARIUM | | | | | | | | | NA | NA |
| | | CADMIUM | | | | | | | | | 9.6E-12 | <1% |
| | | CHROMIUM, HEXAVALENT | | | | | | | | | 1.4E-06 | 2% |
| | | COBALT | | | | | | | | | 2.7E-10 | <1% |
| | | COPPER | | | | | | | | | NA | NA |
| | | CYANIDE | | | | | | | | | NA | NA |
| | | IRON | | | | | | | | | NA | NA |
| | | LEAD | | | | | | | | | NA | NA |
| | | MANGANESE | | | | | | | | | NA | NA |
| | | MERCURY | | | | | | | | | NA | NA |
| | | THALLIUM | | | | | | | | | NA | NA |
| | | VANADIUM | | | | | | | | | NA | NA |
| | | ZINC | | | | | | | | | NA | NA |
| | | **PEST/PCB** | | | | | | | | | | |
| | | AROCLOR-1254 | | | | | | | | | 9.3E-08 | <1% |
| | | AROCLOR-1260 | | | | | | | | | 5.2E-07 | <1% |
| | | DIELDRIN | | | | | | | | | 9.7E-08 | <1% |
| | | **SVOCs** | | | | | | | | | | |
| | | BENZO(A)ANTHRACENE | | | | | | | | | 1.4E-06 | 2% |
| | | BENZO(A)PYRENE | | | | | | | | | 1.6E-05 | **19%** |
| | | BENZO(B)FLUORANTHENE | | | | | | | | | 2.0E-06 | 2% |
| | | BENZO(K)FLUORANTHENE | | | | | | | | | 1.4E-07 | <1% |
| | | CHRYSENE | | | | | | | | | 2.0E-08 | <1% |
| | | DIBENZO(A,H)ANTHRACENE | | | | | | | | | 2.6E-06 | 3% |
| | | INDENO(1,2,3-CD)PYRENE | | | | | | | | | 8.3E-07 | <1% |
| | | PENTACHLOROPHENOL | | | | | | | | | 1.6E-07 | <1% |
| | | **Total Risks - Soil** | | | | | | | | | **8.4E-05** | |

**Table 14.1**

**Cancer Risk and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | EUSA | | NFA | | SFA | | UNDV | | UNDV+UHC | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Cancer Risk | % Contribution | Cancer Risk | % Contribution | Cancer Risk | % Contribution | Cancer Risk | % Contribution | Cancer Risk | % Contribution |
| | Sediment | **Metals** | | | | | | | | | | |
| | | ALUMINUM | | | | | | | | | NA | NA |
| | | ANTIMONY | | | | | | | | | NA | NA |
| | | ARSENIC | | | | | | | | | 8.0E-04 | **80%** |
| | | BARIUM | | | | | | | | | NA | NA |
| | | CHROMIUM | | | | | | | | | 1.6E-04 | **16%** |
| | | COBALT | | | | | | | | | NA | NA |
| | | COPPER | | | | | | | | | NA | NA |
| | | CYANIDE | | | | | | | | | NA | NA |
| | | IRON | | | | | | | | | NA | NA |
| | | LEAD | | | | | | | | | NA | NA |
| | | THALLIUM | | | | | | | | | NA | NA |
| | | **PEST/PCB** | | | | | | | | | | |
| | | AROCLOR-1254 | | | | | | | | | 3.2E-07 | <1% |
| | | AROCLOR-1260 | | | | | | | | | 1.9E-07 | <1% |
| | | **SVOCs** | | | | | | | | | | |
| | | BENZO(A)ANTHRACENE | | | | | | | | | 2.7E-06 | <1% |
| | | BENZO(A)PYRENE | | | | | | | | | 2.7E-05 | 3% |
| | | BENZO(B)FLUORANTHENE | | | | | | | | | 2.6E-06 | <1% |
| | | BENZO(K)FLUORANTHENE | | | | | | | | | 3.6E-07 | <1% |
| | | CHRYSENE | | | | | | | | | 4.3E-08 | <1% |
| | | DIBENZO(A,H)ANTHRACENE | | | | | | | | | 5.3E-06 | <1% |
| | | INDENO(1,2,3-CD)PYRENE | | | | | | | | | 1.8E-06 | <1% |
| | | **TICs** | | | | | | | | | | |
| | | BENZO[J]FLUORANTHENE | | | | | | | | | 8.1E-07 | <1% |
| | | **Total Risks - Sediment** | | | | | | | | | **1.0E-03** | |
| | Surface Water | **Metals** | | | | | | | | | | |
| | | ANTIMONY | | | | | | | | | NA | NA |
| | | ARSENIC | | | | | | | | | 7.6E-07 | <1% |
| | | BARIUM | | | | | | | | | NA | NA |
| | | CHROMIUM | | | | | | | | | 3.9E-06 | 2% |
| | | CYANIDE | | | | | | | | | NA | NA |
| | | IRON | | | | | | | | | NA | NA |
| | | LEAD | | | | | | | | | NA | NA |
| | | MANGANESE | | | | | | | | | NA | NA |
| | | THALLIUM | | | | | | | | | NA | NA |
| | | VANADIUM | | | | | | | | | NA | NA |
| | | **SVOCs** | | | | | | | | | | |
| | | BENZO(A)PYRENE | | | | | | | | | 1.2E-04 | **73%** |
| | | BENZO(B)FLUORANTHENE | | | | | | | | | 1.4E-05 | **9%** |
| | | INDENO(1,2,3-CD)PYRENE | | | | | | | | | 2.4E-05 | **15%** |
| | | NAPHTHALENE | | | | | | | | | NA | NA |
| | | **VOCs** | | | | | | | | | | |
| | | 1,4-DICHLOROBENZENE | | | | | | | | | 2.2E-09 | <1% |
| | | BENZENE | | | | | | | | | 3.8E-08 | <1% |
| | | DICHLOROMETHANE | | | | | | | | | 2.9E-09 | <1% |
| | | VINYL CHLORIDE | | | | | | | | | 1.4E-06 | <1% |
| | | **Total Risks - Surface Water** | | | | | | | | | **1.6E-04** | |
| | | **Total Risks - Child Recreator** | | | | | | | | | **1E-03** | |

**Table 14.1**

**Cancer Risk and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | EUSA | | NFA | | SFA | | UNDV | | UNDV+UHC | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Cancer Risk | % Contribution | Cancer Risk | % Contribution | Cancer Risk | % Contribution | Cancer Risk | % Contribution | Cancer Risk | % Contribution |
| Adolescent Recreator | Soil | **Metals** | | | | | | | | | | |
| | | ALUMINUM | | | | | | | | | NA | NA |
| | | ANTIMONY | | | | | | | | | NA | NA |
| | | ARSENIC | | | | | | | | | 1.7E-05 | **83%** |
| | | BARIUM | | | | | | | | | NA | NA |
| | | CADMIUM | | | | | | | | | 1.6E-11 | <1% |
| | | CHROMIUM, HEXAVALENT | | | | | | | | | 1.7E-07 | <1% |
| | | COBALT | | | | | | | | | 4.6E-10 | <1% |
| | | COPPER | | | | | | | | | NA | NA |
| | | CYANIDE | | | | | | | | | NA | NA |
| | | IRON | | | | | | | | | NA | NA |
| | | LEAD | | | | | | | | | NA | NA |
| | | MANGANESE | | | | | | | | | NA | NA |
| | | MERCURY | | | | | | | | | NA | NA |
| | | THALLIUM | | | | | | | | | NA | NA |
| | | VANADIUM | | | | | | | | | NA | NA |
| | | ZINC | | | | | | | | | NA | NA |
| | | **PEST/PCB** | | | | | | | | | | |
| | | AROCLOR-1254 | | | | | | | | | 2.9E-08 | <1% |
| | | AROCLOR-1260 | | | | | | | | | 1.6E-07 | <1% |
| | | DIELDRIN | | | | | | | | | 2.9E-08 | <1% |
| | | **SVOCs** | | | | | | | | | | |
| | | BENZO(A)ANTHRACENE | | | | | | | | | 1.8E-07 | <1% |
| | | BENZO(A)PYRENE | | | | | | | | | 2.1E-06 | **10%** |
| | | BENZO(B)FLUORANTHENE | | | | | | | | | 2.5E-07 | 1% |
| | | BENZO(K)FLUORANTHENE | | | | | | | | | 1.8E-08 | <1% |
| | | CHRYSENE | | | | | | | | | 2.6E-09 | <1% |
| | | DIBENZO(A,H)ANTHRACENE | | | | | | | | | 3.3E-07 | 2% |
| | | INDENO(1,2,3-CD)PYRENE | | | | | | | | | 1.1E-07 | <1% |
| | | PENTACHLOROPHENOL | | | | | | | | | 5.1E-08 | <1% |
| | | **Total Risks - Soil** | | | | | | | | | **2.1E-05** | |

**Table 14.1**

**Cancer Risk and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | EUSA | | NFA | | SFA | | UNDV | | UNDV+UHC | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Cancer Risk | % Contribution | Cancer Risk | % Contribution | Cancer Risk | % Contribution | Cancer Risk | % Contribution | Cancer Risk | % Contribution |
| | Sediment | **Metals** | | | | | | | | | | |
| | | ALUMINUM | | | | | | | | | NA | NA |
| | | ANTIMONY | | | | | | | | | NA | NA |
| | | ARSENIC | | | | | | | | | 8.7E-05 | **92%** |
| | | BARIUM | | | | | | | | | NA | NA |
| | | CHROMIUM | | | | | | | | | 5.3E-06 | **6%** |
| | | COBALT | | | | | | | | | NA | NA |
| | | COPPER | | | | | | | | | NA | NA |
| | | CYANIDE | | | | | | | | | NA | NA |
| | | IRON | | | | | | | | | NA | NA |
| | | LEAD | | | | | | | | | NA | NA |
| | | THALLIUM | | | | | | | | | NA | NA |
| | | **PEST/PCB** | | | | | | | | | | |
| | | AROCLOR-1254 | | | | | | | | | 4.6E-08 | <1% |
| | | AROCLOR-1260 | | | | | | | | | 2.7E-08 | <1% |
| | | **SVOCs** | | | | | | | | | | |
| | | BENZO(A)ANTHRACENE | | | | | | | | | 1.6E-07 | <1% |
| | | BENZO(A)PYRENE | | | | | | | | | 1.6E-06 | 2% |
| | | BENZO(B)FLUORANTHENE | | | | | | | | | 1.5E-07 | <1% |
| | | BENZO(K)FLUORANTHENE | | | | | | | | | 2.1E-08 | <1% |
| | | CHRYSENE | | | | | | | | | 2.5E-09 | <1% |
| | | DIBENZO(A,H)ANTHRACENE | | | | | | | | | 3.1E-07 | <1% |
| | | INDENO(1,2,3-CD)PYRENE | | | | | | | | | 1.1E-07 | <1% |
| | | **TICs** | | | | | | | | | | |
| | | BENZO[J]FLUORANTHENE | | | | | | | | | 1.1E-07 | <1% |
| | | **Total Risks - Sediment** | | | | | | | | | **9.5E-05** | |
| | Surface Water | **Metals** | | | | | | | | | | |
| | | ANTIMONY | | | | | | | | | NA | NA |
| | | ARSENIC | | | | | | | | | 2.4E-07 | <1% |
| | | BARIUM | | | | | | | | | NA | NA |
| | | CHROMIUM | | | | | | | | | 5.8E-07 | 2% |
| | | CYANIDE | | | | | | | | | NA | NA |
| | | IRON | | | | | | | | | NA | NA |
| | | LEAD | | | | | | | | | NA | NA |
| | | MANGANESE | | | | | | | | | NA | NA |
| | | THALLIUM | | | | | | | | | NA | NA |
| | | VANADIUM | | | | | | | | | NA | NA |
| | | **SVOCs** | | | | | | | | | | |
| | | BENZO(A)PYRENE | | | | | | | | | 1.8E-05 | **70%** |
| | | BENZO(B)FLUORANTHENE | | | | | | | | | 2.1E-06 | **8%** |
| | | INDENO(1,2,3-CD)PYRENE | | | | | | | | | 3.6E-06 | **14%** |
| | | NAPHTHALENE | | | | | | | | | NA | NA |
| | | **VOCs** | | | | | | | | | | |
| | | 1,4-DICHLOROBENZENE | | | | | | | | | 7.2E-10 | <1% |
| | | BENZENE | | | | | | | | | 1.2E-08 | <1% |
| | | DICHLOROMETHANE | | | | | | | | | 4.4E-10 | <1% |
| | | VINYL CHLORIDE | | | | | | | | | 9.4E-07 | 4% |
| | | **Total Risks - Surface Water** | | | | | | | | | **2.5E-05** | |
| | | **Total Risks - Adolescent Recreator** | | | | | | | | | **1E-04** | |

**Table 14.1**

**Cancer Risk and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | EUSA | | NFA | | SFA | | UNDV | | UNDV+UHC | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Cancer Risk | % Contribution | Cancer Risk | % Contribution | Cancer Risk | % Contribution | Cancer Risk | % Contribution | Cancer Risk | % Contribution |
| Adult Recreator | Soil | **Metals** | | | | | | | | | | |
| | | ALUMINUM | | | | | | | | | NA | NA |
| | | ANTIMONY | | | | | | | | | NA | NA |
| | | ARSENIC | | | | | | | | | 2.6E-05 | **92%** |
| | | BARIUM | | | | | | | | | NA | NA |
| | | CADMIUM | | | | | | | | | 4.2E-11 | <1% |
| | | CHROMIUM, HEXAVALENT | | | | | | | | | 8.1E-08 | <1% |
| | | COBALT | | | | | | | | | 1.2E-09 | <1% |
| | | COPPER | | | | | | | | | NA | NA |
| | | CYANIDE | | | | | | | | | NA | NA |
| | | IRON | | | | | | | | | NA | NA |
| | | LEAD | | | | | | | | | NA | NA |
| | | MANGANESE | | | | | | | | | NA | NA |
| | | MERCURY | | | | | | | | | NA | NA |
| | | THALLIUM | | | | | | | | | NA | NA |
| | | VANADIUM | | | | | | | | | NA | NA |
| | | ZINC | | | | | | | | | NA | NA |
| | | **PEST/PCB** | | | | | | | | | | |
| | | AROCLOR-1254 | | | | | | | | | 4.7E-08 | <1% |
| | | AROCLOR-1260 | | | | | | | | | 2.6E-07 | <1% |
| | | DIELDRIN | | | | | | | | | 4.5E-08 | <1% |
| | | **SVOCs** | | | | | | | | | | |
| | | BENZO(A)ANTHRACENE | | | | | | | | | 9.5E-08 | <1% |
| | | BENZO(A)PYRENE | | | | | | | | | 1.1E-06 | 4% |
| | | BENZO(B)FLUORANTHENE | | | | | | | | | 1.3E-07 | <1% |
| | | BENZO(K)FLUORANTHENE | | | | | | | | | 9.2E-09 | <1% |
| | | CHRYSENE | | | | | | | | | 1.3E-09 | <1% |
| | | DIBENZO(A,H)ANTHRACENE | | | | | | | | | 1.7E-07 | <1% |
| | | INDENO(1,2,3-CD)PYRENE | | | | | | | | | 5.6E-08 | <1% |
| | | PENTACHLOROPHENOL | | | | | | | | | 8.3E-08 | <1% |
| | | **Total Risks - Soil** | | | | | | | | | **2.8E-05** | |

**Table 14.1**

**Cancer Risk and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | EUSA | | NFA | | SFA | | UNDV | | UNDV+UHC | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Cancer Risk | % Contribution | Cancer Risk | % Contribution | Cancer Risk | % Contribution | Cancer Risk | % Contribution | Cancer Risk | % Contribution |
| | Sediment | **Metals** | | | | | | | | | | |
| | | ALUMINUM | | | | | | | | | NA | NA |
| | | ANTIMONY | | | | | | | | | NA | NA |
| | | ARSENIC | | | | | | | | | 1.4E-04 | **97%** |
| | | BARIUM | | | | | | | | | NA | NA |
| | | CHROMIUM | | | | | | | | | 2.6E-06 | 2% |
| | | COBALT | | | | | | | | | NA | NA |
| | | COPPER | | | | | | | | | NA | NA |
| | | CYANIDE | | | | | | | | | NA | NA |
| | | IRON | | | | | | | | | NA | NA |
| | | LEAD | | | | | | | | | NA | NA |
| | | THALLIUM | | | | | | | | | NA | NA |
| | | **PEST/PCB** | | | | | | | | | | |
| | | AROCLOR-1254 | | | | | | | | | 7.7E-08 | <1% |
| | | AROCLOR-1260 | | | | | | | | | 4.5E-08 | <1% |
| | | **SVOCs** | | | | | | | | | | |
| | | BENZO(A)ANTHRACENE | | | | | | | | | 8.8E-08 | <1% |
| | | BENZO(A)PYRENE | | | | | | | | | 8.9E-07 | <1% |
| | | BENZO(B)FLUORANTHENE | | | | | | | | | 8.6E-08 | <1% |
| | | BENZO(K)FLUORANTHENE | | | | | | | | | 1.2E-08 | <1% |
| | | CHRYSENE | | | | | | | | | 1.4E-09 | <1% |
| | | DIBENZO(A,H)ANTHRACENE | | | | | | | | | 1.8E-07 | <1% |
| | | INDENO(1,2,3-CD)PYRENE | | | | | | | | | 6.1E-08 | <1% |
| | | **TICs** | | | | | | | | | | |
| | | BENZO[J]FLUORANTHENE | | | | | | | | | 1.9E-07 | <1% |
| | | **Total Risks - Sediment** | | | | | | | | | **1.4E-04** | |
| | Surface Water | **Metals** | | | | | | | | | | |
| | | ANTIMONY | | | | | | | | | NA | NA |
| | | ARSENIC | | | | | | | | | 4.6E-07 | 3% |
| | | BARIUM | | | | | | | | | NA | NA |
| | | CHROMIUM | | | | | | | | | 3.6E-07 | 2% |
| | | CYANIDE | | | | | | | | | NA | NA |
| | | IRON | | | | | | | | | NA | NA |
| | | LEAD | | | | | | | | | NA | NA |
| | | MANGANESE | | | | | | | | | NA | NA |
| | | THALLIUM | | | | | | | | | NA | NA |
| | | VANADIUM | | | | | | | | | NA | NA |
| | | **SVOCs** | | | | | | | | | | |
| | | BENZO(A)PYRENE | | | | | | | | | 1.1E-05 | **71%** |
| | | BENZO(B)FLUORANTHENE | | | | | | | | | 1.3E-06 | **8%** |
| | | INDENO(1,2,3-CD)PYRENE | | | | | | | | | 2.3E-06 | **15%** |
| | | NAPHTHALENE | | | | | | | | | NA | NA |
| | | **VOCs** | | | | | | | | | | |
| | | 1,4-DICHLOROBENZENE | | | | | | | | | 1.3E-09 | <1% |
| | | BENZENE | | | | | | | | | 2.3E-08 | <1% |
| | | DICHLOROMETHANE | | | | | | | | | 2.8E-10 | <1% |
| | | VINYL CHLORIDE | | | | | | | | | 3.0E-08 | <1% |
| | | **Total Risks - Surface Water** | | | | | | | | | **1.6E-05** | |
| | | **Total Risks - Adult Recreator** | | | | | | | | | **2E-04** | |

**Table 14.1**

**Cancer Risk and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | EUSA | | NFA | | SFA | | UNDV | | UNDV+UHC | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Cancer Risk | % Contribution | Cancer Risk | % Contribution | Cancer Risk | % Contribution | Cancer Risk | % Contribution | Cancer Risk | % Contribution |
| Resident | Soil | **Metals** | | | | | | | | | | |
| | | ALUMINUM | | | NA | NA | NA | NA | NA | NA | | |
| | | ANTIMONY | | | NA | NA | NA | NA | NA | NA | | |
| | | ARSENIC | 3.6E-06 | **48%** | 6.3E-05 | **37%** | 4.4E-05 | **17%** | 1.8E-04 | **72%** | | |
| | | BARIUM | | | NA | NA | NA | NA | NA | NA | | |
| | | CADMIUM | | | | | 2.5E-10 | <1% | 2.9E-10 | <1% | | |
| | | CHROMIUM, HEXAVALENT | 2.8E-06 | **37%** | 3.4E-05 | **20%** | 9.5E-06 | 4% | 3.8E-06 | 2% | | |
| | | COBALT | 3.1E-09 | <1% | 2.3E-09 | <1% | 2.2E-09 | <1% | 8.3E-09 | <1% | | |
| | | COPPER | | | NA | NA | | | NA | NA | | |
| | | CYANIDE | | | NA | NA | NA | NA | NA | NA | | |
| | | IRON | NA | NA | NA | NA | NA | NA | NA | NA | | |
| | | LEAD | | | NA | NA | NA | NA | NA | NA | | |
| | | MANGANESE | | | NA | NA | NA | NA | NA | NA | | |
| | | MERCURY | | | | | | | NA | NA | | |
| | | THALLIUM | NA | NA | NA | NA | NA | NA | NA | NA | | |
| | | VANADIUM | | | NA | NA | NA | NA | NA | NA | | |
| | | ZINC | | | | | NA | NA | NA | NA | | |
| | | **PEST/PCB** | | | | | | | | | | |
| | | AROCLOR-1248 | | | 2.0E-07 | <1% | | | | | | |
| | | AROCLOR-1254 | | | 1.7E-07 | <1% | 2.3E-07 | <1% | 3.1E-07 | <1% | | |
| | | AROCLOR-1260 | | | 1.3E-05 | **8%** | | | 1.7E-06 | <1% | | |
| | | DIELDRIN | | | 1.0E-06 | <1% | | | 3.1E-07 | <1% | | |
| | | **SVOCs** | | | | | | | | | | |
| | | BENZO(A)ANTHRACENE | | | 2.5E-06 | 1% | 1.3E-05 | **5%** | 3.7E-06 | 1% | | |
| | | BENZO(A)PYRENE | 8.6E-07 | **11%** | 1.2E-05 | **7%** | 1.4E-04 | **54%** | 4.4E-05 | **18%** | | |
| | | BENZO(B)FLUORANTHENE | | | 2.7E-06 | 2% | 2.2E-05 | **8%** | 5.3E-06 | 2% | | |
| | | BENZO(K)FLUORANTHENE | | | 2.3E-07 | <1% | 1.0E-06 | <1% | 3.7E-07 | <1% | | |
| | | CHRYSENE | | | 8.9E-09 | <1% | 1.8E-07 | <1% | 5.3E-08 | <1% | | |
| | | DIBENZO(A,H)ANTHRACENE | 2.5E-07 | 3% | 8.1E-06 | **5%** | 1.9E-05 | **7%** | 7.0E-06 | 3% | | |
| | | INDENO(1,2,3-CD)PYRENE | | | 1.2E-06 | <1% | 6.6E-06 | 3% | 2.2E-06 | <1% | | |
| | | NAPHTHALENE | | | 2.2E-07 | <1% | 1.1E-06 | <1% | | | | |
| | | PENTACHLOROPHENOL | | | | | | | 5.2E-07 | <1% | | |
| | | BENZENE | | | 2.9E-07 | <1% | 1.9E-07 | <1% | | | | |
| | | ETHYLBENZENE | | | 5.8E-06 | 3% | 9.6E-07 | <1% | | | | |
| | | METHYLCYCLOHEXANE | | | NA | NA | | | | | | |
| | | TRICHLOROETHYLENE (TCE) | | | 4.5E-08 | <1% | | | | | | |
| | | XYLENES (TOTAL) | | | | | NA | NA | | | | |
| | | **TICs** | | | | | | | | | | |
| | | 1,1-BIPHENYL, 2,3,4,4,5,5-HE | | | 1.7E-05 | **10%** | | | | | | |
| | | BENZO[J]FLUORANTHENE | | | 7.5E-06 | 4% | 1.7E-06 | <1% | | | | |
| | | **Total Risks - Soil** | **7.5E-06** | | **1.7E-04** | | **2.6E-04** | | **2.5E-04** | | | |
| | | **Total Risks - Resident** | **8E-06** | | **2E-04** | | **3E-04** | | **3E-04** | | | |

Notes:

**BOLD, Shaded – Percent contribution for specific medium, receptor, and exposure area ≥5%.**

NA – Not Applicable.

**Table 14.2**

**Non-cancer Hazard and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | EUSA | | NFA | | SFA | | UNDV | | UNDV+UHC | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution |
| Utility Worker | Soil | **Metals** | | | | | | | | | | |
| | | ALUMINUM | | | 3.8E-04 | <1% | 3.1E-04 | <1% | 3.8E-04 | <1% | | |
| | | ANTIMONY | | | 3.7E-04 | <1% | 1.4E-02 | **26%** | 2.0E-03 | 3% | | |
| | | ARSENIC | 6.3E-04 | **10%** | 6.1E-03 | 2% | 6.8E-03 | **12%** | 4.5E-02 | **57%** | | |
| | | BARIUM | | | 2.2E-04 | <1% | 2.7E-04 | <1% | 4.8E-04 | <1% | | |
| | | CADMIUM | | | 4.3E-05 | <1% | 6.0E-05 | <1% | 1.2E-04 | <1% | | |
| | | CHROMIUM, HEXAVALENT | 2.7E-05 | <1% | 1.3E-03 | <1% | 3.4E-05 | <1% | 3.2E-05 | <1% | | |
| | | COBALT | 1.2E-03 | **17%** | 6.8E-04 | <1% | 7.0E-04 | 1% | 1.6E-03 | 2% | | |
| | | COPPER | | | 7.0E-05 | <1% | | | 2.3E-04 | <1% | | |
| | | CYANIDE | | | 1.6E-03 | <1% | 2.3E-03 | 4% | 1.6E-02 | **20%** | | |
| | | IRON | 1.1E-03 | **16%** | 1.2E-03 | <1% | 1.0E-03 | 2% | 1.8E-03 | 2% | | |
| | | LEAD | | | NA | NA | NA | NA | NA | NA | | |
| | | MANGANESE | | | 5.1E-04 | <1% | 2.2E-04 | <1% | 6.9E-04 | <1% | | |
| | | MERCURY | | | | | 1.6E-04 | <1% | 4.2E-04 | <1% | | |
| | | THALLIUM | 3.7E-03 | **56%** | 3.2E-03 | 1% | 5.3E-03 | **10%** | 5.4E-03 | **7%** | | |
| | | VANADIUM | | | 2.7E-04 | <1% | 2.6E-04 | <1% | 3.3E-04 | <1% | | |
| | | ZINC | | | 7.1E-05 | <1% | 1.8E-04 | <1% | 1.8E-04 | <1% | | |
| | | **PEST/PCB** | | | | | | | | | | |
| | | ALDRIN | | | 4.4E-05 | <1% | | | | | | |
| | | AROCLOR-1254 | | | 2.2E-04 | <1% | 3.5E-04 | <1% | 5.1E-04 | <1% | | |
| | | AROCLOR-1260 | | | 2.1E-01 | **82%** | | | 2.2E-03 | 3% | | |
| | | DIELDRIN | | | 5.2E-05 | <1% | | | 1.9E-05 | <1% | | |
| | | **SVOCs** | | | | | | | | | | |
| | | 1,1'-BIPHENYL | | | 9.8E-05 | <1% | | | | | | |
| | | 2-METHYLNAPHTHALENE | | | 1.8E-04 | <1% | 1.2E-04 | <1% | | | | |
| | | BENZO(A)ANTHRACENE | | | NA | NA | NA | NA | NA | NA | | |
| | | BENZO(A)PYRENE | 3.9E-05 | <1% | 1.1E-03 | <1% | 1.5E-03 | 3% | 1.3E-03 | 2% | | |
| | | BENZO(B)FLUORANTHENE | | | NA | NA | NA | NA | NA | NA | | |
| | | BENZO(K)FLUORANTHENE | | | NA | NA | NA | NA | NA | NA | | |
| | | CARBAZOLE | | | NA | NA | | | | | | |
| | | CHRYSENE | | | NA | NA | NA | NA | NA | NA | | |
| | | DIBENZO(A,H)ANTHRACENE | NA | NA | NA | NA | NA | NA | NA | NA | | |
| | | DIBENZOFURAN | | | 9.7E-05 | <1% | | | | | | |
| | | INDENO(1,2,3-CD)PYRENE | | | NA | NA | NA | NA | NA | NA | | |
| | | NAPHTHALENE | | | 6.7E-04 | <1% | 4.7E-04 | <1% | | | | |
| | | PENTACHLOROPHENOL | | | | | 1.2E-05 | <1% | 9.7E-04 | 1% | | |
| | | **VOCs** | | | | | | | | | | |
| | | BENZENE | | | 3.6E-06 | <1% | 1.9E-05 | <1% | | | | |
| | | ETHYLBENZENE | | | 6.0E-05 | <1% | 9.3E-06 | <1% | | | | |
| | | METHYLCYCLOHEXANE | | | 3.3E-03 | 1% | | | | | | |
| | | TRICHLOROETHYLENE (TCE) | | | 6.4E-05 | <1% | | | | | | |
| | | XYLENES (TOTAL) | | | 5.3E-03 | 2% | 4.6E-04 | <1% | | | | |
| | | **TICs** | | | | | | | | | | |
| | | 1,2,4-TRIMETHYLBENZENE | | | 4.1E-03 | 2% | 1.3E-02 | **23%** | | | | |
| | | BENZENE, 1,2,3-TRIMETHYL- | | | 4.0E-03 | 2% | 2.7E-03 | **5%** | | | | |
| | | BENZENE, 1,3,5-TRIMETHYL- | | | 1.1E-02 | 4% | 5.3E-03 | **9%** | | | | |
| | | NAPHTHALENE, 1-METHYL- | | | 9.3E-06 | <1% | | | | | | |
| | | **Total Risks - Soil** | **6.6E-03** | | **2.5E-01** | | **5.6E-02** | | **7.9E-02** | | | |
| | | **Total Risks - Utility Worker** | **7E-03** | | **3E-01** | | **6E-02** | | **8E-02** | | | |

**Table 14.2**

**Non-cancer Hazard and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | EUSA | | NFA | | SFA | | UNDV | | UNDV+UHC | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution |
| Construction Worker | Soil | **Metals** | | | | | | | | | | |
| | | ALUMINUM | | | 9.5E-03 | <1% | 7.7E-03 | <1% | 9.4E-03 | <1% | | |
| | | ANTIMONY | | | 9.2E-03 | <1% | 3.6E-01 | **26%** | 5.1E-02 | 3% | | |
| | | ARSENIC | 1.6E-02 | **10%** | 1.5E-01 | 2% | 1.7E-01 | **12%** | 1.1E+00 | **57%** | | |
| | | BARIUM | | | 5.4E-03 | <1% | 6.8E-03 | <1% | 1.2E-02 | <1% | | |
| | | CADMIUM | | | 1.1E-03 | <1% | 1.5E-03 | <1% | 2.9E-03 | <1% | | |
| | | CHROMIUM, HEXAVALENT | 6.8E-04 | <1% | 3.3E-02 | <1% | 8.6E-04 | <1% | 7.9E-04 | <1% | | |
| | | COBALT | 2.9E-02 | **17%** | 1.7E-02 | <1% | 1.7E-02 | 1% | 3.9E-02 | 2% | | |
| | | COPPER | | | 1.7E-03 | <1% | | | 5.8E-03 | <1% | | |
| | | CYANIDE | | | 3.9E-02 | <1% | 5.8E-02 | 4% | 4.0E-01 | **20%** | | |
| | | IRON | 2.7E-02 | **16%** | 2.9E-02 | <1% | 2.5E-02 | 2% | 4.5E-02 | 2% | | |
| | | LEAD | | | NA | NA | NA | NA | NA | NA | | |
| | | MANGANESE | | | 1.3E-02 | <1% | 5.6E-03 | <1% | 1.7E-02 | <1% | | |
| | | MERCURY | | | | | 3.9E-03 | <1% | 1.0E-02 | <1% | | |
| | | THALLIUM | 9.3E-02 | **56%** | 8.1E-02 | 1% | 1.3E-01 | **10%** | 1.3E-01 | **7%** | | |
| | | VANADIUM | | | 6.8E-03 | <1% | 6.4E-03 | <1% | 8.2E-03 | <1% | | |
| | | ZINC | | | 1.8E-03 | <1% | 4.4E-03 | <1% | 4.4E-03 | <1% | | |
| | | **PEST/PCB** | | | | | | | | | | |
| | | ALDRIN | | | 1.1E-03 | <1% | | | | | | |
| | | AROCLOR-1254 | | | 5.5E-03 | <1% | 8.7E-03 | <1% | 1.3E-02 | <1% | | |
| | | AROCLOR-1260 | | | 5.2E+00 | **82%** | | | 5.4E-02 | 3% | | |
| | | DIELDRIN | | | 1.3E-03 | <1% | | | 4.8E-04 | <1% | | |
| | | **SVOCs** | | | | | | | | | | |
| | | 1,1'-BIPHENYL | | | 2.4E-03 | <1% | | | | | | |
| | | 2-METHYLNAPHTHALENE | | | 4.4E-03 | <1% | 2.9E-03 | <1% | | | | |
| | | BENZO(A)ANTHRACENE | | | NA | NA | NA | NA | NA | NA | | |
| | | BENZO(A)PYRENE | 9.8E-04 | <1% | 2.9E-02 | <1% | 3.8E-02 | 3% | 3.3E-02 | 2% | | |
| | | BENZO(B)FLUORANTHENE | | | NA | NA | NA | NA | NA | NA | | |
| | | BENZO(K)FLUORANTHENE | | | NA | NA | NA | NA | NA | NA | | |
| | | CARBAZOLE | | | NA | NA | | | | | | |
| | | CHRYSENE | | | NA | NA | NA | NA | NA | NA | | |
| | | DIBENZO(A,H)ANTHRACENE | NA | NA | NA | NA | NA | NA | NA | NA | | |
| | | DIBENZOFURAN | | | 2.4E-03 | <1% | | | | | | |
| | | INDENO(1,2,3-CD)PYRENE | | | NA | NA | NA | NA | NA | NA | | |
| | | NAPHTHALENE | | | 1.7E-02 | <1% | 1.2E-02 | <1% | | | | |
| | | PENTACHLOROPHENOL | | | | | 3.0E-04 | <1% | 2.4E-02 | 1% | | |
| | | **VOCs** | | | | | | | | | | |
| | | BENZENE | | | 8.9E-05 | <1% | 4.7E-04 | <1% | | | | |
| | | ETHYLBENZENE | | | 1.5E-03 | <1% | 2.3E-04 | <1% | | | | |
| | | METHYLCYCLOHEXANE | | | 8.3E-02 | 1% | | | | | | |
| | | TRICHLOROETHYLENE (TCE) | | | 1.6E-03 | <1% | | | | | | |
| | | XYLENES (TOTAL) | | | 1.3E-01 | 2% | 1.1E-02 | <1% | | | | |
| | | **TICs** | | | | | | | | | | |
| | | 1,2,4-TRIMETHYLBENZENE | | | 1.0E-01 | 2% | 3.2E-01 | **23%** | | | | |
| | | BENZENE, 1,2,3-TRIMETHYL- | | | 1.0E-01 | 2% | 6.6E-02 | **5%** | | | | |
| | | BENZENE, 1,3,5-TRIMETHYL- | | | 2.7E-01 | 4% | 1.3E-01 | **9%** | | | | |
| | | NAPHTHALENE, 1-METHYL- | | | 2.3E-04 | <1% | | | | | | |
| | | **Total Risks - Soil** | **1.7E-01** | | **6.3E+00** | | **1.4E+00** | | **2.0E+00** | | | |
| | | **Total Risks - Construction Worker** | **2E-01** | | **6E+00** | | **1E+00** | | **2E+00** | | | |

**Table 14.2**

**Non-cancer Hazard and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | EUSA | | NFA | | SFA | | UNDV | | UNDV+UHC | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution |
| Outdoor Worker | Soil | **Metals** | | | | | | | | | | |
| | | ALUMINUM | | | 2.9E-03 | <1% | 2.2E-03 | <1% | 2.7E-03 | <1% | | |
| | | ANTIMONY | | | 2.0E-03 | <1% | 2.3E-01 | **50%** | 2.3E-02 | 3% | | |
| | | ARSENIC | 4.6E-03 | **10%** | 8.0E-02 | **16%** | 5.5E-02 | **12%** | 2.3E-01 | **28%** | | |
| | | BARIUM | | | 1.8E-03 | <1% | 2.5E-03 | <1% | 5.1E-03 | <1% | | |
| | | CADMIUM | | | | | 1.1E-03 | <1% | 1.3E-03 | <1% | | |
| | | CHROMIUM, HEXAVALENT | 1.6E-04 | <1% | 1.9E-03 | <1% | 5.3E-04 | <1% | 2.2E-04 | <1% | | |
| | | COBALT | 8.0E-03 | **17%** | 6.0E-03 | 1% | 5.7E-03 | 1% | 2.1E-02 | 3% | | |
| | | COPPER | | | 5.3E-04 | <1% | | | 2.5E-03 | <1% | | |
| | | CYANIDE | | | 2.1E-02 | 4% | 3.7E-02 | **8%** | 4.1E-01 | **51%** | | |
| | | IRON | 7.5E-03 | **16%** | 8.1E-03 | 2% | 9.3E-03 | 2% | 1.6E-02 | 2% | | |
| | | LEAD | | | NA | NA | NA | NA | NA | NA | | |
| | | MANGANESE | | | 3.4E-03 | <1% | 3.1E-03 | <1% | 6.1E-03 | <1% | | |
| | | MERCURY | | | | | | | 4.2E-03 | <1% | | |
| | | THALLIUM | 2.5E-02 | **55%** | 2.6E-02 | **5%** | 2.7E-02 | **6%** | 4.0E-02 | **5%** | | |
| | | VANADIUM | | | 2.2E-03 | <1% | 1.9E-03 | <1% | 3.0E-03 | <1% | | |
| | | ZINC | | | | | 1.1E-03 | <1% | 1.7E-03 | <1% | | |
| | | **PEST/PCB** | | | | | | | | | | |
| | | AROCLOR-1248 | | | 2.9E-03 | <1% | | | | | | |
| | | AROCLOR-1254 | | | 2.5E-03 | <1% | 3.3E-03 | <1% | 4.5E-03 | <1% | | |
| | | AROCLOR-1260 | | | 2.0E-01 | **39%** | | | 2.6E-02 | 3% | | |
| | | DIELDRIN | | | 7.8E-04 | <1% | | | 2.3E-04 | <1% | | |
| | | **SVOCs** | | | | | | | | | | |
| | | BENZO(A)ANTHRACENE | | | NA | NA | NA | NA | NA | NA | | |
| | | BENZO(A)PYRENE | 2.9E-04 | <1% | 4.2E-03 | <1% | 4.8E-02 | **10%** | 1.5E-02 | 2% | | |
| | | BENZO(B)FLUORANTHENE | | | NA | NA | NA | NA | NA | NA | | |
| | | BENZO(K)FLUORANTHENE | | | NA | NA | NA | NA | NA | NA | | |
| | | CHRYSENE | | | NA | NA | NA | NA | NA | NA | | |
| | | DIBENZO(A,H)ANTHRACENE | NA | NA | NA | NA | NA | NA | NA | NA | | |
| | | INDENO(1,2,3-CD)PYRENE | | | NA | NA | NA | NA | NA | NA | | |
| | | NAPHTHALENE | | | 1.3E-03 | <1% | 6.4E-03 | 1% | | | | |
| | | PENTACHLOROPHENOL | | | | | | | 1.7E-04 | <1% | | |
| | | **VOCs** | | | | | | | | | | |
| | | BENZENE | | | 7.2E-04 | <1% | 4.8E-04 | <1% | | | | |
| | | ETHYLBENZENE | | | 1.5E-03 | <1% | 2.5E-04 | <1% | | | | |
| | | METHYLCYCLOHEXANE | | | 1.7E-02 | 3% | | | | | | |
| | | TRICHLOROETHYLENE (TCE) | | | 1.9E-03 | <1% | | | | | | |
| | | XYLENES (TOTAL) | | | | | 2.7E-02 | **6%** | | | | |
| | | **TICs** | | | | | | | | | | |
| | | 1,1-BIPHENYL, 2,3,4,4,5,5-HEXACHLORO | | | 1.1E-01 | **23%** | | | | | | |
| | | BENZO[J]FLUORANTHENE | | | NA | NA | NA | NA | | | | |
| | | **Total Risks - Soil** | **4.6E-02** | | **5.0E-01** | | **4.6E-01** | | **8.2E-01** | | | |
| | | **Total Risks - Outdoor Worker** | **5E-02** | | **5E-01** | | **5E-01** | | **8E-01** | | | |

**Table 14.2**

**Non-cancer Hazard and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | EUSA | | NFA | | SFA | | UNDV | | UNDV+UHC | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution |
| Child Recreator | Soil | **Metals** | | | | | | | | | | |
| | | ALUMINUM | | | | | | | | | 1.9E-02 | <1% |
| | | ANTIMONY | | | | | | | | | 1.6E-01 | 4% |
| | | ARSENIC | | | | | | | | | 1.5E+00 | **41%** |
| | | BARIUM | | | | | | | | | 3.5E-02 | <1% |
| | | CADMIUM | | | | | | | | | 8.7E-03 | <1% |
| | | CHROMIUM, HEXAVALENT | | | | | | | | | 1.5E-03 | <1% |
| | | COBALT | | | | | | | | | 1.5E-01 | 4% |
| | | COPPER | | | | | | | | | 1.8E-02 | <1% |
| | | CYANIDE | | | | | | | | | 1.0E+00 | **27%** |
| | | IRON | | | | | | | | | 1.2E-01 | 3% |
| | | LEAD | | | | | | | | | NA | NA |
| | | MANGANESE | | | | | | | | | 4.2E-02 | 1.1% |
| | | MERCURY | | | | | | | | | 3.0E-02 | <1% |
| | | THALLIUM | | | | | | | | | 2.9E-01 | **8%** |
| | | VANADIUM | | | | | | | | | 2.1E-02 | <1% |
| | | ZINC | | | | | | | | | 1.2E-02 | <1% |
| | | **PEST/PCB** | | | | | | | | | | |
| | | AROCLOR-1254 | | | | | | | | | 2.7E-02 | <1% |
| | | AROCLOR-1260 | | | | | | | | | 1.5E-01 | 4% |
| | | DIELDRIN | | | | | | | | | 1.4E-03 | <1% |
| | | **SVOCs** | | | | | | | | | | |
| | | BENZO(A)ANTHRACENE | | | | | | | | | NA | NA |
| | | BENZO(A)PYRENE | | | | | | | | | 9.0E-02 | 2% |
| | | BENZO(B)FLUORANTHENE | | | | | | | | | NA | NA |
| | | BENZO(K)FLUORANTHENE | | | | | | | | | NA | NA |
| | | CHRYSENE | | | | | | | | | NA | NA |
| | | DIBENZO(A,H)ANTHRACENE | | | | | | | | | NA | NA |
| | | INDENO(1,2,3-CD)PYRENE | | | | | | | | | NA | NA |
| | | PENTACHLOROPHENOL | | | | | | | | | 9.2E-04 | <1% |
| | | **Total Risks - Soil** | | | | | | | | | **4E+00** | |

**Table 14.2**

**Non-cancer Hazard and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | EUSA | | NFA | | SFA | | UNDV | | UNDV+UHC | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution |
| Child Recreator | Sediment | **Metals** | | | | | | | | | | |
| | | ALUMINUM | | | | | | | | | 5.4E-03 | <1% |
| | | ANTIMONY | | | | | | | | | 6.8E-02 | <1% |
| | | ARSENIC | | | | | | | | | 6.1E+00 | **72%** |
| | | BARIUM | | | | | | | | | 1.9E-02 | <1% |
| | | CHROMIUM | | | | | | | | | 4.9E-02 | <1% |
| | | COBALT | | | | | | | | | 2.9E-02 | <1% |
| | | COPPER | | | | | | | | | 6.6E-03 | <1% |
| | | CYANIDE | | | | | | | | | 1.7E+00 | **20%** |
| | | IRON | | | | | | | | | 1.7E-02 | <1% |
| | | LEAD | | | | | | | | | NA | NA |
| | | THALLIUM | | | | | | | | | 3.9E-01 | 5% |
| | | **PEST/PCB** | | | | | | | | | | |
| | | AROCLOR-1254 | | | | | | | | | 2.7E-02 | <1% |
| | | AROCLOR-1260 | | | | | | | | | 1.6E-02 | <1% |
| | | **SVOCs** | | | | | | | | | | |
| | | BENZO(A)ANTHRACENE | | | | | | | | | NA | NA |
| | | BENZO(A)PYRENE | | | | | | | | | 4.3E-02 | <1% |
| | | BENZO(B)FLUORANTHENE | | | | | | | | | NA | NA |
| | | BENZO(K)FLUORANTHENE | | | | | | | | | NA | NA |
| | | CHRYSENE | | | | | | | | | NA | NA |
| | | DIBENZO(A,H)ANTHRACENE | | | | | | | | | NA | NA |
| | | INDENO(1,2,3-CD)PYRENE | | | | | | | | | NA | NA |
| | | **TICs** | | | | | | | | | | |
| | | BENZO[J]FLUORANTHENE | | | | | | | | | NA | NA |
| | | **Total Risks - Sediment** | | | | | | | | | **9E+00** | |
| Child Recreator | Surface Water | **Metals** | | | | | | | | | | |
| | | ANTIMONY | | | | | | | | | 1.9E-03 | <1% |
| | | ARSENIC | | | | | | | | | 5.7E-03 | 2% |
| | | BARIUM | | | | | | | | | 8.6E-04 | <1% |
| | | CHROMIUM | | | | | | | | | 1.4E-03 | <1% |
| | | CYANIDE | | | | | | | | | 4.0E-04 | <1% |
| | | IRON | | | | | | | | | 2.4E-04 | <1% |
| | | LEAD | | | | | | | | | NA | NA |
| | | MANGANESE | | | | | | | | | 8.2E-03 | 3% |
| | | THALLIUM | | | | | | | | | 2.3E-02 | **9%** |
| | | VANADIUM | | | | | | | | | 5.7E-04 | <1% |
| | | **SVOCs** | | | | | | | | | | |
| | | BENZO(A)PYRENE | | | | | | | | | 2.1E-01 | **83%** |
| | | BENZO(B)FLUORANTHENE | | | | | | | | | NA | NA |
| | | INDENO(1,2,3-CD)PYRENE | | | | | | | | | NA | NA |
| | | NAPHTHALENE | | | | | | | | | 4.6E-05 | <1% |
| | | **VOCs** | | | | | | | | | | |
| | | 1,4-DICHLOROBENZENE | | | | | | | | | 2.0E-05 | <1% |
| | | BENZENE | | | | | | | | | 5.9E-04 | <1% |
| | | DICHLOROMETHANE | | | | | | | | | 1.3E-04 | <1% |
| | | VINYL CHLORIDE | | | | | | | | | 7.8E-05 | <1% |
| | | **Total Risks - Surface Water** | | | | | | | | | **3E-01** | |
| | | **Total Risks - Child Recreator** | | | | | | | | | **1E+01** | |

**Table 14.2**

**Non-cancer Hazard and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | EUSA | | NFA | | SFA | | UNDV | | UNDV+UHC | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution |
| Adolescent Recreator | Soil | **Metals** | | | | | | | | | | |
| | | ALUMINUM | | | | | | | | | 3.3E-03 | <1% |
| | | ANTIMONY | | | | | | | | | 2.8E-02 | 3% |
| | | ARSENIC | | | | | | | | | 2.7E-01 | **33%** |
| | | BARIUM | | | | | | | | | 6.1E-03 | <1% |
| | | CADMIUM | | | | | | | | | 1.5E-03 | <1% |
| | | CHROMIUM, HEXAVALENT | | | | | | | | | 2.6E-04 | <1% |
| | | COBALT | | | | | | | | | 2.6E-02 | 3% |
| | | COPPER | | | | | | | | | 3.0E-03 | <1% |
| | | CYANIDE | | | | | | | | | 3.4E-01 | **42%** |
| | | IRON | | | | | | | | | 2.0E-02 | 2% |
| | | LEAD | | | | | | | | | NA | NA |
| | | MANGANESE | | | | | | | | | 7.3E-03 | <1% |
| | | MERCURY | | | | | | | | | 5.0E-03 | <1% |
| | | THALLIUM | | | | | | | | | 4.8E-02 | **6%** |
| | | VANADIUM | | | | | | | | | 3.6E-03 | <1% |
| | | ZINC | | | | | | | | | 2.0E-03 | <1% |
| | | **PEST/PCB** | | | | | | | | | | |
| | | AROCLOR-1254 | | | | | | | | | 5.0E-03 | <1% |
| | | AROCLOR-1260 | | | | | | | | | 2.8E-02 | 3% |
| | | DIELDRIN | | | | | | | | | 2.6E-04 | <1% |
| | | **SVOCs** | | | | | | | | | | |
| | | BENZO(A)ANTHRACENE | | | | | | | | | NA | NA |
| | | BENZO(A)PYRENE | | | | | | | | | 1.7E-02 | 2% |
| | | BENZO(B)FLUORANTHENE | | | | | | | | | NA | NA |
| | | BENZO(K)FLUORANTHENE | | | | | | | | | NA | NA |
| | | CHRYSENE | | | | | | | | | NA | NA |
| | | DIBENZO(A,H)ANTHRACENE | | | | | | | | | NA | NA |
| | | INDENO(1,2,3-CD)PYRENE | | | | | | | | | NA | NA |
| | | PENTACHLOROPHENOL | | | | | | | | | 1.8E-04 | <1% |
| | | **Total Risks - Soil** | | | | | | | | | **8E-01** | |
| Adolescent Recreator | Sediment | **Metals** | | | | | | | | | | |
| | | ALUMINUM | | | | | | | | | 9.1E-04 | <1% |
| | | ANTIMONY | | | | | | | | | 1.1E-02 | <1% |
| | | ARSENIC | | | | | | | | | 1.4E+00 | **76%** |
| | | BARIUM | | | | | | | | | 3.2E-03 | <1% |
| | | CHROMIUM | | | | | | | | | 8.3E-03 | <1% |
| | | COBALT | | | | | | | | | 4.9E-03 | <1% |
| | | COPPER | | | | | | | | | 1.1E-03 | <1% |
| | | CYANIDE | | | | | | | | | 3.0E-01 | **17%** |
| | | IRON | | | | | | | | | 2.8E-03 | <1% |
| | | LEAD | | | | | | | | | NA | NA |
| | | THALLIUM | | | | | | | | | 6.6E-02 | 4% |
| | | **PEST/PCB** | | | | | | | | | | |
| | | AROCLOR-1254 | | | | | | | | | 8.0E-03 | <1% |
| | | AROCLOR-1260 | | | | | | | | | 4.7E-03 | <1% |
| | | **SVOCs** | | | | | | | | | | |
| | | BENZO(A)ANTHRACENE | | | | | | | | | NA | NA |
| | | BENZO(A)PYRENE | | | | | | | | | 1.2E-02 | <1% |
| | | BENZO(B)FLUORANTHENE | | | | | | | | | NA | NA |
| | | BENZO(K)FLUORANTHENE | | | | | | | | | NA | NA |
| | | CHRYSENE | | | | | | | | | NA | NA |
| | | DIBENZO(A,H)ANTHRACENE | | | | | | | | | NA | NA |
| | | INDENO(1,2,3-CD)PYRENE | | | | | | | | | NA | NA |
| | | **TICs** | | | | | | | | | | |
| | | BENZO[J]FLUORANTHENE | | | | | | | | | NA | NA |
| | | **Total Risks - Sediment** | | | | | | | | | **2E+00** | |

**Table 14.2**

**Non-cancer Hazard and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | EUSA | | NFA | | SFA | | UNDV | | UNDV+UHC | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution |
| Adolescent Recreator | Surface Water | **Metals** | | | | | | | | | | |
| | | ANTIMONY | | | | | | | | | 1.2E-03 | <1% |
| | | ARSENIC | | | | | | | | | 3.8E-03 | 2% |
| | | BARIUM | | | | | | | | | 5.7E-04 | <1% |
| | | CHROMIUM | | | | | | | | | 9.1E-04 | <1% |
| | | CYANIDE | | | | | | | | | 2.6E-04 | <1% |
| | | IRON | | | | | | | | | 1.6E-04 | <1% |
| | | LEAD | | | | | | | | | NA | NA |
| | | MANGANESE | | | | | | | | | 5.4E-03 | 3% |
| | | THALLIUM | | | | | | | | | 1.5E-02 | **9%** |
| | | VANADIUM | | | | | | | | | 3.8E-04 | <1% |
| | | **SVOCs** | | | | | | | | | | |
| | | BENZO(A)PYRENE | | | | | | | | | 1.4E-01 | **83%** |
| | | BENZO(B)FLUORANTHENE | | | | | | | | | NA | NA |
| | | INDENO(1,2,3-CD)PYRENE | | | | | | | | | NA | NA |
| | | NAPHTHALENE | | | | | | | | | 3.0E-05 | <1% |
| | | **VOCs** | | | | | | | | | | |
| | | 1,4-DICHLOROBENZENE | | | | | | | | | 1.3E-05 | <1% |
| | | BENZENE | | | | | | | | | 3.9E-04 | <1% |
| | | DICHLOROMETHANE | | | | | | | | | 8.6E-05 | <1% |
| | | VINYL CHLORIDE | | | | | | | | | 5.2E-05 | <1% |
| | | **Total Risks - Surface Water** | | | | | | | | | **2E-01** | |
| | | **Total Risks - Adolescent Recreator** | | | | | | | | | **3E+00** | |
| Adult Recreator | Soil | **Metals** | | | | | | | | | | |
| | | ALUMINUM | | | | | | | | | 1.8E-03 | <1% |
| | | ANTIMONY | | | | | | | | | 1.5E-02 | 3% |
| | | ARSENIC | | | | | | | | | 1.5E-01 | **28%** |
| | | BARIUM | | | | | | | | | 3.4E-03 | <1% |
| | | CADMIUM | | | | | | | | | 8.8E-04 | <1% |
| | | CHROMIUM, HEXAVALENT | | | | | | | | | 1.4E-04 | <1% |
| | | COBALT | | | | | | | | | 1.4E-02 | 3% |
| | | COPPER | | | | | | | | | 1.7E-03 | <1% |
| | | CYANIDE | | | | | | | | | 2.8E-01 | **51%** |
| | | IRON | | | | | | | | | 1.1E-02 | 2.0% |
| | | LEAD | | | | | | | | | NA | NA |
| | | MANGANESE | | | | | | | | | 4.1E-03 | <1% |
| | | MERCURY | | | | | | | | | 2.8E-03 | <1% |
| | | THALLIUM | | | | | | | | | 2.7E-02 | **5%** |
| | | VANADIUM | | | | | | | | | 2.0E-03 | <1% |
| | | ZINC | | | | | | | | | 1.1E-03 | <1% |
| | | **PEST/PCB** | | | | | | | | | | |
| | | AROCLOR-1254 | | | | | | | | | 3.0E-03 | <1% |
| | | AROCLOR-1260 | | | | | | | | | 1.7E-02 | 3% |
| | | DIELDRIN | | | | | | | | | 1.5E-04 | <1% |
| | | **SVOCs** | | | | | | | | | | |
| | | BENZO(A)ANTHRACENE | | | | | | | | | NA | NA |
| | | BENZO(A)PYRENE | | | | | | | | | 1.0E-02 | 2% |
| | | BENZO(B)FLUORANTHENE | | | | | | | | | NA | NA |
| | | BENZO(K)FLUORANTHENE | | | | | | | | | NA | NA |
| | | CHRYSENE | | | | | | | | | NA | NA |
| | | DIBENZO(A,H)ANTHRACENE | | | | | | | | | NA | NA |
| | | INDENO(1,2,3-CD)PYRENE | | | | | | | | | NA | NA |
| | | PENTACHLOROPHENOL | | | | | | | | | 1.1E-04 | <1% |
| | | **Total Risks - Soil** | | | | | | | | | **5E-01** | |

**Table 14.2**

**Non-cancer Hazard and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | EUSA | | NFA | | SFA | | UNDV | | UNDV+UHC | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution |
| Adult Recreator | Sediment | **Metals** | | | | | | | | | | |
| | | ALUMINUM | | | | | | | | | 5.0E-04 | <1% |
| | | ANTIMONY | | | | | | | | | 6.4E-03 | <1% |
| | | ARSENIC | | | | | | | | | 8.2E-01 | **78%** |
| | | BARIUM | | | | | | | | | 1.8E-03 | <1% |
| | | CHROMIUM | | | | | | | | | 4.6E-03 | <1% |
| | | COBALT | | | | | | | | | 2.7E-03 | <1% |
| | | COPPER | | | | | | | | | 6.2E-04 | <1% |
| | | CYANIDE | | | | | | | | | 1.6E-01 | **15%** |
| | | IRON | | | | | | | | | 1.6E-03 | <1% |
| | | LEAD | | | | | | | | | NA | NA |
| | | THALLIUM | | | | | | | | | 3.6E-02 | 3% |
| | | **PEST/PCB** | | | | | | | | | | |
| | | AROCLOR-1254 | | | | | | | | | 5.2E-03 | <1% |
| | | AROCLOR-1260 | | | | | | | | | 3.1E-03 | <1% |
| | | **SVOCs** | | | | | | | | | | |
| | | BENZO(A)ANTHRACENE | | | | | | | | | NA | NA |
| | | BENZO(A)PYRENE | | | | | | | | | 7.9E-03 | <1% |
| | | BENZO(B)FLUORANTHENE | | | | | | | | | NA | NA |
| | | BENZO(K)FLUORANTHENE | | | | | | | | | NA | NA |
| | | CHRYSENE | | | | | | | | | NA | NA |
| | | DIBENZO(A,H)ANTHRACENE | | | | | | | | | NA | NA |
| | | INDENO(1,2,3-CD)PYRENE | | | | | | | | | NA | NA |
| | | **TICs** | | | | | | | | | | |
| | | BENZO[J]FLUORANTHENE | | | | | | | | | NA | NA |
| | | **Total Risks - Sediment** | | | | | | | | | **1E+00** | |
| Adult Recreator | Surface Water | **Metals** | | | | | | | | | | |
| | | ANTIMONY | | | | | | | | | 8.9E-04 | <1% |
| | | ARSENIC | | | | | | | | | 2.7E-03 | 2% |
| | | BARIUM | | | | | | | | | 4.1E-04 | <1% |
| | | CHROMIUM | | | | | | | | | 6.6E-04 | <1% |
| | | CYANIDE | | | | | | | | | 1.9E-04 | <1% |
| | | IRON | | | | | | | | | 1.2E-04 | <1% |
| | | LEAD | | | | | | | | | NA | NA |
| | | MANGANESE | | | | | | | | | 3.9E-03 | 3% |
| | | THALLIUM | | | | | | | | | 1.1E-02 | **9%** |
| | | VANADIUM | | | | | | | | | 2.7E-04 | <1% |
| | | **SVOCs** | | | | | | | | | | |
| | | BENZO(A)PYRENE | | | | | | | | | 9.9E-02 | **83%** |
| | | BENZO(B)FLUORANTHENE | | | | | | | | | NA | NA |
| | | INDENO(1,2,3-CD)PYRENE | | | | | | | | | NA | NA |
| | | NAPHTHALENE | | | | | | | | | 2.2E-05 | <1% |
| | | **VOCs** | | | | | | | | | | |
| | | 1,4-DICHLOROBENZENE | | | | | | | | | 9.6E-06 | <1% |
| | | BENZENE | | | | | | | | | 2.8E-04 | <1% |
| | | DICHLOROMETHANE | | | | | | | | | 6.2E-05 | <1% |
| | | VINYL CHLORIDE | | | | | | | | | 3.7E-05 | <1% |
| | | **Total Risks - Surface Water** | | | | | | | | | **1E-01** | |
| | | **Total Risks - Adult Recreator** | | | | | | | | | **2E+00** | |

**Table 14.2**

**Non-cancer Hazard and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | EUSA | | NFA | | SFA | | UNDV | | UNDV+UHC | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution |
| Child Resident | Soil | **Metals** | | | | | | | | | | |
| | | ALUMINUM | | | 4.7E-02 | <1% | 3.6E-02 | <1% | 4.5E-02 | <1% | | |
| | | ANTIMONY | | | 3.2E-02 | <1% | 3.8E+00 | **56%** | 3.8E-01 | 4% | | |
| | | ARSENIC | 7.0E-02 | **9%** | 1.2E+00 | **18%** | 8.5E-01 | **13%** | 3.6E+00 | **37%** | | |
| | | BARIUM | | | 2.9E-02 | <1% | 4.0E-02 | <1% | 8.3E-02 | <1% | | |
| | | CADMIUM | | | | | 1.7E-02 | <1% | 2.0E-02 | <1% | | |
| | | CHROMIUM, HEXAVALENT | 2.6E-03 | <1% | 3.2E-02 | <1% | 8.9E-03 | <1% | 3.6E-03 | <1% | | |
| | | COBALT | 1.3E-01 | **18%** | 1.0E-01 | 1% | 9.5E-02 | 1% | 3.6E-01 | 4% | | |
| | | COPPER | | | 8.7E-03 | <1% | | | 4.1E-02 | <1% | | |
| | | CYANIDE | | | 1.7E-01 | 2% | 2.9E-01 | 4% | 3.3E+00 | **34%** | | |
| | | IRON | 1.2E-01 | **16%** | 1.3E-01 | 2% | 1.5E-01 | 2% | 2.7E-01 | 3% | | |
| | | LEAD | | | NA | NA | NA | NA | NA | NA | | |
| | | MANGANESE | | | 5.4E-02 | <1% | 4.9E-02 | <1% | 9.9E-02 | 1% | | |
| | | MERCURY | | | | | | | 6.9E-02 | <1% | | |
| | | THALLIUM | 4.2E-01 | **56%** | 4.4E-01 | **6%** | 4.5E-01 | **7%** | 6.7E-01 | **7%** | | |
| | | VANADIUM | | | 3.7E-02 | <1% | 3.2E-02 | <1% | 4.9E-02 | <1% | | |
| | | ZINC | | | | | 1.9E-02 | <1% | 2.8E-02 | <1% | | |
| | | **PEST/PCB** | | | | | | | | | | |
| | | AROCLOR-1248 | | | 4.1E-02 | <1% | | | | | | |
| | | AROCLOR-1254 | | | 3.4E-02 | <1% | 4.6E-02 | <1% | 6.3E-02 | <1% | | |
| | | AROCLOR-1260 | | | 2.7E+00 | **40%** | | | 3.6E-01 | 4% | | |
| | | DIELDRIN | | | 1.1E-02 | <1% | | | 3.3E-03 | <1% | | |
| | | **SVOCs** | | | | | | | | | | |
| | | BENZO(A)ANTHRACENE | | | NA | NA | NA | NA | NA | NA | | |
| | | BENZO(A)PYRENE | 4.1E-03 | <1% | 5.8E-02 | <1% | 6.7E-01 | **10%** | 2.1E-01 | 2% | | |
| | | BENZO(B)FLUORANTHENE | | | NA | NA | NA | NA | NA | NA | | |
| | | BENZO(K)FLUORANTHENE | | | NA | NA | NA | NA | NA | NA | | |
| | | CHRYSENE | | | NA | NA | NA | NA | NA | NA | | |
| | | DIBENZO(A,H)ANTHRACENE | NA | NA | NA | NA | NA | NA | NA | NA | | |
| | | INDENO(1,2,3-CD)PYRENE | | | NA | NA | NA | NA | NA | NA | | |
| | | NAPHTHALENE | | | 6.8E-03 | <1% | 3.3E-02 | <1% | | | | |
| | | PENTACHLOROPHENOL | | | | | | | 2.2E-03 | <1% | | |
| | | BENZENE | | | 4.3E-03 | <1% | 2.9E-03 | <1% | | | | |
| | | ETHYLBENZENE | | | 1.1E-02 | <1% | 1.8E-03 | <1% | | | | |
| | | METHYLCYCLOHEXANE | | | 8.0E-02 | 1% | | | | | | |
| | | TRICHLOROETHYLENE (TCE) | | | 1.0E-02 | <1% | | | | | | |
| | | XYLENES (TOTAL) | | | | | 1.3E-01 | 2% | | | | |
| | | **TICs** | | | | | | | | | | |
| | | 1,1-BIPHENYL, 2,3,4,4,5,5-HEXACHLORO | | | 1.6E+00 | **23%** | | | | | | |
| | | BENZO[J]FLUORANTHENE | | | NA | NA | NA | NA | | | | |
| | | **Total Risks - Soil** | **7.6E-01** | | **6.9E+00** | | **6.7E+00** | | **9.6E+00** | | | |
| | | **Total Risks - Child Resident** | **8E-01** | | **7E+00** | | **7E+00** | | **1E+01** | | | |

**Table 14.2**

**Non-cancer Hazard and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | EUSA | | NFA | | SFA | | UNDV | | UNDV+UHC | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution | Non-cancer Hazard | % Contribution |
| Adult Resident | Soil | **Metals** | | | | | | | | | | |
| | | ALUMINUM | | | 4.6E-03 | <1% | 3.6E-03 | <1% | 4.4E-03 | <1% | | |
| | | ANTIMONY | | | 3.0E-03 | <1% | 3.6E-01 | **39%** | 3.6E-02 | 2% | | |
| | | ARSENIC | 7.2E-03 | **10%** | 1.2E-01 | **14%** | 8.7E-02 | **10%** | 3.6E-01 | **16%** | | |
| | | BARIUM | | | 3.0E-03 | <1% | 4.1E-03 | <1% | 8.5E-03 | <1% | | |
| | | CADMIUM | | | | | 1.8E-03 | <1% | 2.1E-03 | <1% | | |
| | | CHROMIUM, HEXAVALENT | 2.4E-04 | <1% | 3.0E-03 | <1% | 8.4E-04 | <1% | 3.4E-04 | <1% | | |
| | | COBALT | 1.3E-02 | **18%** | 9.5E-03 | 1% | 9.0E-03 | <1% | 3.4E-02 | 2% | | |
| | | COPPER | | | 8.2E-04 | <1% | | | 3.9E-03 | <1% | | |
| | | CYANIDE | | | 8.1E-02 | **9%** | 1.4E-01 | **15%** | 1.6E+00 | **71%** | | |
| | | IRON | 1.2E-02 | **16%** | 1.3E-02 | 1% | 1.5E-02 | 2% | 2.6E-02 | 1% | | |
| | | LEAD | | | NA | NA | NA | NA | NA | NA | | |
| | | MANGANESE | | | 5.6E-03 | <1% | 5.1E-03 | <1% | 1.0E-02 | <1% | | |
| | | MERCURY | | | | | | | 6.5E-03 | <1% | | |
| | | THALLIUM | 4.0E-02 | **55%** | 4.1E-02 | 5% | 4.2E-02 | **5%** | 6.3E-02 | 3% | | |
| | | VANADIUM | | | 3.5E-03 | <1% | 3.1E-03 | <1% | 4.7E-03 | <1% | | |
| | | ZINC | | | | | 1.8E-03 | <1% | 2.6E-03 | <1% | | |
| | | **PEST/PCB** | | | | | | | | | | |
| | | AROCLOR-1248 | | | 4.6E-03 | <1% | | | | | | |
| | | AROCLOR-1254 | | | 3.9E-03 | <1% | 5.2E-03 | <1% | 7.0E-03 | <1% | | |
| | | AROCLOR-1260 | | | 3.0E-01 | **34%** | | | 4.0E-02 | 2% | | |
| | | DIELDRIN | | | 1.2E-03 | <1% | | | 3.5E-04 | <1% | | |
| | | **SVOCs** | | | | | | | | | | |
| | | BENZO(A)ANTHRACENE | | | NA | NA | NA | NA | NA | NA | | |
| | | BENZO(A)PYRENE | 4.6E-04 | <1% | 6.6E-03 | <1% | 7.6E-02 | **8%** | 2.4E-02 | 1% | | |
| | | BENZO(B)FLUORANTHENE | | | NA | NA | NA | NA | NA | NA | | |
| | | BENZO(K)FLUORANTHENE | | | NA | NA | NA | NA | NA | NA | | |
| | | CHRYSENE | | | NA | NA | NA | NA | NA | NA | | |
| | | DIBENZO(A,H)ANTHRACENE | NA | NA | NA | NA | NA | NA | NA | NA | | |
| | | INDENO(1,2,3-CD)PYRENE | | | NA | NA | NA | NA | NA | NA | | |
| | | NAPHTHALENE | | | 6.0E-03 | <1% | 2.9E-02 | 3% | | | | |
| | | PENTACHLOROPHENOL | | | | | | | 2.6E-04 | <1% | | |
| | | BENZENE | | | 3.1E-03 | <1% | 2.1E-03 | <1% | | | | |
| | | ETHYLBENZENE | | | 6.0E-03 | <1% | 1.0E-03 | <1% | | | | |
| | | METHYLCYCLOHEXANE | | | 8.0E-02 | **9%** | | | | | | |
| | | TRICHLOROETHYLENE (TCE) | | | 8.8E-03 | <1% | | | | | | |
| | | XYLENES (TOTAL) | | | | | 1.3E-01 | **14%** | | | | |
| | | **TICs** | | | | | | | | | | |
| | | 1,1-BIPHENYL, 2,3,4,4,5,5-HEXACHLORO | | | 1.8E-01 | **20%** | | | | | | |
| | | BENZO[J]FLUORANTHENE | | | NA | NA | NA | NA | | | | |
| | | **Total Risks - Soil** | **7.2E-02** | | **8.9E-01** | | **9.1E-01** | | **2.2E+00** | | | |
| | | **Total Risks - Adult Resident** | **7E-02** | | **9E-01** | | **9E-01** | | **2E+00** | | | |

Notes:

**BOLD, Shaded – Percent contribution for specific medium, receptor, and exposure area ≥5%.**

NA – Not Applicable.

# Appendix C-2

## Risk Calculations for 100% Cr(VI) Analysis

# Table Index

| Table | Title | Media | Exposure Area |
|---|---|---|---|
| 3.4 | Exposure Point Concentrations - Reasonable Maximum Exposure | Sediment (0-0.5 ft bgs) | UHC |
| 7.5 | Calculation of Chemical Cancer Risks - Child Recreator | Soil (0-2 ft bgs), SD, SW | UNDV, UHC |
| 7.6 | Calculation of Chemical Cancer Risks - Adolescent Recreator | Soil (0-2 ft bgs), SD, SW | UNDV, UHC |
| 7.7 | Calculation of Chemical Cancer Risks - Adult Recreator | Soil (0-2 ft bgs), SD, SW | UNDV, UHC |
| 7.12 | Calculation of Chemical Non-cancer Hazards - Child Recreator | Soil (0-2 ft bgs), SD, SW | UNDV, UHC |
| 7.13 | Calculation of Chemical Non-cancer Hazards - Adolescent Recreator | Soil (0-2 ft bgs), SD, SW | UNDV, UHC |
| 7.14 | Calculation of Chemical Non-cancer Hazards - Adult Recreator | Soil (0-2 ft bgs), SD, SW | UNDV, UHC |
| 9.5 | Chemical Cancer Risks and Non-cancer Hazards - Child Recreator | Soil (0-2 ft bgs), SD, SW | UNDV, UHC |
| 9.6 | Chemical Cancer Risks and Non-cancer Hazards - Adolescent Recreator | Soil (0-2 ft bgs), SD, SW | UNDV, UHC |
| 9.7 | Chemical Cancer Risks and Non-cancer Hazards - Adult Recreator | Soil (0-2 ft bgs), SD, SW | UNDV, UHC |
| 11 | Summary of Total Cancer Risks and Non-cancer Hazards by Exposure Area | All | UNDV, UHC |
| 12 | Risk Summary Detail | All | UNDV, UHC |
| 13 | Risk Summary Detail by Media | All | UNDV, UHC |
| 14.1 | Cancer Risk and Percent Contribution by Medium for Each Receptor and Exposure Area | All | UNDV, UHC |
| 14.2 | Non-cancer Hazard and Percent Contribution by Medium for Each Receptor and Exposure Area | All | UNDV, UHC |

Note:
This Appendix includes only the tables for the recreator exposures in the UNDV+UHC,
using the assumption that Cr(VI) in UHC sediment is 100% of the total chromium concentration.

| Exposure Areas |
|---|
| UHC – Upper Hilliards Creek |
| UNDV – Undeveloped Area |

**Table 3.4**
**Exposure Point Concentrations**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Medium: | Sediment |
| Exposure Medium: | Sediment (0-0.5 ft bgs) |

| Exposure Point | Chemical Group | Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCLM | Maximum Concentration | Exposure Point Concentration | Statistic/Rationale |
|---|---|---|---|---|---|---|---|---|
| UHC | METALS | ALUMINUM | mg/kg | 2176 | 3339 | 8210 | 3339 | 95% Adjusted Gamma UCL |
| UHC | METALS | ANTIMONY | mg/kg | 9.9 | 17 | 42 | 17 | 95% KM (t) UCL |
| UHC | METALS | ARSENIC | mg/kg | 225 | 1700 | 1720 | 1700 | 99% Chebyshev (Mean, Sd) UCL |
| UHC | METALS | BARIUM | mg/kg | 546 | 2382 | 4030 | 2382 | 975% KM (Chebyshev) UCL |
| UHC | METALS | CHROMIUM | mg/kg | 278 | 1826 | 2070 | 1826 | 99% Chebyshev (Mean, Sd) UCL |
| UHC | METALS | COBALT | mg/kg | 2.5 | 5.4 | 12 | 5.4 | 95% KM Adjusted Gamma UCL |
| UHC | METALS | COPPER | mg/kg | 64 | 164 | 330 | 164 | 95% Adjusted Gamma UCL |
| UHC | METALS | CYANIDE | mg/kg | 125 | 3252 | 651 | 651 | Maximum Concentration |
| UHC | METALS | IRON | mg/kg | 5781 | 7329 | 13500 | 7329 | 95% Student's-t UCL |
| UHC | METALS | LEAD | mg/kg | 1788 | 10269 | 10900 | 1788 | Arithmetic Mean |
| UHC | METALS | THALLIUM | mg/kg | 1.4 | 2.4 | 5.5 | 2.4 | 95% KM (t) UCL |
| UHC | PEST/PCB | AROCLOR-1254 | mg/kg | 0.12 | 0.26 | 0.48 | 0.26 | 95% KM Adjusted Gamma UCL |
| UHC | PEST/PCB | AROCLOR-1260 | mg/kg | 0.095 | 0.15 | 0.34 | 0.15 | 95% KM (t) UCL |
| UHC | SVOC | BENZO(A)ANTHRACENE | mg/kg | 4.1 | 6.1 | 15 | 6.1 | 95% Student's-t UCL |
| UHC | SVOC | BENZO(A)PYRENE | mg/kg | 4.2 | 6.2 | 15 | 6.2 | 95% KM (t) UCL |
| UHC | SVOC | BENZO(B)FLUORANTHENE | mg/kg | 4.1 | 6.0 | 15 | 6.0 | 95% Student's-t UCL |
| UHC | SVOC | BENZO(K)FLUORANTHENE | mg/kg | 4.2 | 8.3 | 19 | 8.3 | 95% Adjusted Gamma UCL |
| UHC | SVOC | CHRYSENE | mg/kg | 5.1 | 9.9 | 19 | 9.9 | 95% Adjusted Gamma UCL |
| UHC | SVOC | DIBENZO(A,H)ANTHRACENE | mg/kg | 0.81 | 1.2 | 3.0 | 1.2 | 95% KM (t) UCL |
| UHC | SVOC | INDENO(1,2,3-CD)PYRENE | mg/kg | 2.1 | 4.2 | 8.1 | 4.2 | Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1) |
| UHC | TIC | BENZO[J]FLUORANTHENE | mg/kg | 0.8 | NA | 1.1 | 1.1 | Maximum Concentration |

Notes:
Only chemicals identified as COPCs presented.
NA – Could not calculate using ProUCL because only detected in one sample.

**Table 7.5**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Receptor Population: | Recreator |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| Soil | Soil (0-2 ft bgs) | UNDV | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.5E+03 | mg/kg | 1.6E-03 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ANTIMONY | 1.2E+01 | mg/kg | 5.6E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ARSENIC | 1.2E+02 | mg/kg | 3.5E-05 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 5.2E-05 |
| | | | Ingestion | BARIUM | 1.3E+03 | mg/kg | 6.1E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CADMIUM | 1.5E+00 | mg/kg | 6.8E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | 2.9E-06 | mg/kg-d | 5.0E-01 | (mg/kg-d)-1 | 1.4E-06 (a) |
| | | | Ingestion | COBALT | 8.3E+00 | mg/kg | 3.9E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | COPPER | 1.3E+02 | mg/kg | 6.1E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CYANIDE | 8.8E+01 | mg/kg | 4.2E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | IRON | 1.5E+04 | mg/kg | 7.0E-03 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | LEAD | 6.6E+02 | mg/kg | 3.1E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | MANGANESE | 1.8E+02 | mg/kg | 8.6E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | MERCURY | 1.6E+00 | mg/kg | 7.6E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | THALLIUM | 5.2E-01 | mg/kg | 2.5E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | VANADIUM | 1.9E+01 | mg/kg | 9.1E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ZINC | 6.5E+02 | mg/kg | 3.0E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 7.4E-02 | mg/kg | 3.5E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 6.9E-08 |
| | | | Ingestion | AROCLOR-1260 | 4.2E-01 | mg/kg | 2.0E-07 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 3.9E-07 |
| | | | Ingestion | DIELDRIN | 1.0E-02 | mg/kg | 4.9E-09 | mg/kg-d | 1.6E+01 | (mg/kg-d)-1 | 7.8E-08 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 3.1E+00 | mg/kg | 1.1E-05 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.1E-06 (a) |
| | | | Ingestion | BENZO(A)PYRENE | 3.8E+00 | mg/kg | 1.3E-05 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.3E-05 (a) |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 4.5E+00 | mg/kg | 1.5E-05 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.5E-06 (a) |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 3.1E+00 | mg/kg | 1.1E-05 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 1.1E-07 (a) |
| | | | Ingestion | CHRYSENE | 4.5E+00 | mg/kg | 1.6E-05 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 1.6E-08 (a) |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 2.0E-06 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 2.0E-06 (a) |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 6.5E-06 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 6.5E-07 (a) |
| | | | Ingestion | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 2.5E-07 | mg/kg-d | 4.0E-01 | (mg/kg-d)-1 | 9.9E-08 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Ingestion]** | | | | | | | | **7.3E-05** |
| Soil | Soil (0-2 ft bgs) | UNDV | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.5E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ANTIMONY | 1.2E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ARSENIC | 1.2E+02 | mg/kg | 4.2E-06 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 6.2E-06 |
| | | | Dermal | BARIUM | 1.3E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CADMIUM | 1.5E+00 | mg/kg | 1.6E-09 | mg/kg-d | NA | (mg/kg-d)-1 | NA |

**Table 7.5**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Receptor Population: | Recreator |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | NA | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | NA |
| | | | Dermal | COBALT | 8.3E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | COPPER | 1.3E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CYANIDE | 8.8E+01 | | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 1.5E+04 | | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | LEAD | 6.6E+02 | | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MANGANESE | 1.8E+02 | | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MERCURY | 1.6E+00 | | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | THALLIUM | 5.2E-01 | | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | VANADIUM | 1.9E+01 | | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ZINC | 6.5E+02 | | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 7.4E-02 | | 1.1E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 2.3E-08 |
| | | | Dermal | AROCLOR-1260 | 4.2E-01 | | 6.5E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 1.3E-07 |
| | | | Dermal | DIELDRIN | 1.0E-02 | | 1.2E-09 | mg/kg-d | 1.6E+01 | (mg/kg-d)-1 | 1.9E-08 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 3.1E+00 | | 2.9E-06 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 2.9E-07 (a) |
| | | | Dermal | BENZO(A)PYRENE | 3.8E+00 | | 3.5E-06 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 3.5E-06 (a) |
| | | | Dermal | BENZO(B)FLUORANTHENE | 4.5E+00 | | 4.2E-06 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 4.2E-07 (a) |
| | | | Dermal | BENZO(K)FLUORANTHENE | 3.1E+00 | | 2.9E-06 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 2.9E-08 (a) |
| | | | Dermal | CHRYSENE | 4.5E+00 | | 4.2E-06 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 4.2E-09 (a) |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 5.5E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 5.5E-07 (a) |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 1.8E-06 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.8E-07 (a) |
| | | | Dermal | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 1.5E-07 | mg/kg-d | 4.0E-01 | (mg/kg-d)-1 | 5.9E-08 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Dermal]** | | | | | | | | **1.1E-05** |
| Soil | Particulates in Air (sc | UNDV | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ALUMINUM | 1.1E-06 | mg/m3 | 1.3E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ANTIMONY | 3.7E-09 | mg/m3 | 4.4E-08 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ARSENIC | 3.9E-08 | mg/m3 | 4.6E-07 | µg/m3 | 4.3E-03 | (µg/m3)-1 | 2.0E-09 |
| | | | Inhalation | BARIUM | 4.0E-07 | mg/m3 | 4.7E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | CADMIUM | 4.5E-10 | mg/m3 | 5.3E-09 | µg/m3 | 1.8E-03 | (µg/m3)-1 | 9.6E-12 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.6E-10 | mg/m3 | 1.6E-08 | µg/m3 | 8.4E-02 | (µg/m3)-1 | 1.4E-09 (a) |
| | | | Inhalation | COBALT | 2.6E-09 | mg/m3 | 3.1E-08 | µg/m3 | 9.0E-03 | (µg/m3)-1 | 2.7E-10 |
| | | | Inhalation | COPPER | 4.0E-08 | mg/m3 | 4.7E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | CYANIDE | 1.2E-03 | mg/m3 | 1.4E-02 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | IRON | 4.7E-06 | mg/m3 | 5.5E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | LEAD | 2.1E-07 | mg/m3 | 2.4E-06 | µg/m3 | NA | (µg/m3)-1 | NA |

**Table 7.5**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Receptor Population: | Recreator |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | MANGANESE | 5.7E-08 | mg/m3 | 6.7E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | MERCURY | 5.1E-10 | mg/m3 | 6.0E-09 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | THALLIUM | 1.6E-10 | mg/m3 | 1.9E-09 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | VANADIUM | 6.0E-09 | mg/m3 | 7.1E-08 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ZINC | 2.0E-07 | mg/m3 | 2.4E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | AROCLOR-1254 | 6.8E-08 | mg/m3 | 8.0E-07 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 4.6E-10 |
| | | | Inhalation | AROCLOR-1260 | 2.5E-07 | mg/m3 | 2.9E-06 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 1.7E-09 |
| | | | Inhalation | DIELDRIN | 3.3E-12 | mg/m3 | 3.8E-11 | µg/m3 | 4.6E-03 | (µg/m3)-1 | 1.8E-13 |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | BENZO(A)ANTHRACENE | 5.6E-07 | mg/m3 | 3.5E-05 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 2.1E-09 (a) |
| | | | Inhalation | BENZO(A)PYRENE | 1.2E-09 | mg/m3 | 7.4E-08 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 4.4E-11 (a) |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 1.4E-09 | mg/m3 | 8.8E-08 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 5.3E-12 (a) |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 9.7E-10 | mg/m3 | 6.1E-08 | µg/m3 | 6.0E-06 | (µg/m3)-1 | 3.6E-13 (a) |
| | | | Inhalation | CHRYSENE | 1.4E-09 | mg/m3 | 8.9E-08 | µg/m3 | 6.0E-07 | (µg/m3)-1 | 5.3E-14 (a) |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 1.8E-10 | mg/m3 | 1.2E-08 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 6.9E-12 (a) |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 5.9E-10 | mg/m3 | 3.7E-08 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 2.2E-12 (a) |
| | | | Inhalation | PENTACHLOROPHENOL | 1.7E-10 | mg/m3 | 1.9E-09 | µg/m3 | 5.1E-06 | (µg/m3)-1 | 9.9E-15 |
| | | | **Exposure Route Total [Particulates in Air (soil 0-2)-Inhalation]** | | | | | | | | **7.9E-09** |
| Sediment | Sediment | UHC | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.3E+03 | mg/kg | 1.6E-03 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ANTIMONY | 1.7E+01 | mg/kg | 7.9E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ARSENIC | 1.7E+03 | mg/kg | 4.8E-04 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 7.2E-04 |
| | | | Ingestion | BARIUM | 2.4E+03 | mg/kg | 1.1E-03 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CHROMIUM | 1.8E+03 | mg/kg | 6.2E-03 | mg/kg-d | 5.0E-01 | (mg/kg-d)-1 | 3.1E-03 (a) |
| | | | Ingestion | COBALT | 5.4E+00 | mg/kg | 2.5E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | COPPER | 1.6E+02 | mg/kg | 7.7E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CYANIDE | 6.5E+02 | mg/kg | 3.1E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | IRON | 7.3E+03 | mg/kg | 3.4E-03 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | LEAD | 1.8E+03 | mg/kg | 8.4E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | THALLIUM | 2.4E+00 | mg/kg | 1.1E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 2.6E-01 | mg/kg | 1.2E-07 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 2.4E-07 |
| | | | Ingestion | AROCLOR-1260 | 1.5E-01 | mg/kg | 7.1E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 1.4E-07 |

**Table 7.5**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Receptor Population: | Recreator |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 6.1E+00 | mg/kg | 2.1E-05 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 2.1E-06 (a) |
| | | | Ingestion | BENZO(A)PYRENE | 6.2E+00 | mg/kg | 2.1E-05 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 2.1E-05 (a) |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 6.0E+00 | mg/kg | 2.0E-05 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 2.0E-06 (a) |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 8.3E+00 | mg/kg | 2.8E-05 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 2.8E-07 (a) |
| | | | Ingestion | CHRYSENE | 9.9E+00 | mg/kg | 3.4E-05 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 3.4E-08 (a) |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 1.2E+00 | mg/kg | 4.2E-06 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 4.2E-06 (a) |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 4.2E+00 | mg/kg | 1.4E-05 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.4E-06 (a) |
| | | | Ingestion | **TICs** | | | | | | | |
| | | | Ingestion | BENZO[J]FLUORANTHENE | 1.1E+00 | mg/kg | 5.2E-07 | mg/kg-d | 1.2E+00 | (mg/kg-d)-1 | 6.2E-07 |
| | | | **Exposure Route Total [Sediment-Ingestion]** | | | | | | | | **3.9E-03** |
| Sediment | Sediment | UHC | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.3E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ANTIMONY | 1.7E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ARSENIC | 1.7E+03 | mg/kg | 5.7E-05 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 8.5E-05 |
| | | | Dermal | BARIUM | 2.4E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CHROMIUM | 1.8E+03 | mg/kg | NA | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | NA |
| | | | Dermal | COBALT | 5.4E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | COPPER | 1.6E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CYANIDE | 6.5E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 7.3E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | LEAD | 1.8E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | THALLIUM | 2.4E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 2.6E-01 | mg/kg | 4.0E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 8.0E-08 |
| | | | Dermal | AROCLOR-1260 | 1.5E-01 | mg/kg | 2.4E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 4.7E-08 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 6.1E+00 | mg/kg | 5.7E-06 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 5.7E-07 (a) |
| | | | Dermal | BENZO(A)PYRENE | 6.2E+00 | mg/kg | 5.8E-06 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 5.8E-06 (a) |
| | | | Dermal | BENZO(B)FLUORANTHENE | 6.0E+00 | mg/kg | 5.6E-06 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 5.6E-07 (a) |
| | | | Dermal | BENZO(K)FLUORANTHENE | 8.3E+00 | mg/kg | 7.8E-06 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 7.8E-08 (a) |
| | | | Dermal | CHRYSENE | 9.9E+00 | mg/kg | 9.2E-06 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 9.2E-09 (a) |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 1.2E+00 | mg/kg | 1.1E-06 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.1E-06 (a) |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 4.2E+00 | mg/kg | 3.9E-06 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 3.9E-07 (a) |
| | | | Dermal | **TICs** | | | | | | | |
| | | | Dermal | BENZO[J]FLUORANTHENE | 1.1E+00 | mg/kg | 1.6E-07 | mg/kg-d | 1.2E+00 | (mg/kg-d)-1 | 1.9E-07 |
| | | | **Exposure Route Total [Sediment-Dermal]** | | | | | | | | **9.4E-05** |

**Table 7.5**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Receptor Population: | Recreator |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| Surface Water | Surface Water | UHC | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ANTIMONY | 2.9E-03 | mg/L | 3.3E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ARSENIC | 5.7E-02 | mg/L | 5.0E-07 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 7.6E-07 |
| | | | Dermal | BARIUM | 2.8E-01 | mg/L | 3.5E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CHROMIUM | 3.8E-03 | mg/L | 1.9E-07 | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | 3.9E-06 (a) |
| | | | Dermal | CYANIDE | 9.7E-03 | mg/L | 7.0E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 6.2E+00 | mg/L | 5.0E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | LEAD | 9.8E-03 | mg/L | 1.9E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MANGANESE | 2.9E-01 | mg/L | 2.3E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | THALLIUM | 3.6E-03 | mg/L | 6.7E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | VANADIUM | 2.8E-03 | mg/L | 2.2E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)PYRENE | 1.0E-03 | mg/L | 1.2E-04 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.2E-04 (a) |
| | | | Dermal | BENZO(B)FLUORANTHENE | 2.0E-03 | mg/L | 1.4E-04 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.4E-05 (a) |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.0E-03 | mg/L | 2.4E-04 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 2.4E-05 (a) |
| | | | Dermal | NAPHTHALENE | 5.0E-04 | mg/L | 2.7E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **VOCs** | | | | | | | |
| | | | Dermal | 1,4-DICHLOROBENZENE | 7.0E-04 | mg/L | 4.1E-07 | mg/kg-d | 5.4E-03 | (mg/kg-d)-1 | 2.2E-09 |
| | | | Dermal | BENZENE | 5.3E-03 | mg/L | 6.9E-07 | mg/kg-d | 5.5E-02 | (mg/kg-d)-1 | 3.8E-08 |
| | | | Dermal | DICHLOROMETHANE | 7.1E-03 | mg/L | 1.5E-06 | mg/kg-d | 2.0E-03 | (mg/kg-d)-1 | 2.9E-09 (a) |
| | | | Dermal | VINYL CHLORIDE | 1.0E-03 | mg/L | 2.0E-06 | mg/kg-d | 7.2E-01 | (mg/kg-d)-1 | 1.4E-06 (a) |
| | | | **Exposure Route Total [Surface Water-Dermal]** | | | | | | | | **2E-04** |
| **Exposure Point Total (UNDV+UHC)** | | | | | | | | | | | **4E-03** |

Notes:

NA – Not Available.

Chromium risks in sediment and surface water were calculated using toxicity values for hexavalent chromium.

(a) The mutagen risks were calculated for COPCs identified as having a mutagenic mode of action.

**Table 7.5**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Receptor Population: | Recreator |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |

**Ingestion- Soil**

| Intake Factor (IF) = IR x FS x EF x ED x CF x TAF / BW x AT | | = | Non-mutagens | Mutagens[a] | |
|---|---|---|---|---|---|
| | | | 4.7E-07 (Child) | 2.6E-06 (0-2 yrs) | 8.1E-07 (2-6 yrs) |
| IR | Ingestion Rate (mg/day) | | 200 | 200 | 200 |
| FS | Fraction from Contaminated Source | | 1 | 1 | 1 |
| EF | Soil Ingestion Exposure Frequency (days/yr) | | 150 | 150 | 150 |
| ED | Soil Ingestion Exposure Duration (yrs) | | 6 | 2 | 4 |
| CF | Conversion Factor (kg/mg) | | 0.000001 | 0.000001 | 0.000001 |
| BW | Body Weight (kg) | | 15 | 9 | 17 |
| AT | Averaging Time (d) | | 25,550 | 25,550 | 25,550 |
| TAF | Toxicity Adjustment Factor | | -- | 10 | 3 |

$Intake_{ing}$(mg/kg·d) = $EPC_{soil}$*IF*B
(B) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Dermal- Soil**

| Intake Factor (IF) = SA x AF x EF x ED x CF x TAF / BW x AT | | = | Non-mutagens | Mutagens[a] | |
|---|---|---|---|---|---|
| | | | 1.1E-06 (Child) | 5.1E-06 (0-2 yrs) | 2.1E-06 (2-6 yrs) |
| SA | Surface Area Exposed to Soil (cm²/day) | | 2,373 | 1,954 | 2,591 |
| AF | Soil Skin Adherence Factor (mg/cm²) | | 0.2 | 0.2 | 0.2 |
| EF | Soil Dermal Exposure Frequency (days/yr) | | 150 | 150 | 150 |
| ED | Soil Dermal Exposure Duration (yrs) | | 6 | 2 | 4 |
| CF | Conversion Factor (kg/mg) | | 0.000001 | 0.000001 | 0.000001 |
| BW | Body Weight (kg) | | 15 | 9 | 17 |
| AT | Averaging Time (d) | | 25,550 | 25,550 | 25,550 |
| TAF | Toxicity Adjustment Factor | | -- | 10 | 3 |

$Intake_{derm}$(mg/kg·d) = $EPC_{soil}$*IF*ABS
(ABS) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Table 7.5**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Receptor Population: | Recreator |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |

**Inhalation - Soil**

| | | Non-mutagens | Mutagens[a] | |
|---|---|---|---|---|
| Intake Factor (IF) = $\frac{EF \times ED \times ET \times CF1 \times CF2 \times TAF}{AT}$ | = | 1.2E+01 (Child) | 3.9E+01 (0-2 yrs) | 2.3E+01 (2-6 yrs) |
| EF | Soil Exposure Frequency (days/yr) | 150 | 150 | 150 |
| ED | Soil Exposure Duration (yrs) | 6 | 2 | 4 |
| ET | Soil Exposure Time (hours/day) | 8 | 8 | 8 |
| CF1 | Conversion Factor (day/hour) | 0.042 | 0.042 | 0.042 |
| CF2 | Conversion Factor (µg/mg) | 1000 | 1000 | 1000 |
| AT | Averaging Time (d) | 25,550 | 25,550 | 25,550 |
| TAF | Toxicity Adjustment Factor | -- | 10 | 3 |

EPCair = EPCsoil x [1/Volatilization Factor (VF) + 1/Particulate Emissions Factor (PEF)]
Exposure = EPCair x IF
Cancer risk = Exposure x Inhalation Unit Risk (IUR)

**Ingestion- Sediment (SD)**

| | | Non-mutagens | Mutagens[a] | |
|---|---|---|---|---|
| Intake Factor (IF) = $\frac{IR \times FS \times EF \times ED \times CF \times TAF}{BW \times AT}$ | = | 4.7E-07 (Child) | 2.6E-06 (0-2 yrs) | 8.1E-07 (2-6 yrs) |
| IR | Ingestion Rate (mg/day) | 200 | 200 | 200 |
| FS | Fraction from Contaminated Source | 1 | 1 | 1 |
| EF | Sediment Ingestion Exposure Frequency (days/yr) | 150 | 150 | 150 |
| ED | Sediment Ingestion Exposure Duration (yrs) | 6 | 2 | 4 |
| CF | Conversion Factor (kg/mg) | 0.000001 | 0.000001 | 0.000001 |
| BW | Body Weight (kg) | 15 | 9 | 17 |
| AT | Averaging Time (d) | 25,550 | 25,550 | 25,550 |
| TAF | Toxicity Adjustment Factor | -- | 10 | 3 |

$Intake_{ing}$(mg/kg·d) = $EPC_{sd}$*IF*B
(B) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Table 7.5**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Future |
| Receptor Population: | Recreator |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |

**Dermal- Sediment (SD)**

$$\text{Intake Factor (IF)} = \frac{SA \times AF \times EF \times ED \times CF \times TAF}{BW \times AT} =$$

| | Non-mutagens | Mutagens[a] | |
|---|---|---|---|
| | 1.1E-06 (Child) | 5.1E-06 (0-2 yrs) | 2.1E-06 (2-6 yrs) |
| SA Surface Area Exposed to Sediment (cm²/day) | 2,373 | 1,954 | 2,591 |
| AF Sediment Skin Adherence Factor (mg/cm²) | 0.2 | 0.2 | 0.2 |
| EF Sediment Dermal Exposure Frequency (days/yr) | 150 | 150 | 150 |
| ED Sediment Dermal Exposure Duration (yrs) | 6 | 2 | 4 |
| CF Conversion Factor (kg/mg) | 0.000001 | 0.000001 | 0.000001 |
| BW Body Weight (kg) | 15 | 9 | 17 |
| AT Averaging Time (d) | 25,550 | 25,550 | 25,550 |
| TAF Toxicity Adjustment Factor | -- | 10 | 3 |

$Intake_{derm}$(mg/kg·d) = $EPC_{sd}$*IF*ABS
(ABS) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Dermal- Surface water (SW)**

$$\text{Intake Factor (IF)} = \frac{SA \times EV \times EF \times ED \times TAF}{BW \times AT} =$$

| | Non-mutagens | Mutagens[a] | |
|---|---|---|---|
| | 5.6E+00 (Child) | 2.6E+01 (0-2 yrs) | 1.0E+01 (2-6 yrs) |
| SA Surface Area Exposed to Surface Water (cm²) | 2,373 | 1,954 | 2,591 |
| EF Surface Water Dermal Exposure Frequency (days/yr) | 150 | 150 | 150 |
| ED Surface Water Dermal Exposure Duration (yrs) | 6 | 2 | 4 |
| EV Event per day (ev/d) | 1 | 1 | 1 |
| BW Body Weight (kg) | 15 | 9 | 17 |
| AT Averaging Time (d) | 25,550 | 25,550 | 25,550 |
| TAF Toxicity Adjustment Factor | -- | 10 | 3 |

$Intake_{derm}$(mg/kg·d) = IF x Absorbed Dose per event ($DA_{event}$)
($DA_{event}$) presented in Table 4.5.
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**For Vinyl Chloride**

$Intake_{derm} = DA_{event} * [(IF_{child})+(EV_{child}*SA_{child}/BW_{child})]$

**Table 7.6**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adolescent |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| Soil | Soil (0-2 ft bgs) | UNDV | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.5E+03 | mg/kg | 4.6E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ANTIMONY | 1.2E+01 | mg/kg | 1.6E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ARSENIC | 1.2E+02 | mg/kg | 9.9E-06 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 1.5E-05 |
| | | | Ingestion | BARIUM | 1.3E+03 | mg/kg | 1.7E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CADMIUM | 1.5E+00 | mg/kg | 1.9E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | 3.3E-07 | mg/kg-d | 5.0E-01 | (mg/kg-d)-1 | 1.7E-07 (a) |
| | | | Ingestion | COBALT | 8.3E+00 | mg/kg | 1.1E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | COPPER | 1.3E+02 | mg/kg | 1.7E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CYANIDE | 8.8E+01 | mg/kg | 1.2E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | IRON | 1.5E+04 | mg/kg | 2.0E-03 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | LEAD | 6.6E+02 | mg/kg | 8.8E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | MANGANESE | 1.8E+02 | mg/kg | 2.4E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | MERCURY | 1.6E+00 | mg/kg | 2.2E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | THALLIUM | 5.2E-01 | mg/kg | 6.9E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | VANADIUM | 1.9E+01 | mg/kg | 2.6E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ZINC | 6.5E+02 | mg/kg | 8.6E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 7.4E-02 | mg/kg | 9.8E-09 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 2.0E-08 |
| | | | Ingestion | AROCLOR-1260 | 4.2E-01 | mg/kg | 5.5E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 1.1E-07 |
| | | | Ingestion | DIELDRIN | 1.0E-02 | mg/kg | 1.4E-09 | mg/kg-d | 1.6E+01 | (mg/kg-d)-1 | 2.2E-08 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 3.1E+00 | mg/kg | 1.2E-06 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.2E-07 (a) |
| | | | Ingestion | BENZO(A)PYRENE | 3.8E+00 | mg/kg | 1.5E-06 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.5E-06 (a) |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 4.5E+00 | mg/kg | 1.8E-06 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.8E-07 (a) |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 3.1E+00 | mg/kg | 1.2E-06 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 1.2E-08 (a) |
| | | | Ingestion | CHRYSENE | 4.5E+00 | mg/kg | 1.8E-06 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 1.8E-09 (a) |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 2.3E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 2.3E-07 (a) |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 7.6E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 7.6E-08 (a) |
| | | | Ingestion | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 7.0E-08 | mg/kg-d | 4.0E-01 | (mg/kg-d)-1 | 2.8E-08 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Ingestion]** | | | | | | | | **1.7E-05** |
| Soil | Soil (0-2 ft bgs) | UNDV | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.5E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ANTIMONY | 1.2E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ARSENIC | 1.2E+02 | mg/kg | 1.6E-06 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 2.4E-06 |
| | | | Dermal | BARIUM | 1.3E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CADMIUM | 1.5E+00 | mg/kg | 6.2E-10 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | NA | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | NA |
| | | | Dermal | COBALT | 8.3E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |

**Table 7.6**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adolescent |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | COPPER | 1.3E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CYANIDE | 8.8E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 1.5E+04 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | LEAD | 6.6E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MANGANESE | 1.8E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MERCURY | 1.6E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | THALLIUM | 5.2E-01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | VANADIUM | 1.9E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ZINC | 6.5E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 7.4E-02 | mg/kg | 4.4E-09 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 8.9E-09 |
| | | | Dermal | AROCLOR-1260 | 4.2E-01 | mg/kg | 2.5E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 5.0E-08 |
| | | | Dermal | DIELDRIN | 1.0E-02 | mg/kg | 4.5E-10 | mg/kg-d | 1.6E+01 | (mg/kg-d)-1 | 7.2E-09 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 3.1E+00 | mg/kg | 5.3E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 5.3E-08 (a) |
| | | | Dermal | BENZO(A)PYRENE | 3.8E+00 | mg/kg | 6.3E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 6.3E-07 (a) |
| | | | Dermal | BENZO(B)FLUORANTHENE | 4.5E+00 | mg/kg | 7.5E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 7.5E-08 (a) |
| | | | Dermal | BENZO(K)FLUORANTHENE | 3.1E+00 | mg/kg | 5.2E-07 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 5.2E-09 (a) |
| | | | Dermal | CHRYSENE | 4.5E+00 | mg/kg | 7.6E-07 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 7.6E-10 (a) |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 9.9E-08 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 9.9E-08 (a) |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 3.2E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 3.2E-08 (a) |
| | | | Dermal | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 5.7E-08 | mg/kg-d | 4.0E-01 | (mg/kg-d)-1 | 2.3E-08 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Dermal]** | | | | | | | | **3.4E-06** |
| Soil | Particulates in Air (soil 0-2) | UNDV | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ALUMINUM | 1.1E-06 | mg/m3 | 2.1E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ANTIMONY | 3.7E-09 | mg/m3 | 7.3E-08 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ARSENIC | 3.9E-08 | mg/m3 | 7.6E-07 | µg/m3 | 4.3E-03 | (µg/m3)-1 | 3.3E-09 |
| | | | Inhalation | BARIUM | 4.0E-07 | mg/m3 | 7.9E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | CADMIUM | 4.5E-10 | mg/m3 | 8.9E-09 | µg/m3 | 1.8E-03 | (µg/m3)-1 | 1.6E-11 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.6E-10 | mg/m3 | 1.5E-08 | µg/m3 | 8.4E-02 | (µg/m3)-1 | 1.3E-09 (a) |
| | | | Inhalation | COBALT | 2.6E-09 | mg/m3 | 5.1E-08 | µg/m3 | 9.0E-03 | (µg/m3)-1 | 4.6E-10 |
| | | | Inhalation | COPPER | 4.0E-08 | mg/m3 | 7.9E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | CYANIDE | 1.2E-03 | mg/m3 | 2.3E-02 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | IRON | 4.7E-06 | mg/m3 | 9.1E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | LEAD | 2.1E-07 | mg/m3 | 4.1E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | MANGANESE | 5.7E-08 | mg/m3 | 1.1E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | MERCURY | 5.1E-10 | mg/m3 | 9.9E-09 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | THALLIUM | 1.6E-10 | mg/m3 | 3.2E-09 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | VANADIUM | 6.0E-09 | mg/m3 | 1.2E-07 | µg/m3 | NA | (µg/m3)-1 | NA |

**Table 7.6**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adolescent |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | ZINC | 2.0E-07 | mg/m3 | 4.0E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | AROCLOR-1254 | 6.8E-08 | mg/m3 | 1.3E-06 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 7.6E-10 |
| | | | Inhalation | AROCLOR-1260 | 2.5E-07 | mg/m3 | 4.8E-06 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 2.8E-09 |
| | | | Inhalation | DIELDRIN | 3.3E-12 | mg/m3 | 6.4E-11 | µg/m3 | 4.6E-03 | (µg/m3)-1 | 2.9E-13 |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | BENZO(A)ANTHRACENE | 5.6E-07 | mg/m3 | 3.3E-05 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 2.0E-09 (a) |
| | | | Inhalation | BENZO(A)PYRENE | 1.2E-09 | mg/m3 | 6.9E-08 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 4.2E-11 (a) |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 1.4E-09 | mg/m3 | 8.2E-08 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 4.9E-12 (a) |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 9.7E-10 | mg/m3 | 5.7E-08 | µg/m3 | 6.0E-06 | (µg/m3)-1 | 3.4E-13 (a) |
| | | | Inhalation | CHRYSENE | 1.4E-09 | mg/m3 | 8.3E-08 | µg/m3 | 6.0E-07 | (µg/m3)-1 | 5.0E-14 (a) |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 1.8E-10 | mg/m3 | 1.1E-08 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 6.5E-12 (a) |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 5.9E-10 | mg/m3 | 3.5E-08 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 2.1E-12 (a) |
| | | | Inhalation | PENTACHLOROPHENOL | 1.7E-10 | mg/m3 | 3.2E-09 | µg/m3 | 5.1E-06 | (µg/m3)-1 | 1.6E-14 |
| | | | **Exposure Route Total [Particulates in Air (soil 0-2)-Inhalation]** | | | | | | | | **1.1E-08** |
| Sediment | Sediment | UHC | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.3E+03 | mg/kg | 1.3E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ANTIMONY | 1.7E+01 | mg/kg | 6.6E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ARSENIC | 1.7E+03 | mg/kg | 4.0E-05 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 5.9E-05 |
| | | | Ingestion | BARIUM | 2.4E+03 | mg/kg | 9.3E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CHROMIUM | 1.8E+03 | mg/kg | 2.1E-04 | mg/kg-d | 5.0E-01 | (mg/kg-d)-1 | 1.1E-04 (a) |
| | | | Ingestion | COBALT | 5.4E+00 | mg/kg | 2.1E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | COPPER | 1.6E+02 | mg/kg | 6.4E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CYANIDE | 6.5E+02 | mg/kg | 2.5E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | IRON | 7.3E+03 | mg/kg | 2.8E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | LEAD | 1.8E+03 | mg/kg | 7.0E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | THALLIUM | 2.4E+00 | mg/kg | 9.4E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 2.6E-01 | mg/kg | 9.9E-09 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 2.0E-08 |
| | | | Ingestion | AROCLOR-1260 | 1.5E-01 | mg/kg | 5.9E-09 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 1.2E-08 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 6.1E+00 | mg/kg | 7.1E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 7.1E-08 (a) |
| | | | Ingestion | BENZO(A)PYRENE | 6.2E+00 | mg/kg | 7.2E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 7.2E-07 (a) |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 6.0E+00 | mg/kg | 7.0E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 7.0E-08 (a) |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 8.3E+00 | mg/kg | 9.7E-07 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 9.7E-09 (a) |
| | | | Ingestion | CHRYSENE | 9.9E+00 | mg/kg | 1.2E-06 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 1.2E-09 (a) |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 1.2E+00 | mg/kg | 1.4E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.4E-07 (a) |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 4.2E+00 | mg/kg | 4.9E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 4.9E-08 (a) |

**Table 7.6**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adolescent |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | **TICs** | | | | | | | |
| | | | Ingestion | BENZO[J]FLUORANTHENE | 1.1E+00 | mg/kg | 4.3E-08 | mg/kg-d | 1.2E+00 | (mg/kg-d)-1 | 5.1E-08 |
| | | | **Exposure Route Total [Sediment-Ingestion]** | | | | | | | | **1.7E-04** |
| Sediment | Sediment | UHC | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.3E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ANTIMONY | 1.7E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ARSENIC | 1.7E+03 | mg/kg | 1.8E-05 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 2.8E-05 |
| | | | Dermal | BARIUM | 2.4E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CHROMIUM | 1.8E+03 | mg/kg | NA | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | NA |
| | | | Dermal | COBALT | 5.4E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | COPPER | 1.6E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CYANIDE | 6.5E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 7.3E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | LEAD | 1.8E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | THALLIUM | 2.4E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 2.6E-01 | mg/kg | 1.3E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 2.6E-08 |
| | | | Dermal | AROCLOR-1260 | 1.5E-01 | mg/kg | 7.6E-09 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 1.5E-08 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 6.1E+00 | mg/kg | 8.6E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 8.6E-08 (a) |
| | | | Dermal | BENZO(A)PYRENE | 6.2E+00 | mg/kg | 8.7E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 8.7E-07 (a) |
| | | | Dermal | BENZO(B)FLUORANTHENE | 6.0E+00 | mg/kg | 8.4E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 8.4E-08 (a) |
| | | | Dermal | BENZO(K)FLUORANTHENE | 8.3E+00 | mg/kg | 1.2E-06 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 1.2E-08 (a) |
| | | | Dermal | CHRYSENE | 9.9E+00 | mg/kg | 1.4E-06 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 1.4E-09 (a) |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 1.2E+00 | mg/kg | 1.7E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.7E-07 (a) |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 4.2E+00 | mg/kg | 5.9E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 5.9E-08 (a) |
| | | | Dermal | **TICs** | | | | | | | |
| | | | Dermal | BENZO[J]FLUORANTHENE | 1.1E+00 | mg/kg | 5.2E-08 | mg/kg-d | 1.2E+00 | (mg/kg-d)-1 | 6.2E-08 |
| | | | **Exposure Route Total [Sediment-Dermal]** | | | | | | | | **2.9E-05** |
| Surface Water | Surface Water | UHC | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ANTIMONY | 2.9E-03 | mg/L | 1.1E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ARSENIC | 5.7E-02 | mg/L | 1.6E-07 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 2.4E-07 |
| | | | Dermal | BARIUM | 2.8E-01 | mg/L | 1.1E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CHROMIUM | 3.8E-03 | mg/L | 2.9E-08 | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | 5.8E-07 (a) |
| | | | Dermal | CYANIDE | 9.7E-03 | mg/L | 2.3E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 6.2E+00 | mg/L | 1.6E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | LEAD | 9.8E-03 | mg/L | 6.1E-09 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MANGANESE | 2.9E-01 | mg/L | 7.4E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | THALLIUM | 3.6E-03 | mg/L | 2.2E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |

**Table 7.6**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adolescent |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | VANADIUM | 2.8E-03 | mg/L | 7.0E-09 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)PYRENE | 1.0E-03 | mg/L | 1.8E-05 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.8E-05 (a) |
| | | | Dermal | BENZO(B)FLUORANTHENE | 2.0E-03 | mg/L | 2.1E-05 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 2.1E-06 (a) |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.0E-03 | mg/L | 3.6E-05 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 3.6E-06 (a) |
| | | | Dermal | NAPHTHALENE | 5.0E-04 | mg/L | 8.7E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **VOCs** | | | | | | | |
| | | | Dermal | 1,4-DICHLOROBENZENE | 7.0E-04 | mg/L | 1.3E-07 | mg/kg-d | 5.4E-03 | (mg/kg-d)-1 | 7.2E-10 |
| | | | Dermal | BENZENE | 5.3E-03 | mg/L | 2.2E-07 | mg/kg-d | 5.5E-02 | (mg/kg-d)-1 | 1.2E-08 |
| | | | Dermal | DICHLOROMETHANE | 7.1E-03 | mg/L | 2.2E-07 | mg/kg-d | 2.0E-03 | (mg/kg-d)-1 | 4.4E-10 (a) |
| | | | Dermal | VINYL CHLORIDE | 1.0E-03 | mg/L | 1.3E-06 | mg/kg-d | 7.2E-01 | (mg/kg-d)-1 | 9.4E-07 (a) |
| | | | **Exposure Route Total [Surface Water-Dermal]** | | | | | | | | **2.5E-05** |
| **Exposure Point Total (UNDV+UHC)** | | | | | | | | | | | **2E-04** |

Notes:
NA – Not Available.
Chromium risks in sediment and surface water were calculated using toxicity values for hexavalent chromium.
(a) The mutagen risks were calculated for COPCs identified as having a mutagenic mode of action.

**Ingestion- Soil**

$$\text{Intake Factor (IF)} = \frac{IR \times FS \times EF \times ED \times CF \times TAF}{BW \times AT} =$$

| | | Non-mutagens | Mutagens[a] |
|---|---|---|---|
| | Intake Factor (IF) = | 1.3E-07 (Adolescent) | 4.0E-07 (6-16 yrs) |
| IR | Ingestion Rate (mg/day) | 100 | 100 |
| FS | Fraction from Contaminated Source | 1 | 1 |
| EF | Soil Ingestion Exposure Frequency (days/yr) | 150 | 150 |
| ED | Soil Ingestion Exposure Duration (yrs) | 10 | 10 |
| CF | Conversion Factor (kg/mg) | 0.000001 | 0.000001 |
| BW | Body Weight (kg) | 44 | 44 |
| AT | Averaging Time (d) | 25,550 | 25,550 |
| TAF | Toxicity Adjustment Factor | -- | 3 |

$Intake_{ing}$(mg/kg·d) = $EPC_{soil}$*IF*B
(B) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Table 7.6**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adolescent |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |

**Dermal- Soil**

| | | | Non-mutagens | Mutagens[a] |
|---|---|---|---|---|
| Intake Factor (IF) = | $\frac{SA \times AF \times EF \times ED \times CF \times TAF}{BW \times AT}$ | = | 4.3E-07 (Adolescent) | 1.3E-06 (6-16 yrs) |
| SA | Surface Area Exposed to Soil (cm²/day) | | 4,639 | 4,639 |
| AF | Soil Skin Adherence Factor (mg/cm²) | | 0.07 | 0.07 |
| EF | Soil Dermal Exposure Frequency (days/yr) | | 150 | 150 |
| ED | Soil Dermal Exposure Duration (yrs) | | 10 | 10 |
| CF | Conversion Factor (kg/mg) | | 0.000001 | 0.000001 |
| BW | Body Weight (kg) | | 44 | 44 |
| AT | Averaging Time (d) | | 25,550 | 25,550 |
| TAF | Toxicity Adjustment Factor | | -- | 3 |

$Intake_{derm}$(mg/kg·d) = $EPC_{soil}$*IF*ABS
(ABS) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Inhalation - Soil**

| | | | Non-mutagens | Mutagens[a] |
|---|---|---|---|---|
| Intake Factor (IF) = | $\frac{EF \times ED \times ET \times CF1 \times CF2 \times TAF}{AT}$ | = | 2.0E+01 (Adolescent) | 5.9E+01 (6-16 yrs) |
| EF | Soil Exposure Frequency (days/yr) | | 150 | 150 |
| ED | Soil Exposure Duration (yrs) | | 10 | 10 |
| ET | Soil Exposure Time (hours/day) | | 8 | 8 |
| CF1 | Conversion Factor (day/hour) | | 0.042 | 0.042 |
| CF2 | Conversion Factor (µg/mg) | | 1000 | 1000 |
| AT | Averaging Time (d) | | 25,550 | 25,550 |
| TAF | Toxicity Adjustment Factor | | -- | 3 |

EPCair = EPCsoil x [1/Volatilization Factor (VF) + 1/Particulate Emissions Factor (PEF)]
Exposure = EPCair x IF
Cancer risk = Exposure x Inhalation Unit Risk (IUR)

**Table 7.6**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adolescent |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |

**Ingestion- Sediment (SD)**

| | | Non-mutagens | Mutagens[a] |
|---|---|---|---|
| Intake Factor (IF) = $\frac{IR \times FS \times EF \times ED \times CF \times TAF}{BW \times AT}$ | = | 3.9E-08 (Adolescent) | 1.2E-07 (6-16 yrs) |
| IR | Ingestion Rate (mg/day) | 100 | 100 |
| FS | Fraction from Contaminated Source | 1 | 1 |
| EF | Sediment Ingestion Exposure Frequency (days/yr) | 44 | 44 |
| ED | Sediment Ingestion Exposure Duration (yrs) | 10 | 10 |
| CF | Conversion Factor (kg/mg) | 0.000001 | 0.000001 |
| BW | Body Weight (kg) | 44 | 44 |
| AT | Averaging Time (d) | 25,550 | 25,550 |
| TAF | Toxicity Adjustment Factor | -- | 3 |

$Intake_{ing}$(mg/kg·d) = $EPC_{sd}$*IF*B
(B) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Dermal- Sediment (SD)**

| | | Non-mutagens | Mutagens[a] |
|---|---|---|---|
| Intake Factor (IF) = $\frac{SA \times AF \times EF \times ED \times CF \times TAF}{BW \times AT}$ | = | 3.6E-07 (Adolescent) | 1.1E-06 (6-16 yrs) |
| SA | Surface Area Exposed to Sediment ($cm^2$/day) | 4,639 | 4,639 |
| AF | Sediment Skin Adherence Factor (mg/$cm^2$) | 0.2 | 0.2 |
| EF | Sediment Dermal Exposure Frequency (days/yr) | 44 | 44 |
| ED | Sediment Dermal Exposure Duration (yrs) | 10 | 10 |
| CF | Conversion Factor (kg/mg) | 0.000001 | 0.000001 |
| BW | Body Weight (kg) | 44 | 44 |
| AT | Averaging Time (d) | 25,550 | 25,550 |
| TAF | Toxicity Adjustment Factor | -- | 3 |

$Intake_{derm}$(mg/kg·d) = $EPC_{sd}$*IF*ABS
(ABS) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Table 7.6**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adolescent |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |

**Dermal- Surface water (SW)**

| | | | Non-mutagens | Mutagens[a] |
|---|---|---|---|---|
| Intake Factor (IF) = | $\frac{SA \times EV \times EF \times ED \times TAF}{BW \times AT}$ | = | 1.8E+00 (Adolescent) | 5.4E+00 (6-16 yrs) |
| SA | Surface Area Exposed to Surface Water (cm²) | | 4,639 | 4,639 |
| EF | Surface Water Dermal Exposure Frequency (days/yr) | | 44 | 44 |
| ED | Surface Water Dermal Exposure Duration (yrs) | | 10 | 10 |
| EV | Event per day (ev/d) | | 1 | 1 |
| BW | Body Weight (kg) | | 44 | 44 |
| AT | Averaging Time (d) | | 25,550 | 25,550 |
| TAF | Toxicity Adjustment Factor | | -- | 3 |

$Intake_{derm}$(mg/kg·d) = IF x Absorbed Dose per event ($DA_{event}$)
($DA_{event}$) presented in Table 4.5.
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**For Vinyl Chloride**

$Intake_{derm} = DA_{event} * [(IF_{adolescent})+(EV_{adolescent}*SA_{adolescent}/BW_{adolescent})]$

**Table 7.7**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| Soil | Soil (0-2 ft bgs) | UNDV | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.5E+03 | mg/kg | 6.6E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ANTIMONY | 1.2E+01 | mg/kg | 2.3E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ARSENIC | 1.2E+02 | mg/kg | 1.4E-05 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 2.1E-05 |
| | | | Ingestion | BARIUM | 1.3E+03 | mg/kg | 2.5E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CADMIUM | 1.5E+00 | mg/kg | 2.8E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | 1.6E-07 | mg/kg-d | 5.0E-01 | (mg/kg-d)-1 | 8.0E-08 |
| | | | Ingestion | COBALT | 8.3E+00 | mg/kg | 1.6E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | COPPER | 1.3E+02 | mg/kg | 2.5E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CYANIDE | 8.8E+01 | mg/kg | 1.7E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | IRON | 1.5E+04 | mg/kg | 2.8E-03 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | LEAD | 6.6E+02 | mg/kg | 1.3E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | MANGANESE | 1.8E+02 | mg/kg | 3.5E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | MERCURY | 1.6E+00 | mg/kg | 3.1E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | THALLIUM | 5.2E-01 | mg/kg | 1.0E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | VANADIUM | 1.9E+01 | mg/kg | 3.7E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ZINC | 6.5E+02 | mg/kg | 1.2E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 7.4E-02 | mg/kg | 1.4E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 2.8E-08 |
| | | | Ingestion | AROCLOR-1260 | 4.2E-01 | mg/kg | 8.0E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 1.6E-07 |
| | | | Ingestion | DIELDRIN | 1.0E-02 | mg/kg | 2.0E-09 | mg/kg-d | 1.6E+01 | (mg/kg-d)-1 | 3.2E-08 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 3.1E+00 | mg/kg | 6.0E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 6.0E-08 |
| | | | Ingestion | BENZO(A)PYRENE | 3.8E+00 | mg/kg | 7.2E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 7.2E-07 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 4.5E+00 | mg/kg | 8.5E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 8.5E-08 |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 3.1E+00 | mg/kg | 5.9E-07 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 5.9E-09 |
| | | | Ingestion | CHRYSENE | 4.5E+00 | mg/kg | 8.6E-07 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 8.6E-10 |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 1.1E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.1E-07 |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 3.6E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 3.6E-08 |
| | | | Ingestion | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 1.0E-07 | mg/kg-d | 4.0E-01 | (mg/kg-d)-1 | 4.0E-08 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Ingestion]** | | | | | | | | **2.3E-05** |
| Soil | Soil (0-2 ft bgs) | UNDV | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.5E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ANTIMONY | 1.2E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ARSENIC | 1.2E+02 | mg/kg | 3.0E-06 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 4.5E-06 |
| | | | Dermal | BARIUM | 1.3E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CADMIUM | 1.5E+00 | mg/kg | 1.2E-09 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | NA | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | NA |
| | | | Dermal | COBALT | 8.3E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | COPPER | 1.3E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |

**Table 7.7**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | CYANIDE | 8.8E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 1.5E+04 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | LEAD | 6.6E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MANGANESE | 1.8E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MERCURY | 1.6E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | THALLIUM | 5.2E-01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | VANADIUM | 1.9E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ZINC | 6.5E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 7.4E-02 | mg/kg | 8.3E-09 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 1.7E-08 |
| | | | Dermal | AROCLOR-1260 | 4.2E-01 | mg/kg | 4.7E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 9.4E-08 |
| | | | Dermal | DIELDRIN | 1.0E-02 | mg/kg | 8.4E-10 | mg/kg-d | 1.6E+01 | (mg/kg-d)-1 | 1.3E-08 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 3.1E+00 | mg/kg | 3.3E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 3.3E-08 |
| | | | Dermal | BENZO(A)PYRENE | 3.8E+00 | mg/kg | 4.0E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 4.0E-07 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 4.5E+00 | mg/kg | 4.7E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 4.7E-08 |
| | | | Dermal | BENZO(K)FLUORANTHENE | 3.1E+00 | mg/kg | 3.3E-07 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 3.3E-09 |
| | | | Dermal | CHRYSENE | 4.5E+00 | mg/kg | 4.7E-07 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 4.7E-10 |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 6.2E-08 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 6.2E-08 |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 2.0E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 2.0E-08 |
| | | | Dermal | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 1.1E-07 | mg/kg-d | 4.0E-01 | (mg/kg-d)-1 | 4.3E-08 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Dermal]** | | | | | | | | **5.2E-06** |
| Soil | Particulates in Air (soil 0-2) | UNDV | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ALUMINUM | 1.1E-06 | mg/m3 | 5.5E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ANTIMONY | 3.7E-09 | mg/m3 | 1.9E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ARSENIC | 3.9E-08 | mg/m3 | 2.0E-06 | µg/m3 | 4.3E-03 | (µg/m3)-1 | 8.5E-09 |
| | | | Inhalation | BARIUM | 4.0E-07 | mg/m3 | 2.0E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | CADMIUM | 4.5E-10 | mg/m3 | 2.3E-08 | µg/m3 | 1.8E-03 | (µg/m3)-1 | 4.2E-11 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.6E-10 | mg/m3 | 1.3E-08 | µg/m3 | 8.4E-02 | (µg/m3)-1 | 1.1E-09 |
| | | | Inhalation | COBALT | 2.6E-09 | mg/m3 | 1.3E-07 | µg/m3 | 9.0E-03 | (µg/m3)-1 | 1.2E-09 |
| | | | Inhalation | COPPER | 4.0E-08 | mg/m3 | 2.1E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | CYANIDE | 1.2E-03 | mg/m3 | 6.0E-02 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | IRON | 4.7E-06 | mg/m3 | 2.4E-04 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | LEAD | 2.1E-07 | mg/m3 | 1.1E-05 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | MANGANESE | 5.7E-08 | mg/m3 | 2.9E-06 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | MERCURY | 5.1E-10 | mg/m3 | 2.6E-08 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | THALLIUM | 1.6E-10 | mg/m3 | 8.3E-09 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | VANADIUM | 6.0E-09 | mg/m3 | 3.1E-07 | µg/m3 | NA | (µg/m3)-1 | NA |
| | | | Inhalation | ZINC | 2.0E-07 | mg/m3 | 1.0E-05 | µg/m3 | NA | (µg/m3)-1 | NA |

**Table 7.7**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | AROCLOR-1254 | 6.8E-08 | mg/m3 | 3.5E-06 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 2.0E-09 |
| | | | Inhalation | AROCLOR-1260 | 2.5E-07 | mg/m3 | 1.3E-05 | µg/m3 | 5.7E-04 | (µg/m3)-1 | 7.2E-09 |
| | | | Inhalation | DIELDRIN | 3.3E-12 | mg/m3 | 1.7E-10 | µg/m3 | 4.6E-03 | (µg/m3)-1 | 7.6E-13 |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | BENZO(A)ANTHRACENE | 5.6E-07 | mg/m3 | 2.8E-05 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 1.7E-09 |
| | | | Inhalation | BENZO(A)PYRENE | 1.2E-09 | mg/m3 | 6.0E-08 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 3.6E-11 |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 1.4E-09 | mg/m3 | 7.1E-08 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 4.3E-12 |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 9.7E-10 | mg/m3 | 4.9E-08 | µg/m3 | 6.0E-06 | (µg/m3)-1 | 3.0E-13 |
| | | | Inhalation | CHRYSENE | 1.4E-09 | mg/m3 | 7.2E-08 | µg/m3 | 6.0E-07 | (µg/m3)-1 | 4.3E-14 |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 1.8E-10 | mg/m3 | 9.4E-09 | µg/m3 | 6.0E-04 | (µg/m3)-1 | 5.6E-12 |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 5.9E-10 | mg/m3 | 3.0E-08 | µg/m3 | 6.0E-05 | (µg/m3)-1 | 1.8E-12 |
| | | | Inhalation | PENTACHLOROPHENOL | 1.7E-10 | mg/m3 | 8.4E-09 | µg/m3 | 5.1E-06 | (µg/m3)-1 | 4.3E-14 |
| | | | **Exposure Route Total [Particulates in Air (soil 0-2)-Inhalation]** | | | | | | | | **2.2E-08** |
| Sediment | Sediment | UHC | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.3E+03 | mg/kg | 1.9E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ANTIMONY | 1.7E+01 | mg/kg | 9.4E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | ARSENIC | 1.7E+03 | mg/kg | 5.7E-05 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 8.6E-05 |
| | | | Ingestion | BARIUM | 2.4E+03 | mg/kg | 1.3E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CHROMIUM | 1.8E+03 | mg/kg | 1.0E-04 | mg/kg-d | 5.0E-01 | (mg/kg-d)-1 | 5.1E-05 |
| | | | Ingestion | COBALT | 5.4E+00 | mg/kg | 3.0E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | COPPER | 1.6E+02 | mg/kg | 9.2E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | CYANIDE | 6.5E+02 | mg/kg | 3.6E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | IRON | 7.3E+03 | mg/kg | 4.1E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | LEAD | 1.8E+03 | mg/kg | 1.0E-04 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | THALLIUM | 2.4E+00 | mg/kg | 1.4E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 2.6E-01 | mg/kg | 1.4E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 2.9E-08 |
| | | | Ingestion | AROCLOR-1260 | 1.5E-01 | mg/kg | 8.5E-09 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 1.7E-08 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 6.1E+00 | mg/kg | 3.4E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 3.4E-08 |
| | | | Ingestion | BENZO(A)PYRENE | 6.2E+00 | mg/kg | 3.4E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 3.4E-07 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 6.0E+00 | mg/kg | 3.3E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 3.3E-08 |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 8.3E+00 | mg/kg | 4.7E-07 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 4.7E-09 |
| | | | Ingestion | CHRYSENE | 9.9E+00 | mg/kg | 5.5E-07 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 5.5E-10 |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 1.2E+00 | mg/kg | 6.8E-08 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 6.8E-08 |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 4.2E+00 | mg/kg | 2.4E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 2.4E-08 |

**Table 7.7**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | **TICs** | | | | | | | |
| | | | Ingestion | BENZO[J]FLUORANTHENE | 1.1E+00 | mg/kg | 6.2E-08 | mg/kg-d | 1.2E+00 | (mg/kg-d)-1 | 7.4E-08 |
| | | | **Exposure Route Total [Sediment-Ingestion]** | | | | | | | | **1.4E-04** |
| Sediment | Sediment | UHC | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.3E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ANTIMONY | 1.7E+01 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ARSENIC | 1.7E+03 | mg/kg | 3.4E-05 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 5.2E-05 |
| | | | Dermal | BARIUM | 2.4E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CHROMIUM | 1.8E+03 | mg/kg | NA | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | NA |
| | | | Dermal | COBALT | 5.4E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | COPPER | 1.6E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CYANIDE | 6.5E+02 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 7.3E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | LEAD | 1.8E+03 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | THALLIUM | 2.4E+00 | mg/kg | NA | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 2.6E-01 | mg/kg | 2.4E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 4.8E-08 |
| | | | Dermal | AROCLOR-1260 | 1.5E-01 | mg/kg | 1.4E-08 | mg/kg-d | 2.0E+00 | (mg/kg-d)-1 | 2.9E-08 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 6.1E+00 | mg/kg | 5.4E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 5.4E-08 |
| | | | Dermal | BENZO(A)PYRENE | 6.2E+00 | mg/kg | 5.4E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 5.4E-07 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 6.0E+00 | mg/kg | 5.3E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 5.3E-08 |
| | | | Dermal | BENZO(K)FLUORANTHENE | 8.3E+00 | mg/kg | 7.3E-07 | mg/kg-d | 1.0E-02 | (mg/kg-d)-1 | 7.3E-09 |
| | | | Dermal | CHRYSENE | 9.9E+00 | mg/kg | 8.7E-07 | mg/kg-d | 1.0E-03 | (mg/kg-d)-1 | 8.7E-10 |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 1.2E+00 | mg/kg | 1.1E-07 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.1E-07 |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 4.2E+00 | mg/kg | 3.7E-07 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 3.7E-08 |
| | | | Dermal | **TICs** | | | | | | | |
| | | | Dermal | BENZO[J]FLUORANTHENE | 1.1E+00 | mg/kg | 9.7E-08 | mg/kg-d | 1.2E+00 | (mg/kg-d)-1 | 1.2E-07 |
| | | | **Exposure Route Total [Sediment-Dermal]** | | | | | | | | **5.3E-05** |
| Surface Water | Surface Water | UHC | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ANTIMONY | 2.9E-03 | mg/L | 2.0E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | ARSENIC | 5.7E-02 | mg/L | 3.1E-07 | mg/kg-d | 1.5E+00 | (mg/kg-d)-1 | 4.6E-07 |
| | | | Dermal | BARIUM | 2.8E-01 | mg/L | 2.1E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | CHROMIUM | 3.8E-03 | mg/L | 1.8E-08 | mg/kg-d | 2.0E+01 | (mg/kg-d)-1 | 3.6E-07 |
| | | | Dermal | CYANIDE | 9.7E-03 | mg/L | 4.2E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | IRON | 6.2E+00 | mg/L | 3.0E-05 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | LEAD | 9.8E-03 | mg/L | 1.1E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | MANGANESE | 2.9E-01 | mg/L | 1.4E-06 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | THALLIUM | 3.6E-03 | mg/L | 4.1E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | VANADIUM | 2.8E-03 | mg/L | 1.3E-08 | mg/kg-d | NA | (mg/kg-d)-1 | NA |

**Table 7.7**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)PYRENE | 1.0E-03 | mg/L | 1.1E-05 | mg/kg-d | 1.0E+00 | (mg/kg-d)-1 | 1.1E-05 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 2.0E-03 | mg/L | 1.3E-05 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 1.3E-06 |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.0E-03 | mg/L | 2.3E-05 | mg/kg-d | 1.0E-01 | (mg/kg-d)-1 | 2.3E-06 |
| | | | Dermal | NAPHTHALENE | 5.0E-04 | mg/L | 1.6E-07 | mg/kg-d | NA | (mg/kg-d)-1 | NA |
| | | | Dermal | **VOCs** | | | | | | | |
| | | | Dermal | 1,4-DICHLOROBENZENE | 7.0E-04 | mg/L | 2.5E-07 | mg/kg-d | 5.4E-03 | (mg/kg-d)-1 | 1.3E-09 |
| | | | Dermal | BENZENE | 5.3E-03 | mg/L | 4.2E-07 | mg/kg-d | 5.5E-02 | (mg/kg-d)-1 | 2.3E-08 |
| | | | Dermal | DICHLOROMETHANE | 7.1E-03 | mg/L | 1.4E-07 | mg/kg-d | 2.0E-03 | (mg/kg-d)-1 | 2.8E-10 |
| | | | Dermal | VINYL CHLORIDE | 1.0E-03 | mg/L | 4.1E-08 | mg/kg-d | 7.2E-01 | (mg/kg-d)-1 | 3.0E-08 |
| | | | **Exposure Route Total [Surface Water-Dermal]** | | | | | | | | **1.6E-05** |
| **Exposure Point Total (UNDV+UHC)** | | | | | | | | | | | **2E-04** |

Notes:
NA – Not Available.
Chromium risks in sediment and surface water were calculated using toxicity values for hexavalent chromium.

**Ingestion- Soil**

$$\text{Intake Factor (IF)} = \frac{IR \times EF \times ED \times CF \times FR}{BW \times AT} = 1.9E\text{-}07 \text{ (Adult)}$$

| | | |
|---|---|---|
| IR | Ingestion Rate (mg/day) | 100 |
| FR | Fraction from Contaminated Source | 1 |
| EF | Soil Ingestion Exposure Frequency (days/yr) | 150 |
| ED | Soil Ingestion Exposure Duration (yrs) | 26 |
| CF | Conversion Factor (kg/mg) | 0.000001 |
| BW | Body Weight (kg) | 80 |
| AT | Averaging Time (d) | 25,550 |

$Intake_{ing}(mg/kg{\cdot}d) = EPC_{soil}*IF*B$
(B) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Dermal- Soil**

$$\text{Intake Factor (IF)} = \frac{SA \times AF \times EF \times ED \times CF}{BW \times AT} = 8.1E\text{-}07 \text{ (Adult)}$$

| | | |
|---|---|---|
| SA | Surface Area Exposed to Soil ($cm^2$/day) | 6,032 |
| AF | Soil Skin Adherence Factor (mg/$cm^2$) | 0.07 |
| EF | Soil Dermal Exposure Frequency (days/yr) | 150 |
| ED | Soil Dermal Exposure Duration (yrs) | 26 |
| CF | Conversion Factor (kg/mg) | 0.000001 |
| BW | Body Weight (kg) | 80 |
| AT | Averaging Time (d) | 25,550 |

$Intake_{derm}(mg/kg{\cdot}d) = EPC_{soil}*IF*ABS$
(ABS) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Table 7.7**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |

**Inhalation - Soil**

| | | | |
|---|---|---|---|
| Intake Factor (IF) = | EF x ED x ET x CF1 x CF2 x TAF / AT | = | 5.1E+01 (Adult) |
| | EF | Soil Exposure Frequency (days/yr) | 150 |
| | ED | Soil Exposure Duration (yrs) | 26 |
| | ET | Soil Exposure Time (hours/day) | 8 |
| | CF1 | Conversion Factor (day/hour) | 0.042 |
| | CF2 | Conversion Factor (µg/mg) | 1000 |
| | AT | Averaging Time (d) | 25,550 |

EPCair = EPCsoil x [1/Volatilization Factor (VF) + 1/Particulate Emissions Factor (PEF)]
Exposure = EPCair x IF
Cancer risk = Exposure x Inhalation Unit Risk (IUR)

**Ingestion- Sediment (SD)**

| | | | |
|---|---|---|---|
| Intake Factor (IF) = | IR x EF x ED x CF x FR / BW x AT | = | 5.6E-08 (Adult) |
| | IR | Ingestion Rate (mg/day) | 100 |
| | FR | Fraction from Contaminated Source | 1 |
| | EF | Sediment Ingestion Exposure Frequency (days/yr) | 44 |
| | ED | Sediment Ingestion Exposure Duration (yrs) | 26 |
| | CF | Conversion Factor (kg/mg) | 0.000001 |
| | BW | Body Weight (kg) | 80 |
| | AT | Averaging Time (d) | 25,550 |

$Intake_{ing}$(mg/kg·d) = $EPC_{sd}$*IF*B
(B) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Dermal- Sediment (SD)**

| | | | |
|---|---|---|---|
| Intake Factor (IF) = | SA x AF x EF x ED x CF / BW x AT | = | 6.8E-07 (Adult) |
| | SA | Surface Area Exposed to Sediment ($cm^2$/day) | 6,032 |
| | AF | Sediment Skin Adherence Factor (mg/$cm^2$) | 0.2 |
| | EF | Sediment Dermal Exposure Frequency (days/yr) | 44 |
| | ED | Sediment Dermal Exposure Duration (yrs) | 26 |
| | CF | Conversion Factor (kg/mg) | 0.000001 |
| | BW | Body Weight (kg) | 80 |
| | AT | Averaging Time (d) | 25,550 |

$Intake_{derm}$(mg/kg·d) = $EPC_{sd}$*IF*ABS
(ABS) presented in Table 5.1
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Table 7.7**
**Calculation of Chemical Cancer Risks for Recreator**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Cancer Risk Calculations | | | | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | CSF/Unit Risk | | |
| | | | | | | | Value | Units | Value | Units | |

**Dermal- Surface Water (SW)**

$$\text{Intake Factor (IF)} = \frac{SA \times EV \times EF \times ED}{BW \times AT} = 3.4E+00 \text{ (Adult)}$$

| | | |
|---|---|---|
| SA | Surface Area Exposed to Surface Water (cm²) | 6,032 |
| EF | Surface Water Dermal Exposure Frequency (days/yr) | 44 |
| ED | Surface Water Dermal Exposure Duration (yrs) | 26 |
| EV | Event per day (ev/d) | 1 |
| BW | Body Weight (kg) | 80 |
| AT | Averaging Time (d) | 25,550 |

$Intake_{derm}$(mg/kg·d) = IF x Absorbed Dose per event ($DA_{event}$)
($DA_{event}$) presented in Table 4.5.
Cancer Risk = Intake x Cancer Slope Factor (CSF)

**Table 7.12**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Child | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| Soil | Soil (0-2 ft bgs) | UNDV | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.5E+03 | mg/kg | 1.9E-02 | mg/kg-d | 1.0E+00 | mg/kg-d | 1.9E-02 |
| | | | Ingestion | ANTIMONY | 1.2E+01 | mg/kg | 6.6E-05 | mg/kg-d | 4.0E-04 | mg/kg-d | 1.6E-01 |
| | | | Ingestion | ARSENIC | 1.2E+02 | mg/kg | 4.1E-04 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.4E+00 |
| | | | Ingestion | BARIUM | 1.3E+03 | mg/kg | 7.1E-03 | mg/kg-d | 2.0E-01 | mg/kg-d | 3.5E-02 |
| | | | Ingestion | CADMIUM | 1.5E+00 | mg/kg | 8.0E-06 | mg/kg-d | 1.0E-03 | mg/kg-d | 8.0E-03 |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | 4.6E-06 | mg/kg-d | 3.0E-03 | mg/kg-d | 1.5E-03 |
| | | | Ingestion | COBALT | 8.3E+00 | mg/kg | 4.6E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.5E-01 |
| | | | Ingestion | COPPER | 1.3E+02 | mg/kg | 7.1E-04 | mg/kg-d | 4.0E-02 | mg/kg-d | 1.8E-02 |
| | | | Ingestion | CYANIDE | 8.8E+01 | mg/kg | 4.8E-04 | mg/kg-d | 6.0E-04 | mg/kg-d | 8.1E-01 |
| | | | Ingestion | IRON | 1.5E+04 | mg/kg | 8.2E-02 | mg/kg-d | 7.0E-01 | mg/kg-d | 1.2E-01 |
| | | | Ingestion | LEAD | 6.6E+02 | mg/kg | 3.6E-03 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | MANGANESE | 1.8E+02 | mg/kg | 1.0E-03 | mg/kg-d | 2.4E-02 | mg/kg-d | 4.2E-02 |
| | | | Ingestion | MERCURY | 1.6E+00 | mg/kg | 8.9E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 3.0E-02 |
| | | | Ingestion | THALLIUM | 5.2E-01 | mg/kg | 2.9E-06 | mg/kg-d | 1.0E-05 | mg/kg-d | 2.9E-01 |
| | | | Ingestion | VANADIUM | 1.9E+01 | mg/kg | 1.1E-04 | mg/kg-d | 5.0E-03 | mg/kg-d | 2.1E-02 |
| | | | Ingestion | ZINC | 6.5E+02 | mg/kg | 3.6E-03 | mg/kg-d | 3.0E-01 | mg/kg-d | 1.2E-02 |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 7.4E-02 | mg/kg | 4.0E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 2.0E-02 |
| | | | Ingestion | AROCLOR-1260 | 4.2E-01 | mg/kg | 2.3E-06 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.1E-01 |
| | | | Ingestion | DIELDRIN | 1.0E-02 | mg/kg | 5.7E-08 | mg/kg-d | 5.0E-05 | mg/kg-d | 1.1E-03 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 3.1E+00 | mg/kg | 1.7E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(A)PYRENE | 3.8E+00 | mg/kg | 2.1E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 6.9E-02 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 4.5E+00 | mg/kg | 2.5E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 3.1E+00 | mg/kg | 1.7E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | CHRYSENE | 4.5E+00 | mg/kg | 2.5E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 3.2E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 1.0E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 2.9E-06 | mg/kg-d | 5.0E-03 | mg/kg-d | 5.8E-04 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Ingestion]** | | | | | | | | **3.3E+00** |
| Soil | Soil (0-2 ft bgs) | UNDV | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.5E+03 | mg/kg | NA | mg/kg-d | 1.0E+00 | mg/kg-d | NA |
| | | | Dermal | ANTIMONY | 1.2E+01 | mg/kg | NA | mg/kg-d | 6.0E-05 | mg/kg-d | NA |
| | | | Dermal | ARSENIC | 1.2E+02 | mg/kg | 4.8E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.6E-01 |
| | | | Dermal | BARIUM | 1.3E+03 | mg/kg | NA | mg/kg-d | 1.4E-02 | mg/kg-d | NA |

**Table 7.12**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Child | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | CADMIUM | 1.5E+00 | mg/kg | 1.9E-08 | mg/kg-d | 2.5E-05 | mg/kg-d | 7.6E-04 |
| | | | Dermal | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA |
| | | | Dermal | COBALT | 8.3E+00 | mg/kg | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA |
| | | | Dermal | COPPER | 1.3E+02 | mg/kg | NA | mg/kg-d | 4.0E-02 | mg/kg-d | NA |
| | | | Dermal | CYANIDE | 8.8E+01 | mg/kg | NA | mg/kg-d | 6.0E-04 | mg/kg-d | NA |
| | | | Dermal | IRON | 1.5E+04 | mg/kg | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA |
| | | | Dermal | LEAD | 6.6E+02 | mg/kg | NA | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | MANGANESE | 1.8E+02 | mg/kg | NA | mg/kg-d | 9.6E-04 | mg/kg-d | NA |
| | | | Dermal | MERCURY | 1.6E+00 | mg/kg | NA | mg/kg-d | 2.1E-05 | mg/kg-d | NA |
| | | | Dermal | THALLIUM | 5.2E-01 | mg/kg | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA |
| | | | Dermal | VANADIUM | 1.9E+01 | mg/kg | NA | mg/kg-d | 1.3E-04 | mg/kg-d | NA |
| | | | Dermal | ZINC | 6.5E+02 | mg/kg | NA | mg/kg-d | 3.0E-01 | mg/kg-d | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 7.4E-02 | mg/kg | 1.3E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 6.7E-03 |
| | | | Dermal | AROCLOR-1260 | 4.2E-01 | mg/kg | 7.6E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 3.8E-02 |
| | | | Dermal | DIELDRIN | 1.0E-02 | mg/kg | 1.4E-08 | mg/kg-d | 5.0E-05 | mg/kg-d | 2.7E-04 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 3.1E+00 | mg/kg | 5.3E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(A)PYRENE | 3.8E+00 | mg/kg | 6.4E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.1E-02 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 4.5E+00 | mg/kg | 7.6E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(K)FLUORANTHENE | 3.1E+00 | mg/kg | 5.2E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | CHRYSENE | 4.5E+00 | mg/kg | 7.7E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 1.0E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 3.2E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 1.7E-06 | mg/kg-d | 5.0E-03 | mg/kg-d | 3.4E-04 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Dermal]** | | | | | | | | **2.3E-01** |
| Soil | Particulates in Air (s | UNDV | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ALUMINUM | 1.1E-06 | mg/m3 | 1.5E-07 | µg/m3 | 5.0E-03 | mg/m3 | 3.0E-05 |
| | | | Inhalation | ANTIMONY | 3.7E-09 | mg/m3 | 5.1E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | ARSENIC | 3.9E-08 | mg/m3 | 5.3E-09 | µg/m3 | 1.5E-05 | mg/m3 | 3.5E-04 |
| | | | Inhalation | BARIUM | 4.0E-07 | mg/m3 | 5.5E-08 | µg/m3 | 5.0E-04 | mg/m3 | 1.1E-04 |
| | | | Inhalation | CADMIUM | 4.5E-10 | mg/m3 | 6.2E-11 | µg/m3 | 1.0E-05 | mg/m3 | 6.2E-06 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.6E-10 | mg/m3 | 3.6E-11 | µg/m3 | 1.0E-04 | mg/m3 | 3.6E-07 |
| | | | Inhalation | COBALT | 2.6E-09 | mg/m3 | 3.6E-10 | µg/m3 | 6.0E-06 | mg/m3 | 5.9E-05 |
| | | | Inhalation | COPPER | 4.0E-08 | mg/m3 | 5.5E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CYANIDE | 1.2E-03 | mg/m3 | 1.6E-04 | µg/m3 | 8.0E-04 | mg/m3 | 2.0E-01 |

**Table 7.12**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Child | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | IRON | 4.7E-06 | mg/m3 | 6.4E-07 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | LEAD | 2.1E-07 | mg/m3 | 2.8E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | MANGANESE | 5.7E-08 | mg/m3 | 7.9E-09 | µg/m3 | 5.0E-05 | mg/m3 | 1.6E-04 |
| | | | Inhalation | MERCURY | 5.1E-10 | mg/m3 | 6.9E-11 | µg/m3 | 3.0E-04 | mg/m3 | 2.3E-07 |
| | | | Inhalation | THALLIUM | 1.6E-10 | mg/m3 | 2.2E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | VANADIUM | 6.0E-09 | mg/m3 | 8.3E-10 | µg/m3 | 1.0E-04 | mg/m3 | 8.3E-06 |
| | | | Inhalation | ZINC | 2.0E-07 | mg/m3 | 2.8E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | AROCLOR-1254 | 6.8E-08 | mg/m3 | 9.3E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | AROCLOR-1260 | 2.5E-07 | mg/m3 | 3.4E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIELDRIN | 3.3E-12 | mg/m3 | 4.5E-13 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | BENZO(A)ANTHRACENE | 5.6E-07 | mg/m3 | 7.6E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(A)PYRENE | 1.2E-09 | mg/m3 | 1.6E-10 | µg/m3 | 2.0E-06 | mg/m3 | 8.1E-05 |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 1.4E-09 | mg/m3 | 1.9E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 9.7E-10 | mg/m3 | 1.3E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CHRYSENE | 1.4E-09 | mg/m3 | 1.9E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 1.8E-10 | mg/m3 | 2.5E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 5.9E-10 | mg/m3 | 8.1E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | PENTACHLOROPHENOL | 1.7E-10 | mg/m3 | 2.3E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | **Exposure Route Total [Particulates in Air (soil 0-2)-Inhalation]** | | | | | | | | **2.0E-01** |
| Sediment | Sediment | UHC | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.3E+03 | mg/kg | 5.4E-03 | mg/kg-d | 1.0E+00 | mg/kg-d | 5.4E-03 |
| | | | Ingestion | ANTIMONY | 1.7E+01 | mg/kg | 2.7E-05 | mg/kg-d | 4.0E-04 | mg/kg-d | 6.8E-02 |
| | | | Ingestion | ARSENIC | 1.7E+03 | mg/kg | 1.6E-03 | mg/kg-d | 3.0E-04 | mg/kg-d | 5.5E+00 |
| | | | Ingestion | BARIUM | 2.4E+03 | mg/kg | 3.8E-03 | mg/kg-d | 2.0E-01 | mg/kg-d | 1.9E-02 |
| | | | Ingestion | CHROMIUM | 1.8E+03 | mg/kg | 2.9E-03 | mg/kg-d | 3.0E-03 | mg/kg-d | 9.8E-01 |
| | | | Ingestion | COBALT | 5.4E+00 | mg/kg | 8.7E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.9E-02 |
| | | | Ingestion | COPPER | 1.6E+02 | mg/kg | 2.6E-04 | mg/kg-d | 4.0E-02 | mg/kg-d | 6.6E-03 |
| | | | Ingestion | CYANIDE | 6.5E+02 | mg/kg | 1.0E-03 | mg/kg-d | 6.0E-04 | mg/kg-d | 1.7E+00 |
| | | | Ingestion | IRON | 7.3E+03 | mg/kg | 1.2E-02 | mg/kg-d | 7.0E-01 | mg/kg-d | 1.7E-02 |
| | | | Ingestion | LEAD | 1.8E+03 | mg/kg | 2.9E-03 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | THALLIUM | 2.4E+00 | mg/kg | 3.9E-06 | mg/kg-d | 1.0E-05 | mg/kg-d | 3.9E-01 |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 2.6E-01 | mg/kg | 4.1E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 2.0E-02 |
| | | | Ingestion | AROCLOR-1260 | 1.5E-01 | mg/kg | 2.4E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.2E-02 |

**Table 7.12**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Child | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 6.1E+00 | mg/kg | 9.8E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(A)PYRENE | 6.2E+00 | mg/kg | 9.9E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 3.3E-02 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 6.0E+00 | mg/kg | 9.6E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 8.3E+00 | mg/kg | 1.3E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | CHRYSENE | 9.9E+00 | mg/kg | 1.6E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 1.2E+00 | mg/kg | 2.0E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 4.2E+00 | mg/kg | 6.8E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | **TICs** | | | | | | | |
| | | | Ingestion | BENZO[J]FLUORANTHENE | 1.1E+00 | mg/kg | 1.8E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | **Exposure Route Total [Sediment-Ingestion]** | | | | | | | | **8.8E+00** |
| Sediment | Sediment | UHC | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.3E+03 | mg/kg | NA | mg/kg-d | 1.0E+00 | mg/kg-d | NA |
| | | | Dermal | ANTIMONY | 1.7E+01 | mg/kg | NA | mg/kg-d | 6.0E-05 | mg/kg-d | NA |
| | | | Dermal | ARSENIC | 1.7E+03 | mg/kg | 1.9E-04 | mg/kg-d | 3.0E-04 | mg/kg-d | 6.5E-01 |
| | | | Dermal | BARIUM | 2.4E+03 | mg/kg | NA | mg/kg-d | 1.4E-02 | mg/kg-d | NA |
| | | | Dermal | CHROMIUM | 1.8E+03 | mg/kg | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA |
| | | | Dermal | COBALT | 5.4E+00 | mg/kg | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA |
| | | | Dermal | COPPER | 1.6E+02 | mg/kg | NA | mg/kg-d | 4.0E-02 | mg/kg-d | NA |
| | | | Dermal | CYANIDE | 6.5E+02 | mg/kg | NA | mg/kg-d | 6.0E-04 | mg/kg-d | NA |
| | | | Dermal | IRON | 7.3E+03 | mg/kg | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA |
| | | | Dermal | LEAD | 1.8E+03 | mg/kg | NA | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | THALLIUM | 2.4E+00 | mg/kg | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 2.6E-01 | mg/kg | 1.4E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 6.8E-03 |
| | | | Dermal | AROCLOR-1260 | 1.5E-01 | mg/kg | 8.1E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 4.0E-03 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 6.1E+00 | mg/kg | 3.0E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(A)PYRENE | 6.2E+00 | mg/kg | 3.1E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.0E-02 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 6.0E+00 | mg/kg | 3.0E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(K)FLUORANTHENE | 8.3E+00 | mg/kg | 4.1E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | CHRYSENE | 9.9E+00 | mg/kg | 4.9E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 1.2E+00 | mg/kg | 6.0E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 4.2E+00 | mg/kg | 2.1E-06 | mg/kg-d | NA | mg/kg-d | NA |

**Table 7.12**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Child | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | **TICs** | | | | | | | |
| | | | Dermal | BENZO[J]FLUORANTHENE | 1.1E+00 | mg/kg | 5.5E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | **Exposure Route Total [Sediment-Dermal]** | | | | | | | | **6.7E-01** |
| Surface Water | Surface Water | UHC | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ANTIMONY | 2.9E-03 | mg/L | 1.1E-07 | mg/kg-d | 6.0E-05 | mg/kg-d | 1.9E-03 |
| | | | Dermal | ARSENIC | 5.7E-02 | mg/L | 1.7E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 5.7E-03 |
| | | | Dermal | BARIUM | 2.8E-01 | mg/L | 1.2E-05 | mg/kg-d | 1.4E-02 | mg/kg-d | 8.6E-04 |
| | | | Dermal | CHROMIUM | 3.8E-03 | mg/L | 1.0E-07 | mg/kg-d | 7.5E-05 | mg/kg-d | 1.4E-03 |
| | | | Dermal | CYANIDE | 9.7E-03 | mg/L | 2.4E-07 | mg/kg-d | 6.0E-04 | mg/kg-d | 4.0E-04 |
| | | | Dermal | IRON | 6.2E+00 | mg/L | 1.7E-04 | mg/kg-d | 7.0E-01 | mg/kg-d | 2.4E-04 |
| | | | Dermal | LEAD | 9.8E-03 | mg/L | 6.4E-08 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | MANGANESE | 2.9E-01 | mg/L | 7.8E-06 | mg/kg-d | 9.6E-04 | mg/kg-d | 8.2E-03 |
| | | | Dermal | THALLIUM | 3.6E-03 | mg/L | 2.3E-07 | mg/kg-d | 1.0E-05 | mg/kg-d | 2.3E-02 |
| | | | Dermal | VANADIUM | 2.8E-03 | mg/L | 7.4E-08 | mg/kg-d | 1.3E-04 | mg/kg-d | 5.7E-04 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)PYRENE | 1.0E-03 | mg/L | 6.3E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.1E-01 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 2.0E-03 | mg/L | 7.3E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.0E-03 | mg/L | 1.3E-04 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | NAPHTHALENE | 5.0E-04 | mg/L | 9.2E-07 | mg/kg-d | 2.0E-02 | mg/kg-d | 4.6E-05 |
| | | | Dermal | **VOCs** | | | | | | | |
| | | | Dermal | 1,4-DICHLOROBENZENE | 7.0E-04 | mg/L | 1.4E-06 | mg/kg-d | 7.0E-02 | mg/kg-d | 2.0E-05 |
| | | | Dermal | BENZENE | 5.3E-03 | mg/L | 2.4E-06 | mg/kg-d | 4.0E-03 | mg/kg-d | 5.9E-04 |
| | | | Dermal | DICHLOROMETHANE | 7.1E-03 | mg/L | 7.8E-07 | mg/kg-d | 6.0E-03 | mg/kg-d | 1.3E-04 |
| | | | Dermal | VINYL CHLORIDE | 1.0E-03 | mg/L | 2.3E-07 | mg/kg-d | 3.0E-03 | mg/kg-d | 7.8E-05 |
| | | | **Exposure Route Total [Surface Water-Dermal]** | | | | | | | | **2.5E-01** |
| **Exposure Point Total (UNDV+UHC)** | | | | | | | | | | | **1E+01** |

Notes:
NA – Not Available.
Chromium risks in sediment and surface water were calculated using toxicity values for hexavalent chromium.

**Table 7.12**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Child | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |

**Ingestion- Soil**

| | | | |
|---|---|---|---|
| Intake Factor (IF) = | IR x EF x ED x CF x FR / BW x AT | = | 5.5E-06 (Child) |
| IR | Ingestion Rate (mg/day) | | 200 |
| FR | Fraction from Contaminated Source | | 1 |
| EF | Soil Ingestion Exposure Frequency (days/yr) | | 150 |
| ED | Soil Ingestion Exposure Duration (yrs) | | 6 |
| CF | Conversion Factor (kg/mg) | | 0.000001 |
| BW | Body Weight (kg) | | 15 |
| AT | Averaging Time (d) | | 2,190 |

$Intake_{ing}$(mg/kg·d) = $EPC_{soil}$*IF*B
(B) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

**Dermal- Soil**

| | | | |
|---|---|---|---|
| Intake Factor (IF) = | SA x AF x EF x ED x CF / BW x AT | = | 1.3E-05 (Child) |
| SA | Surface Area Exposed to Soil (cm²/day) | | 2,373 |
| AF | Soil Skin Adherence Factor (mg/cm²) | | 0.2 |
| EF | Soil Dermal Exposure Frequency (days/yr) | | 150 |
| ED | Soil Dermal Exposure Duration (yrs) | | 6 |
| CF | Conversion Factor (kg/mg) | | 0.000001 |
| BW | Body Weight (kg) | | 15 |
| AT | Averaging Time (d) | | 2,190 |

$Intake_{derm}$(mg/kg·d) = $EPC_{soil}$*IF*ABS
(ABS) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

**Inhalation - Soil**

| | | | |
|---|---|---|---|
| Intake Factor (IF) = | EF x ED x ET x CF / AT | = | 1.4E-01 (Child) |
| EF | Soil Exposure Frequency (days/yr) | | 150 |
| ED | Soil Exposure Duration (yrs) | | 6 |
| ET | Soil Exposure Time (hours/day) | | 8 |
| CF | Conversion Factor (d/hr) | | 0.042 |
| AT | Averaging Time (d) | | 2,190 |

EPCair = EPCsoil x [1/Volatilization Factor (VF) + 1/Particulate Emissions Factor (PEF)]
Exposure = EPCair x IF
Non-cancer Hazard = Intake/RfC

**Table 7.12**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Child |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Child | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |

**Ingestion- Sediment (SD)**

$$\text{Intake Factor (IF)} = \frac{IR \times EF \times ED \times CF \times FR}{BW \times AT} = 1.6E\text{-}06 \text{ (Child)}$$

| | | |
|---|---|---|
| IR | Ingestion Rate (mg/day) | 200 |
| FR | Fraction from Contaminated Source | 1 |
| EF | Sediment Ingestion Exposure Frequency (days/yr) | 44 |
| ED | Sediment Ingestion Exposure Duration (yrs) | 6 |
| CF | Conversion Factor (kg/mg) | 0.000001 |
| BW | Body Weight (kg) | 15 |
| AT | Averaging Time (d) | 2,190 |

$Intake_{ing}$(mg/kg·d) = $EPC_{soil}$*IF*B
(B) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

**Dermal- Sediment (SD)**

$$\text{Intake Factor (IF)} = \frac{SA \times AF \times EF \times ED \times CF}{BW \times AT} = 3.8E\text{-}06 \text{ (Child)}$$

| | | |
|---|---|---|
| SA | Surface Area Exposed to Sediment (cm²/day) | 2,373 |
| AF | Sediment Skin Adherence Factor (mg/cm²) | 0.2 |
| EF | Sediment Dermal Exposure Frequency (days/yr) | 44 |
| ED | Sediment Dermal Exposure Duration (yrs) | 6 |
| CF | Conversion Factor (kg/mg) | 0.000001 |
| BW | Body Weight (kg) | 15 |
| AT | Averaging Time (d) | 2,190 |

$Intake_{derm}$(mg/kg·d) = $EPC_{soil}$*IF*ABS
(ABS) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

**Dermal- Surface Water (SW)**

$$\text{Intake Factor (IF)} = \frac{SA \times EV \times EF \times ED}{BW \times AT} = 1.9E+01 \text{ (Child)}$$

| | | |
|---|---|---|
| SA | Surface Area Exposed to Surface Water (cm²/day) | 2,373 |
| EF | Surface Water Dermal Exposure Frequency (days/yr) | 44 |
| ED | Surface Water Dermal Exposure Duration (yrs) | 6 |
| EV | Event per day (ev/d) | 1 |
| BW | Body Weight (kg) | 15 |
| AT | Averaging Time (d) | 2,190 |

$Intake_{derm}$(mg/kg·d) = IF x Absorbed Dose per event ($DA_{Event}$)
($DA_{event}$) presented in Table 4.5.
Non-cancer Hazard = Exposure/RfC

**Table 7.13**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adolescent |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Adolescent | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| Soil | Soil (0-2 ft bgs) | UNDV | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.5E+03 | mg/kg | 3.2E-03 | mg/kg-d | 1.0E+00 | mg/kg-d | 3.2E-03 |
| | | | Ingestion | ANTIMONY | 1.2E+01 | mg/kg | 1.1E-05 | mg/kg-d | 4.0E-04 | mg/kg-d | 2.8E-02 |
| | | | Ingestion | ARSENIC | 1.2E+02 | mg/kg | 6.9E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.3E-01 |
| | | | Ingestion | BARIUM | 1.3E+03 | mg/kg | 1.2E-03 | mg/kg-d | 2.0E-01 | mg/kg-d | 6.0E-03 |
| | | | Ingestion | CADMIUM | 1.5E+00 | mg/kg | 1.3E-06 | mg/kg-d | 1.0E-03 | mg/kg-d | 1.3E-03 |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | 7.8E-07 | mg/kg-d | 3.0E-03 | mg/kg-d | 2.6E-04 |
| | | | Ingestion | COBALT | 8.3E+00 | mg/kg | 7.7E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.6E-02 |
| | | | Ingestion | COPPER | 1.3E+02 | mg/kg | 1.2E-04 | mg/kg-d | 4.0E-02 | mg/kg-d | 3.0E-03 |
| | | | Ingestion | CYANIDE | 8.8E+01 | mg/kg | 8.2E-05 | mg/kg-d | 6.0E-04 | mg/kg-d | 1.4E-01 |
| | | | Ingestion | IRON | 1.5E+04 | mg/kg | 1.4E-02 | mg/kg-d | 7.0E-01 | mg/kg-d | 2.0E-02 |
| | | | Ingestion | LEAD | 6.6E+02 | mg/kg | 6.2E-04 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | MANGANESE | 1.8E+02 | mg/kg | 1.7E-04 | mg/kg-d | 2.4E-02 | mg/kg-d | 7.1E-03 |
| | | | Ingestion | MERCURY | 1.6E+00 | mg/kg | 1.5E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 5.0E-03 |
| | | | Ingestion | THALLIUM | 5.2E-01 | mg/kg | 4.8E-07 | mg/kg-d | 1.0E-05 | mg/kg-d | 4.8E-02 |
| | | | Ingestion | VANADIUM | 1.9E+01 | mg/kg | 1.8E-05 | mg/kg-d | 5.0E-03 | mg/kg-d | 3.6E-03 |
| | | | Ingestion | ZINC | 6.5E+02 | mg/kg | 6.0E-04 | mg/kg-d | 3.0E-01 | mg/kg-d | 2.0E-03 |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 7.4E-02 | mg/kg | 6.8E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 3.4E-03 |
| | | | Ingestion | AROCLOR-1260 | 4.2E-01 | mg/kg | 3.9E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.9E-02 |
| | | | Ingestion | DIELDRIN | 1.0E-02 | mg/kg | 9.6E-09 | mg/kg-d | 5.0E-05 | mg/kg-d | 1.9E-04 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 3.1E+00 | mg/kg | 2.9E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(A)PYRENE | 3.8E+00 | mg/kg | 3.5E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.2E-02 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 4.5E+00 | mg/kg | 4.2E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 3.1E+00 | mg/kg | 2.9E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | CHRYSENE | 4.5E+00 | mg/kg | 4.2E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 5.5E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 1.8E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 4.9E-07 | mg/kg-d | 5.0E-03 | mg/kg-d | 9.8E-05 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Ingestion]** | | | | | | | | **5.6E-01** |
| Soil | Soil (0-2 ft bgs) | UNDV | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.5E+03 | mg/kg | NA | mg/kg-d | 1.0E+00 | mg/kg-d | NA |
| | | | Dermal | ANTIMONY | 1.2E+01 | mg/kg | NA | mg/kg-d | 6.0E-05 | mg/kg-d | NA |
| | | | Dermal | ARSENIC | 1.2E+02 | mg/kg | 1.1E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 3.7E-02 |
| | | | Dermal | BARIUM | 1.3E+03 | mg/kg | NA | mg/kg-d | 1.4E-02 | mg/kg-d | NA |

**Table 7.13**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adolescent |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Adolescent | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | CADMIUM | 1.5E+00 | mg/kg | 4.4E-09 | mg/kg-d | 2.5E-05 | mg/kg-d | 1.7E-04 |
| | | | Dermal | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA |
| | | | Dermal | COBALT | 8.3E+00 | mg/kg | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA |
| | | | Dermal | COPPER | 1.3E+02 | mg/kg | NA | mg/kg-d | 4.0E-02 | mg/kg-d | NA |
| | | | Dermal | CYANIDE | 8.8E+01 | mg/kg | NA | mg/kg-d | 6.0E-04 | mg/kg-d | NA |
| | | | Dermal | IRON | 1.5E+04 | mg/kg | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA |
| | | | Dermal | LEAD | 6.6E+02 | mg/kg | NA | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | MANGANESE | 1.8E+02 | mg/kg | NA | mg/kg-d | 9.6E-04 | mg/kg-d | NA |
| | | | Dermal | MERCURY | 1.6E+00 | mg/kg | NA | mg/kg-d | 2.1E-05 | mg/kg-d | NA |
| | | | Dermal | THALLIUM | 5.2E-01 | mg/kg | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA |
| | | | Dermal | VANADIUM | 1.9E+01 | mg/kg | NA | mg/kg-d | 1.3E-04 | mg/kg-d | NA |
| | | | Dermal | ZINC | 6.5E+02 | mg/kg | NA | mg/kg-d | 3.0E-01 | mg/kg-d | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 7.4E-02 | mg/kg | 3.1E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.6E-03 |
| | | | Dermal | AROCLOR-1260 | 4.2E-01 | mg/kg | 1.8E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 8.8E-03 |
| | | | Dermal | DIELDRIN | 1.0E-02 | mg/kg | 3.1E-09 | mg/kg-d | 5.0E-05 | mg/kg-d | 6.3E-05 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 3.1E+00 | mg/kg | 1.2E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(A)PYRENE | 3.8E+00 | mg/kg | 1.5E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 4.9E-03 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 4.5E+00 | mg/kg | 1.8E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(K)FLUORANTHENE | 3.1E+00 | mg/kg | 1.2E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | CHRYSENE | 4.5E+00 | mg/kg | 1.8E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 2.3E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 7.5E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 4.0E-07 | mg/kg-d | 5.0E-03 | mg/kg-d | 8.0E-05 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Dermal]** | | | | | | | | **5.3E-02** |
| Soil | Particulates in Air (soil 0-2) | UNDV | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ALUMINUM | 1.1E-06 | mg/m3 | 1.5E-07 | µg/m3 | 5.0E-03 | mg/m3 | 3.0E-05 |
| | | | Inhalation | ANTIMONY | 3.7E-09 | mg/m3 | 5.1E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | ARSENIC | 3.9E-08 | mg/m3 | 5.3E-09 | µg/m3 | 1.5E-05 | mg/m3 | 3.5E-04 |
| | | | Inhalation | BARIUM | 4.0E-07 | mg/m3 | 5.5E-08 | µg/m3 | 5.0E-04 | mg/m3 | 1.1E-04 |
| | | | Inhalation | CADMIUM | 4.5E-10 | mg/m3 | 6.2E-11 | µg/m3 | 1.0E-05 | mg/m3 | 6.2E-06 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.6E-10 | mg/m3 | 3.6E-11 | µg/m3 | 1.0E-04 | mg/m3 | 3.6E-07 |
| | | | Inhalation | COBALT | 2.6E-09 | mg/m3 | 3.6E-10 | µg/m3 | 6.0E-06 | mg/m3 | 5.9E-05 |
| | | | Inhalation | COPPER | 4.0E-08 | mg/m3 | 5.5E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CYANIDE | 1.2E-03 | mg/m3 | 1.6E-04 | µg/m3 | 8.0E-04 | mg/m3 | 2.0E-01 |

**Table 7.13**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adolescent |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Adolescent | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | IRON | 4.7E-06 | mg/m3 | 6.4E-07 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | LEAD | 2.1E-07 | mg/m3 | 2.8E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | MANGANESE | 5.7E-08 | mg/m3 | 7.9E-09 | µg/m3 | 5.0E-05 | mg/m3 | 1.6E-04 |
| | | | Inhalation | MERCURY | 5.1E-10 | mg/m3 | 6.9E-11 | µg/m3 | 3.0E-04 | mg/m3 | 2.3E-07 |
| | | | Inhalation | THALLIUM | 1.6E-10 | mg/m3 | 2.2E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | VANADIUM | 6.0E-09 | mg/m3 | 8.3E-10 | µg/m3 | 1.0E-04 | mg/m3 | 8.3E-06 |
| | | | Inhalation | ZINC | 2.0E-07 | mg/m3 | 2.8E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | AROCLOR-1254 | 6.8E-08 | mg/m3 | 9.3E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | AROCLOR-1260 | 2.5E-07 | mg/m3 | 3.4E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIELDRIN | 3.3E-12 | mg/m3 | 4.5E-13 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | BENZO(A)ANTHRACENE | 5.6E-07 | mg/m3 | 7.6E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(A)PYRENE | 1.2E-09 | mg/m3 | 1.6E-10 | µg/m3 | 2.0E-06 | mg/m3 | 8.1E-05 |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 1.4E-09 | mg/m3 | 1.9E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 9.7E-10 | mg/m3 | 1.3E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CHRYSENE | 1.4E-09 | mg/m3 | 1.9E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 1.8E-10 | mg/m3 | 2.5E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 5.9E-10 | mg/m3 | 8.1E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | PENTACHLOROPHENOL | 1.7E-10 | mg/m3 | 2.3E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | **Exposure Route Total [Particulates in Air (soil 0-2)-Inhalation]** | | | | | | | | **2.0E-01** |
| Sediment | Sediment | UHC | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.3E+03 | mg/kg | 9.1E-04 | mg/kg-d | 1.0E+00 | mg/kg-d | 9.1E-04 |
| | | | Ingestion | ANTIMONY | 1.7E+01 | mg/kg | 4.6E-06 | mg/kg-d | 4.0E-04 | mg/kg-d | 1.1E-02 |
| | | | Ingestion | ARSENIC | 1.7E+03 | mg/kg | 2.8E-04 | mg/kg-d | 3.0E-04 | mg/kg-d | 9.3E-01 |
| | | | Ingestion | BARIUM | 2.4E+03 | mg/kg | 6.5E-04 | mg/kg-d | 2.0E-01 | mg/kg-d | 3.2E-03 |
| | | | Ingestion | CHROMIUM | 1.8E+03 | mg/kg | 5.0E-04 | mg/kg-d | 3.0E-03 | mg/kg-d | 1.7E-01 |
| | | | Ingestion | COBALT | 5.4E+00 | mg/kg | 1.5E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 4.9E-03 |
| | | | Ingestion | COPPER | 1.6E+02 | mg/kg | 4.5E-05 | mg/kg-d | 4.0E-02 | mg/kg-d | 1.1E-03 |
| | | | Ingestion | CYANIDE | 6.5E+02 | mg/kg | 1.8E-04 | mg/kg-d | 6.0E-04 | mg/kg-d | 3.0E-01 |
| | | | Ingestion | IRON | 7.3E+03 | mg/kg | 2.0E-03 | mg/kg-d | 7.0E-01 | mg/kg-d | 2.8E-03 |
| | | | Ingestion | LEAD | 1.8E+03 | mg/kg | 4.9E-04 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | THALLIUM | 2.4E+00 | mg/kg | 6.6E-07 | mg/kg-d | 1.0E-05 | mg/kg-d | 6.6E-02 |

**Table 7.13**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adolescent |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Adolescent | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 2.6E-01 | mg/kg | 6.9E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 3.5E-03 |
| | | | Ingestion | AROCLOR-1260 | 1.5E-01 | mg/kg | 4.1E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 2.1E-03 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 6.1E+00 | mg/kg | 1.7E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(A)PYRENE | 6.2E+00 | mg/kg | 1.7E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 5.6E-03 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 6.0E+00 | mg/kg | 1.6E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 8.3E+00 | mg/kg | 2.3E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | CHRYSENE | 9.9E+00 | mg/kg | 2.7E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 1.2E+00 | mg/kg | 3.3E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 4.2E+00 | mg/kg | 1.1E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | **TICs** | | | | | | | |
| | | | Ingestion | BENZO[J]FLUORANTHENE | 1.1E+00 | mg/kg | 3.0E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | **Exposure Route Total [Sediment-Ingestion]** | | | | | | | | **1.5E+00** |
| Sediment | Sediment | UHC | Dermal | **Metals** | | | | | | | |
| | | | | ALUMINUM | 3.3E+03 | mg/kg | NA | mg/kg-d | 1.0E+00 | mg/kg-d | NA |
| | | | Dermal | ANTIMONY | 1.7E+01 | mg/kg | NA | mg/kg-d | 6.0E-05 | mg/kg-d | NA |
| | | | Dermal | ARSENIC | 1.7E+03 | mg/kg | 1.3E-04 | mg/kg-d | 3.0E-04 | mg/kg-d | 4.3E-01 |
| | | | Dermal | BARIUM | 2.4E+03 | mg/kg | NA | mg/kg-d | 1.4E-02 | mg/kg-d | NA |
| | | | Dermal | CHROMIUM | 1.8E+03 | mg/kg | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA |
| | | | Dermal | COBALT | 5.4E+00 | mg/kg | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA |
| | | | Dermal | COPPER | 1.6E+02 | mg/kg | NA | mg/kg-d | 4.0E-02 | mg/kg-d | NA |
| | | | Dermal | CYANIDE | 6.5E+02 | mg/kg | NA | mg/kg-d | 6.0E-04 | mg/kg-d | NA |
| | | | Dermal | IRON | 7.3E+03 | mg/kg | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA |
| | | | Dermal | LEAD | 1.8E+03 | mg/kg | NA | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | THALLIUM | 2.4E+00 | mg/kg | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 2.6E-01 | mg/kg | 9.0E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 4.5E-03 |
| | | | Dermal | AROCLOR-1260 | 1.5E-01 | mg/kg | 5.3E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 2.7E-03 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 6.1E+00 | mg/kg | 2.0E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(A)PYRENE | 6.2E+00 | mg/kg | 2.0E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 6.7E-03 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 6.0E+00 | mg/kg | 2.0E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(K)FLUORANTHENE | 8.3E+00 | mg/kg | 2.7E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | CHRYSENE | 9.9E+00 | mg/kg | 3.2E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 1.2E+00 | mg/kg | 4.0E-07 | mg/kg-d | NA | mg/kg-d | NA |

**Table 7.13**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adolescent |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Adolescent | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 4.2E+00 | mg/kg | 1.4E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | **TICs** | | | | | | | |
| | | | Dermal | BENZO[J]FLUORANTHENE | 1.1E+00 | mg/kg | 3.6E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | **Exposure Route Total [Sediment-Dermal]** | | | | | | | | **4.4E-01** |
| Surface Water | Surface Water | UHC | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ANTIMONY | 2.9E-03 | mg/L | 7.4E-08 | mg/kg-d | 6.0E-05 | mg/kg-d | 1.2E-03 |
| | | | Dermal | ARSENIC | 5.7E-02 | mg/L | 1.1E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 3.8E-03 |
| | | | Dermal | BARIUM | 2.8E-01 | mg/L | 8.0E-06 | mg/kg-d | 1.4E-02 | mg/kg-d | 5.7E-04 |
| | | | Dermal | CHROMIUM | 3.8E-03 | mg/L | 6.8E-08 | mg/kg-d | 7.5E-05 | mg/kg-d | 9.1E-04 |
| | | | Dermal | CYANIDE | 9.7E-03 | mg/L | 1.6E-07 | mg/kg-d | 6.0E-04 | mg/kg-d | 2.6E-04 |
| | | | Dermal | IRON | 6.2E+00 | mg/L | 1.1E-04 | mg/kg-d | 7.0E-01 | mg/kg-d | 1.6E-04 |
| | | | Dermal | LEAD | 9.8E-03 | mg/L | 4.3E-08 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | MANGANESE | 2.9E-01 | mg/L | 5.2E-06 | mg/kg-d | 9.6E-04 | mg/kg-d | 5.4E-03 |
| | | | Dermal | THALLIUM | 3.6E-03 | mg/L | 1.5E-07 | mg/kg-d | 1.0E-05 | mg/kg-d | 1.5E-02 |
| | | | Dermal | VANADIUM | 2.8E-03 | mg/L | 4.9E-08 | mg/kg-d | 1.3E-04 | mg/kg-d | 3.8E-04 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)PYRENE | 1.0E-03 | mg/L | 4.1E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.4E-01 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 2.0E-03 | mg/L | 4.8E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.0E-03 | mg/L | 8.4E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | NAPHTHALENE | 5.0E-04 | mg/L | 6.1E-07 | mg/kg-d | 2.0E-02 | mg/kg-d | 3.0E-05 |
| | | | Dermal | **VOCs** | | | | | | | |
| | | | Dermal | 1,4-DICHLOROBENZENE | 7.0E-04 | mg/L | 9.3E-07 | mg/kg-d | 7.0E-02 | mg/kg-d | 1.3E-05 |
| | | | Dermal | BENZENE | 5.3E-03 | mg/L | 1.6E-06 | mg/kg-d | 4.0E-03 | mg/kg-d | 3.9E-04 |
| | | | Dermal | DICHLOROMETHANE | 7.1E-03 | mg/L | 5.2E-07 | mg/kg-d | 6.0E-03 | mg/kg-d | 8.6E-05 |
| | | | Dermal | VINYL CHLORIDE | 1.0E-03 | mg/L | 1.5E-07 | mg/kg-d | 3.0E-03 | mg/kg-d | 5.2E-05 |
| | | | **Exposure Route Total [Surface Water-Dermal]** | | | | | | | | **1.7E-01** |
| **Exposure Point Total (UNDV+UHC)** | | | | | | | | | | | **3E+00** |

Notes:
NA – Not Available.
Chromium risks in sediment and surface water were calculated using toxicity values for hexavalent chromium.

**Table 7.13**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adolescent |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Adolescent | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Intake/Exposure | | RfD / RfC | | |
| | | | | | Value | Units | Value | Units | Value | Units | |

**Ingestion- Soil**

| | | | |
|---|---|---|---|
| Intake Factor (IF) = | IR x EF x ED x CF x FR / BW x AT | = | 9.3E-07 Adolescent |
| IR | Ingestion Rate (mg/day) | | 100 |
| FR | Fraction from Contaminated Source | | 1 |
| EF | Soil Ingestion Exposure Frequency (days/yr) | | 150 |
| ED | Soil Ingestion Exposure Duration (yrs) | | 10 |
| CF | Conversion Factor (kg/mg) | | 0.000001 |
| BW | Body Weight (kg) | | 44.3 |
| AT | Averaging Time (d) | | 3,650 |

$Intake_{ing}$(mg/kg·d) = $EPC_{soil}$*IF*B
(B) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

**Dermal- Soil**

| | | | |
|---|---|---|---|
| Intake Factor (IF) = | SA x AF x EF x ED x CF / BW x AT | = | 3.0E-06 Adolescent |
| SA | Surface Area Exposed to Soil (cm²/day) | | 4,639 |
| AF | Soil Skin Adherence Factor (mg/cm²) | | 0.07 |
| EF | Soil Dermal Exposure Frequency (days/yr) | | 150 |
| ED | Soil Dermal Exposure Duration (yrs) | | 10 |
| CF | Conversion Factor (kg/mg) | | 0.000001 |
| BW | Body Weight (kg) | | 44.3 |
| AT | Averaging Time (d) | | 3,650 |

$Intake_{derm}$(mg/kg·d) = $EPC_{soil}$*IF*ABS
(ABS) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

**Inhalation - Soil**

| | | | |
|---|---|---|---|
| Intake Factor (IF) = | EF x ED x ET x CF / AT | = | 1.4E-01 (Adolescent |
| EF | Soil Exposure Frequency (days/yr) | | 150 |
| ED | Soil Exposure Duration (yrs) | | 10 |
| ET | Soil Exposure Time (hours/day) | | 8 |
| CF | Conversion Factor (d/hr) | | 0.042 |
| AT | Averaging Time (d) | | 3,650 |

EPCair = EPCsoil x [1/Volatilization Factor (VF) + 1/Particulate Emissions Factor (PEF)]
Exposure = EPCair x IF
Non-cancer Hazard = Intake/RfC

## Table 7.13
## Calculation of Chemical Non-cancer Hazards
## Reasonable Maximum Exposure

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adolescent |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Adolescent | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Intake/Exposure | | RfD / RfC | | |
| | | | | | Value | Units | Value | Units | Value | Units | |

**Ingestion- Sediment (SD)**

$$\text{Intake Factor (IF)} = \frac{IR \times EF \times ED \times CF \times FR}{BW \times AT} = \text{2.7E-07 Adolescent}$$

$Intake_{ing}$(mg/kg·d) = $EPC_{soil}$*IF*B
(B) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

| | | |
|---|---|---|
| IR | Ingestion Rate (mg/day) | 100 |
| FR | Fraction from Contaminated Source | 1 |
| EF | Sediment Ingestion Exposure Frequency (days/yr) | 44 |
| ED | Sediment Ingestion Exposure Duration (yrs) | 10 |
| CF | Conversion Factor (kg/mg) | 0.000001 |
| BW | Body Weight (kg) | 44.3 |
| AT | Averaging Time (d) | 3,650 |

**Dermal- Sediment (SD)**

$$\text{Intake Factor (IF)} = \frac{SA \times AF \times EF \times ED \times CF}{BW \times AT} = \text{2.5E-06 Adolescent}$$

$Intake_{derm}$(mg/kg·d) = $EPC_{soil}$*IF*ABS
(ABS) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

| | | |
|---|---|---|
| SA | Surface Area Exposed to Sediment (cm²/day) | 4,639 |
| AF | Sediment Skin Adherence Factor (mg/cm²) | 0.2 |
| EF | Sediment Dermal Exposure Frequency (days/yr) | 44 |
| ED | Sediment Dermal Exposure Duration (yrs) | 10 |
| CF | Conversion Factor (kg/mg) | 0.000001 |
| BW | Body Weight (kg) | 44.3 |
| AT | Averaging Time (d) | 3,650 |

**Dermal- Surface Water (SW)**

$$\text{Intake Factor (IF)} = \frac{SA \times EV \times EF \times ED}{BW \times AT} = \text{1.3E+01 Adolescent}$$

$Intake_{derm}$(mg/kg·d) = IF x Absorbed Dose per event ($DA_{Event}$)
($DA_{event}$) presented in Table 4.5.
Non-cancer Hazard = Exposure/RfC

| | | |
|---|---|---|
| SA | Surface Area Exposed to Surface Water (cm²/day) | 4,639 |
| EF | Surface Water Dermal Exposure Frequency (days/yr) | 44 |
| ED | Surface Water Dermal Exposure Duration (yrs) | 10 |
| EV | Event per day (ev/d) | 1 |
| BW | Body Weight (kg) | 44.3 |
| AT | Averaging Time (d) | 3,650 |

**Table 7.14**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Adult | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| Soil | Soil (0-2 ft bgs) | UNDV | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.5E+03 | mg/kg | 1.8E-03 | mg/kg-d | 1.0E+00 | mg/kg-d | 1.8E-03 |
| | | | Ingestion | ANTIMONY | 1.2E+01 | mg/kg | 6.2E-06 | mg/kg-d | 4.0E-04 | mg/kg-d | 1.5E-02 |
| | | | Ingestion | ARSENIC | 1.2E+02 | mg/kg | 3.8E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.3E-01 |
| | | | Ingestion | BARIUM | 1.3E+03 | mg/kg | 6.6E-04 | mg/kg-d | 2.0E-01 | mg/kg-d | 3.3E-03 |
| | | | Ingestion | CADMIUM | 1.5E+00 | mg/kg | 7.5E-07 | mg/kg-d | 1.0E-03 | mg/kg-d | 7.5E-04 |
| | | | Ingestion | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | 4.3E-07 | mg/kg-d | 3.0E-03 | mg/kg-d | 1.4E-04 |
| | | | Ingestion | COBALT | 8.3E+00 | mg/kg | 4.3E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 1.4E-02 |
| | | | Ingestion | COPPER | 1.3E+02 | mg/kg | 6.6E-05 | mg/kg-d | 4.0E-02 | mg/kg-d | 1.7E-03 |
| | | | Ingestion | CYANIDE | 8.8E+01 | mg/kg | 4.5E-05 | mg/kg-d | 6.0E-04 | mg/kg-d | 7.6E-02 |
| | | | Ingestion | IRON | 1.5E+04 | mg/kg | 7.7E-03 | mg/kg-d | 7.0E-01 | mg/kg-d | 1.1E-02 |
| | | | Ingestion | LEAD | 6.6E+02 | mg/kg | 3.4E-04 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | MANGANESE | 1.8E+02 | mg/kg | 9.4E-05 | mg/kg-d | 2.4E-02 | mg/kg-d | 3.9E-03 |
| | | | Ingestion | MERCURY | 1.6E+00 | mg/kg | 8.3E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.8E-03 |
| | | | Ingestion | THALLIUM | 5.2E-01 | mg/kg | 2.7E-07 | mg/kg-d | 1.0E-05 | mg/kg-d | 2.7E-02 |
| | | | Ingestion | VANADIUM | 1.9E+01 | mg/kg | 9.9E-06 | mg/kg-d | 5.0E-03 | mg/kg-d | 2.0E-03 |
| | | | Ingestion | ZINC | 6.5E+02 | mg/kg | 3.3E-04 | mg/kg-d | 3.0E-01 | mg/kg-d | 1.1E-03 |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 7.4E-02 | mg/kg | 3.8E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.9E-03 |
| | | | Ingestion | AROCLOR-1260 | 4.2E-01 | mg/kg | 2.1E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.1E-02 |
| | | | Ingestion | DIELDRIN | 1.0E-02 | mg/kg | 5.3E-09 | mg/kg-d | 5.0E-05 | mg/kg-d | 1.1E-04 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 3.1E+00 | mg/kg | 1.6E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(A)PYRENE | 3.8E+00 | mg/kg | 1.9E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 6.5E-03 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 4.5E+00 | mg/kg | 2.3E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 3.1E+00 | mg/kg | 1.6E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | CHRYSENE | 4.5E+00 | mg/kg | 2.3E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 3.0E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 9.8E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 2.7E-07 | mg/kg-d | 5.0E-03 | mg/kg-d | 5.4E-05 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Ingestion]** | | | | | | | | **3.1E-01** |
| Soil | Soil (0-2 ft bgs) | UNDV | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.5E+03 | mg/kg | NA | mg/kg-d | 1.0E+00 | mg/kg-d | NA |
| | | | Dermal | ANTIMONY | 1.2E+01 | mg/kg | NA | mg/kg-d | 6.0E-05 | mg/kg-d | NA |
| | | | Dermal | ARSENIC | 1.2E+02 | mg/kg | 8.1E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.7E-02 |
| | | | Dermal | BARIUM | 1.3E+03 | mg/kg | NA | mg/kg-d | 1.4E-02 | mg/kg-d | NA |

**Table 7.14**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Adult | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | CADMIUM | 1.5E+00 | mg/kg | 3.1E-09 | mg/kg-d | 2.5E-05 | mg/kg-d | 1.3E-04 |
| | | | Dermal | CHROMIUM, HEXAVALENT | 8.4E-01 | mg/kg | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA |
| | | | Dermal | COBALT | 8.3E+00 | mg/kg | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA |
| | | | Dermal | COPPER | 1.3E+02 | mg/kg | NA | mg/kg-d | 4.0E-02 | mg/kg-d | NA |
| | | | Dermal | CYANIDE | 8.8E+01 | mg/kg | NA | mg/kg-d | 6.0E-04 | mg/kg-d | NA |
| | | | Dermal | IRON | 1.5E+04 | mg/kg | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA |
| | | | Dermal | LEAD | 6.6E+02 | mg/kg | NA | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | MANGANESE | 1.8E+02 | mg/kg | NA | mg/kg-d | 9.6E-04 | mg/kg-d | NA |
| | | | Dermal | MERCURY | 1.6E+00 | mg/kg | NA | mg/kg-d | 2.1E-05 | mg/kg-d | NA |
| | | | Dermal | THALLIUM | 5.2E-01 | mg/kg | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA |
| | | | Dermal | VANADIUM | 1.9E+01 | mg/kg | NA | mg/kg-d | 1.3E-04 | mg/kg-d | NA |
| | | | Dermal | ZINC | 6.5E+02 | mg/kg | NA | mg/kg-d | 3.0E-01 | mg/kg-d | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 7.4E-02 | mg/kg | 2.2E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.1E-03 |
| | | | Dermal | AROCLOR-1260 | 4.2E-01 | mg/kg | 1.3E-07 | mg/kg-d | 2.0E-05 | mg/kg-d | 6.3E-03 |
| | | | Dermal | DIELDRIN | 1.0E-02 | mg/kg | 2.3E-09 | mg/kg-d | 5.0E-05 | mg/kg-d | 4.5E-05 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 3.1E+00 | mg/kg | 8.9E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(A)PYRENE | 3.8E+00 | mg/kg | 1.1E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 3.5E-03 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 4.5E+00 | mg/kg | 1.3E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(K)FLUORANTHENE | 3.1E+00 | mg/kg | 8.8E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | CHRYSENE | 4.5E+00 | mg/kg | 1.3E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 5.9E-01 | mg/kg | 1.7E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.9E+00 | mg/kg | 5.4E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | PENTACHLOROPHENOL | 5.3E-01 | mg/kg | 2.9E-07 | mg/kg-d | 5.0E-03 | mg/kg-d | 5.7E-05 |
| | | | **Exposure Route Total [Soil (0-2 ft bgs)-Dermal]** | | | | | | | | **3.8E-02** |
| Soil | Particulates in Air (soil 0-2) | UNDV | Inhalation | **Metals** | | | | | | | |
| | | | Inhalation | ALUMINUM | 1.1E-06 | mg/m3 | 1.5E-07 | µg/m3 | 5.0E-03 | mg/m3 | 3.0E-05 |
| | | | Inhalation | ANTIMONY | 3.7E-09 | mg/m3 | 5.1E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | ARSENIC | 3.9E-08 | mg/m3 | 5.3E-09 | µg/m3 | 1.5E-05 | mg/m3 | 3.5E-04 |
| | | | Inhalation | BARIUM | 4.0E-07 | mg/m3 | 5.5E-08 | µg/m3 | 5.0E-04 | mg/m3 | 1.1E-04 |
| | | | Inhalation | CADMIUM | 4.5E-10 | mg/m3 | 6.2E-11 | µg/m3 | 1.0E-05 | mg/m3 | 6.2E-06 |
| | | | Inhalation | CHROMIUM, HEXAVALENT | 2.6E-10 | mg/m3 | 3.6E-11 | µg/m3 | 1.0E-04 | mg/m3 | 3.6E-07 |
| | | | Inhalation | COBALT | 2.6E-09 | mg/m3 | 3.6E-10 | µg/m3 | 6.0E-06 | mg/m3 | 5.9E-05 |
| | | | Inhalation | COPPER | 4.0E-08 | mg/m3 | 5.5E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CYANIDE | 1.2E-03 | mg/m3 | 1.6E-04 | µg/m3 | 8.0E-04 | mg/m3 | 2.0E-01 |

**Table 7.14**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Adult | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Inhalation | IRON | 4.7E-06 | mg/m3 | 6.4E-07 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | LEAD | 2.1E-07 | mg/m3 | 2.8E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | MANGANESE | 5.7E-08 | mg/m3 | 7.9E-09 | µg/m3 | 5.0E-05 | mg/m3 | 1.6E-04 |
| | | | Inhalation | MERCURY | 5.1E-10 | mg/m3 | 6.9E-11 | µg/m3 | 3.0E-04 | mg/m3 | 2.3E-07 |
| | | | Inhalation | THALLIUM | 1.6E-10 | mg/m3 | 2.2E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | VANADIUM | 6.0E-09 | mg/m3 | 8.3E-10 | µg/m3 | 1.0E-04 | mg/m3 | 8.3E-06 |
| | | | Inhalation | ZINC | 2.0E-07 | mg/m3 | 2.8E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **PEST/PCB** | | | | | | | |
| | | | Inhalation | AROCLOR-1254 | 6.8E-08 | mg/m3 | 9.3E-09 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | AROCLOR-1260 | 2.5E-07 | mg/m3 | 3.4E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIELDRIN | 3.3E-12 | mg/m3 | 4.5E-13 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | **SVOCs** | | | | | | | |
| | | | Inhalation | BENZO(A)ANTHRACENE | 5.6E-07 | mg/m3 | 7.6E-08 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(A)PYRENE | 1.2E-09 | mg/m3 | 1.6E-10 | µg/m3 | 2.0E-06 | mg/m3 | 8.1E-05 |
| | | | Inhalation | BENZO(B)FLUORANTHENE | 1.4E-09 | mg/m3 | 1.9E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | BENZO(K)FLUORANTHENE | 9.7E-10 | mg/m3 | 1.3E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | CHRYSENE | 1.4E-09 | mg/m3 | 1.9E-10 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | DIBENZO(A,H)ANTHRACENE | 1.8E-10 | mg/m3 | 2.5E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | INDENO(1,2,3-CD)PYRENE | 5.9E-10 | mg/m3 | 8.1E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | Inhalation | PENTACHLOROPHENOL | 1.7E-10 | mg/m3 | 2.3E-11 | µg/m3 | NA | mg/m3 | NA |
| | | | **Exposure Route Total [Particulates in Air (soil 0-2)-Inhalation]** | | | | | | | | **2.0E-01** |
| Sediment | Sediment | UHC | Ingestion | **Metals** | | | | | | | |
| | | | Ingestion | ALUMINUM | 3.3E+03 | mg/kg | 5.0E-04 | mg/kg-d | 1.0E+00 | mg/kg-d | 5.0E-04 |
| | | | Ingestion | ANTIMONY | 1.7E+01 | mg/kg | 2.5E-06 | mg/kg-d | 4.0E-04 | mg/kg-d | 6.4E-03 |
| | | | Ingestion | ARSENIC | 1.7E+03 | mg/kg | 1.5E-04 | mg/kg-d | 3.0E-04 | mg/kg-d | 5.1E-01 |
| | | | Ingestion | BARIUM | 2.4E+03 | mg/kg | 3.6E-04 | mg/kg-d | 2.0E-01 | mg/kg-d | 1.8E-03 |
| | | | Ingestion | CHROMIUM | 1.8E+03 | mg/kg | 2.8E-04 | mg/kg-d | 3.0E-03 | mg/kg-d | 9.2E-02 |
| | | | Ingestion | COBALT | 5.4E+00 | mg/kg | 8.2E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.7E-03 |
| | | | Ingestion | COPPER | 1.6E+02 | mg/kg | 2.5E-05 | mg/kg-d | 4.0E-02 | mg/kg-d | 6.2E-04 |
| | | | Ingestion | CYANIDE | 6.5E+02 | mg/kg | 9.8E-05 | mg/kg-d | 6.0E-04 | mg/kg-d | 1.6E-01 |
| | | | Ingestion | IRON | 7.3E+03 | mg/kg | 1.1E-03 | mg/kg-d | 7.0E-01 | mg/kg-d | 1.6E-03 |
| | | | Ingestion | LEAD | 1.8E+03 | mg/kg | 2.7E-04 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | THALLIUM | 2.4E+00 | mg/kg | 3.6E-07 | mg/kg-d | 1.0E-05 | mg/kg-d | 3.6E-02 |

**Table 7.14**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Adult | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Ingestion | **PEST/PCB** | | | | | | | |
| | | | Ingestion | AROCLOR-1254 | 2.6E-01 | mg/kg | 3.8E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.9E-03 |
| | | | Ingestion | AROCLOR-1260 | 1.5E-01 | mg/kg | 2.3E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.1E-03 |
| | | | Ingestion | **SVOCs** | | | | | | | |
| | | | Ingestion | BENZO(A)ANTHRACENE | 6.1E+00 | mg/kg | 9.2E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(A)PYRENE | 6.2E+00 | mg/kg | 9.3E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 3.1E-03 |
| | | | Ingestion | BENZO(B)FLUORANTHENE | 6.0E+00 | mg/kg | 9.0E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | BENZO(K)FLUORANTHENE | 8.3E+00 | mg/kg | 1.3E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | CHRYSENE | 9.9E+00 | mg/kg | 1.5E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | DIBENZO(A,H)ANTHRACENE | 1.2E+00 | mg/kg | 1.8E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | INDENO(1,2,3-CD)PYRENE | 4.2E+00 | mg/kg | 6.3E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Ingestion | **TICs** | | | | | | | |
| | | | Ingestion | BENZO[J]FLUORANTHENE | 1.1E+00 | mg/kg | 1.7E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | **Exposure Route Total [Sediment-Ingestion]** | | | | | | | | **8.2E-01** |
| Sediment | Sediment | UHC | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ALUMINUM | 3.3E+03 | mg/kg | NA | mg/kg-d | 1.0E+00 | mg/kg-d | NA |
| | | | Dermal | ANTIMONY | 1.7E+01 | mg/kg | NA | mg/kg-d | 6.0E-05 | mg/kg-d | NA |
| | | | Dermal | ARSENIC | 1.7E+03 | mg/kg | 9.3E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 3.1E-01 |
| | | | Dermal | BARIUM | 2.4E+03 | mg/kg | NA | mg/kg-d | 1.4E-02 | mg/kg-d | NA |
| | | | Dermal | CHROMIUM | 1.8E+03 | mg/kg | NA | mg/kg-d | 7.5E-05 | mg/kg-d | NA |
| | | | Dermal | COBALT | 5.4E+00 | mg/kg | NA | mg/kg-d | 3.0E-04 | mg/kg-d | NA |
| | | | Dermal | COPPER | 1.6E+02 | mg/kg | NA | mg/kg-d | 4.0E-02 | mg/kg-d | NA |
| | | | Dermal | CYANIDE | 6.5E+02 | mg/kg | NA | mg/kg-d | 6.0E-04 | mg/kg-d | NA |
| | | | Dermal | IRON | 7.3E+03 | mg/kg | NA | mg/kg-d | 7.0E-01 | mg/kg-d | NA |
| | | | Dermal | LEAD | 1.8E+03 | mg/kg | NA | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | THALLIUM | 2.4E+00 | mg/kg | NA | mg/kg-d | 1.0E-05 | mg/kg-d | NA |
| | | | Dermal | **PEST/PCB** | | | | | | | |
| | | | Dermal | AROCLOR-1254 | 2.6E-01 | mg/kg | 6.5E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 3.2E-03 |
| | | | Dermal | AROCLOR-1260 | 1.5E-01 | mg/kg | 3.8E-08 | mg/kg-d | 2.0E-05 | mg/kg-d | 1.9E-03 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)ANTHRACENE | 6.1E+00 | mg/kg | 1.4E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(A)PYRENE | 6.2E+00 | mg/kg | 1.5E-06 | mg/kg-d | 3.0E-04 | mg/kg-d | 4.9E-03 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 6.0E+00 | mg/kg | 1.4E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | BENZO(K)FLUORANTHENE | 8.3E+00 | mg/kg | 2.0E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | CHRYSENE | 9.9E+00 | mg/kg | 2.3E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | DIBENZO(A,H)ANTHRACENE | 1.2E+00 | mg/kg | 2.9E-07 | mg/kg-d | NA | mg/kg-d | NA |

**Table 7.14**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Adult | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Units | Intake/Exposure | | RfD / RfC | | |
| | | | | | | | Value | Units | Value | Units | |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 4.2E+00 | mg/kg | 1.0E-06 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | **TICs** | | | | | | | |
| | | | Dermal | BENZO[J]FLUORANTHENE | 1.1E+00 | mg/kg | 2.6E-07 | mg/kg-d | NA | mg/kg-d | NA |
| | | | **Exposure Route Total [Sediment-Dermal]** | | | | | | | | **3.2E-01** |
| Surface Water | Surface Water | UHC | Dermal | **Metals** | | | | | | | |
| | | | Dermal | ANTIMONY | 2.9E-03 | mg/L | 5.3E-08 | mg/kg-d | 6.0E-05 | mg/kg-d | 8.9E-04 |
| | | | Dermal | ARSENIC | 5.7E-02 | mg/L | 8.2E-07 | mg/kg-d | 3.0E-04 | mg/kg-d | 2.7E-03 |
| | | | Dermal | BARIUM | 2.8E-01 | mg/L | 5.7E-06 | mg/kg-d | 1.4E-02 | mg/kg-d | 4.1E-04 |
| | | | Dermal | CHROMIUM | 3.8E-03 | mg/L | 4.9E-08 | mg/kg-d | 7.5E-05 | mg/kg-d | 6.6E-04 |
| | | | Dermal | CYANIDE | 9.7E-03 | mg/L | 1.1E-07 | mg/kg-d | 6.0E-04 | mg/kg-d | 1.9E-04 |
| | | | Dermal | IRON | 6.2E+00 | mg/L | 8.1E-05 | mg/kg-d | 7.0E-01 | mg/kg-d | 1.2E-04 |
| | | | Dermal | LEAD | 9.8E-03 | mg/L | 3.1E-08 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | MANGANESE | 2.9E-01 | mg/L | 3.7E-06 | mg/kg-d | 9.6E-04 | mg/kg-d | 3.9E-03 |
| | | | Dermal | THALLIUM | 3.6E-03 | mg/L | 1.1E-07 | mg/kg-d | 1.0E-05 | mg/kg-d | 1.1E-02 |
| | | | Dermal | VANADIUM | 2.8E-03 | mg/L | 3.5E-08 | mg/kg-d | 1.3E-04 | mg/kg-d | 2.7E-04 |
| | | | Dermal | **SVOCs** | | | | | | | |
| | | | Dermal | BENZO(A)PYRENE | 1.0E-03 | mg/L | 3.0E-05 | mg/kg-d | 3.0E-04 | mg/kg-d | 9.9E-02 |
| | | | Dermal | BENZO(B)FLUORANTHENE | 2.0E-03 | mg/L | 3.5E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | INDENO(1,2,3-CD)PYRENE | 1.0E-03 | mg/L | 6.1E-05 | mg/kg-d | NA | mg/kg-d | NA |
| | | | Dermal | NAPHTHALENE | 5.0E-04 | mg/L | 4.4E-07 | mg/kg-d | 2.0E-02 | mg/kg-d | 2.2E-05 |
| | | | Dermal | **VOCs** | | | | | | | |
| | | | Dermal | 1,4-DICHLOROBENZENE | 7.0E-04 | mg/L | 6.7E-07 | mg/kg-d | 7.0E-02 | mg/kg-d | 9.6E-06 |
| | | | Dermal | BENZENE | 5.3E-03 | mg/L | 1.1E-06 | mg/kg-d | 4.0E-03 | mg/kg-d | 2.8E-04 |
| | | | Dermal | DICHLOROMETHANE | 7.1E-03 | mg/L | 3.7E-07 | mg/kg-d | 6.0E-03 | mg/kg-d | 6.2E-05 |
| | | | Dermal | VINYL CHLORIDE | 1.0E-03 | mg/L | 1.1E-07 | mg/kg-d | 3.0E-03 | mg/kg-d | 3.7E-05 |
| | | | **Exposure Route Total [Surface Water-Dermal]** | | | | | | | | **1.2E-01** |
| **Exposure Point Total (UNDV+UHC)** | | | | | | | | | | | **2E+00** |

Notes:
NA - Not available.
-- Not applicable.
Chromium risks in sediment and surface water were calculated using toxicity values for hexavalent chromium.

**Table 7.14**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Adult | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Intake/Exposure | | RfD / RfC | | |
| | | | | | Value | Units | Value | Units | Value | Units | |

**Ingestion- Soil**

$$\text{Intake Factor (IF)} = \frac{IR \times EF \times ED \times CF \times FR}{BW \times AT} = 5.1E\text{-}07 \text{ (Adult)}$$

| | | |
|---|---|---|
| IR | Ingestion Rate (mg/day) | 100 |
| FR | Fraction from Contaminated Source | 1 |
| EF | Soil Ingestion Exposure Frequency (days/yr) | 150 |
| ED | Soil Ingestion Exposure Duration (yrs) | 26 |
| CF | Conversion Factor (kg/mg) | 0.000001 |
| BW | Body Weight (kg) | 80 |
| AT | Averaging Time (d) | 9,490 |

$Intake_{ing}$(mg/kg·d) = $EPC_{soil}$*IF*B
(B) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

**Dermal- Soil**

$$\text{Intake Factor (IF)} = \frac{SA \times AF \times EF \times ED \times CF}{BW \times AT} = 2.2E\text{-}06 \text{ (Adult)}$$

| | | |
|---|---|---|
| SA | Surface Area Exposed to Soil ($cm^2$/day) | 6,032 |
| AF | Soil Skin Adherence Factor (mg/$cm^2$) | 0.07 |
| EF | Soil Dermal Exposure Frequency (days/yr) | 150 |
| ED | Soil Dermal Exposure Duration (yrs) | 26 |
| CF | Conversion Factor (kg/mg) | 0.000001 |
| BW | Body Weight (kg) | 80 |
| AT | Averaging Time (d) | 9,490 |

$Intake_{derm}$(mg/kg·d) = $EPC_{soil}$*IF*ABS
(ABS) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

**Inhalation - Soil**

$$\text{Intake Factor (IF)} = \frac{EF \times ED \times ET \times CF}{AT} = 1.4E\text{-}01 \text{ (Adult)}$$

| | | |
|---|---|---|
| EF | Soil Exposure Frequency (days/yr) | 150 |
| ED | Soil Exposure Duration (yrs) | 26 |
| ET | Soil Exposure Time (hours/day) | 8 |
| CF | Conversion Factor (d/hr) | 0.042 |
| AT | Averaging Time (d) | 9,490 |

EPCair = EPCsoil x [1/Volatilization Factor (VF) + 1/Particulate Emissions Factor (PEF)]
Exposure = EPCair x IF
Non-cancer Hazard = Intake/RfC

**Table 7.14**
**Calculation of Chemical Non-cancer Hazards**
**Reasonable Maximum Exposure**

| | |
|---|---|
| Scenario Timeframe: | Current/Future |
| Receptor Population: | Recreator |
| Receptor Age: | Adult |

| Medium | Exposure Medium | Exposure Point | Exposure Route | Chemical of Potential Concern | EPC | | Non-cancer Hazard Calculations - Adult | | | | Non-cancer Hazards |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Intake/Exposure | | RfD / RfC | | |
| | | | | | Value | Units | Value | Units | Value | Units | |

**Ingestion- Sediment (SD)**

| | | | |
|---|---|---|---|
| Intake Factor (IF) = | IR x EF x ED x CF x FR / BW x AT | = | 1.5E-07 (Adult) |
| IR | Ingestion Rate (mg/day) | | 100 |
| FR | Fraction from Contaminated Source | | 1 |
| EF | Sediment Ingestion Exposure Frequency (days/yr) | | 44 |
| ED | Sediment Ingestion Exposure Duration (yrs) | | 26 |
| CF | Conversion Factor (kg/mg) | | 0.000001 |
| BW | Body Weight (kg) | | 80 |
| AT | Averaging Time (d) | | 9,490 |

$Intake_{ing}$(mg/kg·d) = $EPC_{soil}$*IF*B
(B) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

**Dermal- Sediment (SD)**

| | | | |
|---|---|---|---|
| Intake Factor (IF) = | SA x AF x EF x ED x CF / BW x AT | = | 1.8E-06 (Adult) |
| SA | Surface Area Exposed to Sediment (cm²/day) | | 6,032 |
| AF | Sediment Skin Adherence Factor (mg/cm²) | | 0.2 |
| EF | Sediment Dermal Exposure Frequency (days/yr) | | 44 |
| ED | Sediment Dermal Exposure Duration (yrs) | | 26 |
| CF | Conversion Factor (kg/mg) | | 0.000001 |
| BW | Body Weight (kg) | | 80 |
| AT | Averaging Time (d) | | 9,490 |

$Intake_{derm}$(mg/kg·d) = $EPC_{soil}$*IF*ABS
(ABS) presented in Table 5.1
Non-cancer Hazard = Intake/RfD

**Dermal- Surface Water (SW)**

| | | | |
|---|---|---|---|
| Intake Factor (IF) = | SA x EV x EF x ED / BW x AT | = | 9.1E+00 (Adult) |
| SA | Surface Area Exposed to Surface Water (cm²/day) | | 6,032 |
| EF | Surface Water Dermal Exposure Frequency (days/yr) | | 44 |
| ED | Surface Water Dermal Exposure Duration (yrs) | | 26 |
| EV | Event per day (ev/d) | | 1 |
| BW | Body Weight (kg) | | 80 |
| AT | Averaging Time (d) | | 9,490 |

$Intake_{derm}$(mg/kg·d) = IF x Absorbed Dose per event ($DA_{Event}$)
($DA_{event}$) presented in Table 4.5.
Non-cancer Hazard = Exposure/RfC

**Table 9.5**
**Chemical Cancer Risks and Non-cancer Hazards**
**Reasonable Maximum Exposure**
**Recreator-Child**

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | | Non-carcinogenic Hazard Quotient | | | | Target Organ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | RfD | RfC |
| Soil | Soil | UNDV | **Metals** | | | | | | | | | | |
| | | | ALUMINUM | NA | NA | NA | **NA** | 1.9E-02 | NA | 3.0E-05 | **1.9E-02** | Nervous System | Nervous System |
| | | | ANTIMONY | NA | NA | NA | **NA** | 1.6E-01 | NA | NA | **1.6E-01** | Hematological | NA |
| | | | ARSENIC | 5.2E-05 | 6.2E-06 | 2.0E-09 | **5.9E-05** | 1.4E+00 | 1.6E-01 | 3.5E-04 | **1.5E+00** | Skin | Respiratory |
| | | | BARIUM | NA | NA | NA | **NA** | 3.5E-02 | NA | 1.1E-04 | **3.5E-02** | Renal | Reproductive |
| | | | CADMIUM | NA | NA | 9.6E-12 | **9.6E-12** | 8.0E-03 | 7.6E-04 | 6.2E-06 | **8.7E-03** | Renal | Renal |
| | | | CHROMIUM, HEXAVALENT | 1.4E-06 | NA | 1.4E-09 | **1.4E-06** | 1.5E-03 | NA | 3.6E-07 | **1.5E-03** | None Observed | Respiratory |
| | | | COBALT | NA | NA | 2.7E-10 | **2.7E-10** | 1.5E-01 | NA | 5.9E-05 | **1.5E-01** | Endocrine | Respiratory |
| | | | COPPER | NA | NA | NA | **NA** | 1.8E-02 | NA | NA | **1.8E-02** | Gastrointestinal | NA |
| | | | CYANIDE | NA | NA | NA | **NA** | 8.1E-01 | NA | 2.0E-01 | **1.0E+00** | Reproductive | Endocrine |
| | | | IRON | NA | NA | NA | **NA** | 1.2E-01 | NA | NA | **1.2E-01** | Gastrointestinal | NA |
| | | | LEAD | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | MANGANESE | NA | NA | NA | **NA** | 4.2E-02 | NA | 1.6E-04 | **4.2E-02** | Nervous System | Nervous System |
| | | | MERCURY | NA | NA | NA | **NA** | 3.0E-02 | NA | 2.3E-07 | **3.0E-02** | Immunological | Nervous System |
| | | | THALLIUM | NA | NA | NA | **NA** | 2.9E-01 | NA | NA | **2.9E-01** | Skin | NA |
| | | | VANADIUM | NA | NA | NA | **NA** | 2.1E-02 | NA | 8.3E-06 | **2.1E-02** | Systemic | Respiratory |
| | | | ZINC | NA | NA | NA | **NA** | 1.2E-02 | NA | NA | **1.2E-02** | Hematological | NA |
| | | | **PEST/PCB** | | | | | | | | | | |
| | | | AROCLOR-1254 | 6.9E-08 | 2.3E-08 | 4.6E-10 | **9.3E-08** | 2.0E-02 | 6.7E-03 | NA | **2.7E-02** | Immunological | NA |
| | | | AROCLOR-1260 | 3.9E-07 | 1.3E-07 | 1.7E-09 | **5.2E-07** | 1.1E-01 | 3.8E-02 | NA | **1.5E-01** | Immunological | NA |
| | | | DIELDRIN | 7.8E-08 | 1.9E-08 | 1.8E-13 | **9.7E-08** | 1.1E-03 | 2.7E-04 | NA | **1.4E-03** | Hepatic | NA |
| | | | **SVOCs** | | | | | | | | | | |
| | | | BENZO(A)ANTHRACENE | 1.1E-06 | 2.9E-07 | 2.1E-09 | **1.4E-06** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(A)PYRENE | 1.3E-05 | 3.5E-06 | 4.4E-11 | **1.6E-05** | 6.9E-02 | 2.1E-02 | 8.1E-05 | **9.0E-02** | Developmental | Developmental |
| | | | BENZO(B)FLUORANTHENE | 1.5E-06 | 4.2E-07 | 5.3E-12 | **2.0E-06** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(K)FLUORANTHENE | 1.1E-07 | 2.9E-08 | 3.6E-13 | **1.4E-07** | NA | NA | NA | **NA** | NA | NA |
| | | | CHRYSENE | 1.6E-08 | 4.2E-09 | 5.3E-14 | **2.0E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | DIBENZO(A,H)ANTHRACENE | 2.0E-06 | 5.5E-07 | 6.9E-12 | **2.6E-06** | NA | NA | NA | **NA** | NA | NA |
| | | | INDENO(1,2,3-CD)PYRENE | 6.5E-07 | 1.8E-07 | 2.2E-12 | **8.3E-07** | NA | NA | NA | **NA** | NA | NA |
| | | | PENTACHLOROPHENOL | 9.9E-08 | 5.9E-08 | 9.9E-15 | **1.6E-07** | 5.8E-04 | 3.4E-04 | NA | **9.2E-04** | Hepatic | NA |
| Sediment | Sediment | UHC | **Metals** | | | | | | | | | | |
| | | | ALUMINUM | NA | NA | | **NA** | 5.4E-03 | NA | | **5.4E-03** | Nervous System | Nervous System |
| | | | ANTIMONY | NA | NA | | **NA** | 6.8E-02 | NA | | **6.8E-02** | Hematological | NA |
| | | | ARSENIC | 7.2E-04 | 8.5E-05 | | **8.0E-04** | 5.5E+00 | 6.5E-01 | | **6.1E+00** | Skin | Respiratory |
| | | | BARIUM | NA | NA | | **NA** | 1.9E-02 | NA | | **1.9E-02** | Renal | Reproductive |
| | | | CHROMIUM | 3.1E-03 | NA | | **3.1E-03** | 9.8E-01 | NA | | **9.8E-01** | None Observed | Respiratory |
| | | | COBALT | NA | NA | | **NA** | 2.9E-02 | NA | | **2.9E-02** | Endocrine | Respiratory |
| | | | COPPER | NA | NA | | **NA** | 6.6E-03 | NA | | **6.6E-03** | Gastrointestinal | NA |
| | | | CYANIDE | NA | NA | | **NA** | 1.7E+00 | NA | | **1.7E+00** | Reproductive | Endocrine |
| | | | IRON | NA | NA | | **NA** | 1.7E-02 | NA | | **1.7E-02** | Gastrointestinal | NA |
| | | | LEAD | NA | NA | | **NA** | NA | NA | | **NA** | NA | NA |
| | | | THALLIUM | NA | NA | | **NA** | 3.9E-01 | NA | | **3.9E-01** | Skin | NA |
| | | | **PEST/PCB** | | | | | | | | | | |
| | | | AROCLOR-1254 | 2.4E-07 | 8.0E-08 | | **3.2E-07** | 2.0E-02 | 6.8E-03 | | **2.7E-02** | Immunological | NA |
| | | | AROCLOR-1260 | 1.4E-07 | 4.7E-08 | | **1.9E-07** | 1.2E-02 | 4.0E-03 | | **1.6E-02** | Immunological | NA |

**Table 9.5**
**Chemical Cancer Risks and Non-cancer Hazards**
**Reasonable Maximum Exposure**
**Recreator-Child**

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | | Non-carcinogenic Hazard Quotient | | | | Target Organ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | RfD | RfC |
| | | | **SVOCs** | | | | | | | | | | |
| | | | BENZO(A)ANTHRACENE | 2.1E-06 | 5.7E-07 | | **2.7E-06** | NA | NA | | **NA** | NA | NA |
| | | | BENZO(A)PYRENE | 2.1E-05 | 5.8E-06 | | **2.7E-05** | 3.3E-02 | 1.0E-02 | | **4.3E-02** | Developmental | Developmental |
| | | | BENZO(B)FLUORANTHENE | 2.0E-06 | 5.6E-07 | | **2.6E-06** | NA | NA | | **NA** | NA | NA |
| | | | BENZO(K)FLUORANTHENE | 2.8E-07 | 7.8E-08 | | **3.6E-07** | NA | NA | | **NA** | NA | NA |
| | | | CHRYSENE | 3.4E-08 | 9.2E-09 | | **4.3E-08** | NA | NA | | **NA** | NA | NA |
| | | | DIBENZO(A,H)ANTHRACENE | 4.2E-06 | 1.1E-06 | | **5.3E-06** | NA | NA | | **NA** | NA | NA |
| | | | INDENO(1,2,3-CD)PYRENE | 1.4E-06 | 3.9E-07 | | **1.8E-06** | NA | NA | | **NA** | NA | NA |
| | | | **TICs** | | | | | | | | | | |
| | | | BENZO[J]FLUORANTHENE | 6.2E-07 | 1.9E-07 | | **8.1E-07** | NA | NA | | **NA** | NA | NA |
| Surface Water | Surface Water | UHC | **Metals** | | | | | | | | | | |
| | | | ANTIMONY | | NA | | **NA** | | 1.9E-03 | | **1.9E-03** | Hematological | NA |
| | | | ARSENIC | | 7.6E-07 | | **7.6E-07** | | 5.7E-03 | | **5.7E-03** | Skin | Respiratory |
| | | | BARIUM | | NA | | **NA** | | 8.6E-04 | | **8.6E-04** | Renal | Reproductive |
| | | | CHROMIUM | | 3.9E-06 | | **3.9E-06** | | 1.4E-03 | | **1.4E-03** | None Observed | Respiratory |
| | | | CYANIDE | | NA | | **NA** | | 4.0E-04 | | **4.0E-04** | Reproductive | Endocrine |
| | | | IRON | | NA | | **NA** | | 2.4E-04 | | **2.4E-04** | Gastrointestinal | NA |
| | | | LEAD | | NA | | **NA** | | NA | | **NA** | NA | NA |
| | | | MANGANESE | | NA | | **NA** | | 8.2E-03 | | **8.2E-03** | Nervous System | Nervous System |
| | | | THALLIUM | | NA | | **NA** | | 2.3E-02 | | **2.3E-02** | Skin | NA |
| | | | VANADIUM | | NA | | **NA** | | 5.7E-04 | | **5.7E-04** | Systemic | Respiratory |
| | | | **SVOCs** | | | | | | | | | | |
| | | | BENZO(A)PYRENE | | 1.2E-04 | | **1.2E-04** | | 2.1E-01 | | **2.1E-01** | Developmental | Developmental |
| | | | BENZO(B)FLUORANTHENE | | 1.4E-05 | | **1.4E-05** | | NA | | **NA** | NA | NA |
| | | | INDENO(1,2,3-CD)PYRENE | | 2.4E-05 | | **2.4E-05** | | NA | | **NA** | NA | NA |
| | | | NAPHTHALENE | | NA | | **NA** | | 4.6E-05 | | **4.6E-05** | Systemic | Respiratory |
| | | | **VOCs** | | | | | | | | | | |
| | | | 1,4-DICHLOROBENZENE | | 2.2E-09 | | **2.2E-09** | | 2.0E-05 | | **2.0E-05** | Hepatic | Hepatic |
| | | | BENZENE | | 3.8E-08 | | **3.8E-08** | | 5.9E-04 | | **5.9E-04** | Immunological | Immunological |
| | | | DICHLOROMETHANE | | 2.9E-09 | | **2.9E-09** | | 1.3E-04 | | **1.3E-04** | Hepatic | Hepatic |
| | | | VINYL CHLORIDE | | 1.4E-06 | | **1.4E-06** | | 7.8E-05 | | **7.8E-05** | Hepatic | Hepatic |
| **Exposure Point Total - UNDV+UHC** | | | | 3.9E-03 | 2.7E-04 | 7.9E-09 | **4E-03** | 1.2E+01 | 1.1E+00 | 2.0E-01 | **1E+01** | | |
| | | | | | | | | **Total Organ HI (UNDV)** | | | | | |
| | | | | | | | | Developmental | | | 3E-01 | | |
| | | | | | | | | Endocrine | | | 4E-01 | | |
| | | | | | | | | Gastrointestinal | | | 2E-01 | | |
| | | | | | | | | Hematological | | | 2E-01 | | |
| | | | | | | | | Hepatic | | | 3E-03 | | |
| | | | | | | | | Immunological | | | 3E-01 | | |
| | | | | | | | | Nervous System | | | 7E-02 | | |
| | | | | | | | | None Observed | | | 1E+00 | | |
| | | | | | | | | Renal | | | 6E-02 | | |
| | | | | | | | | Reproductive | | | 3E+00 | | |
| | | | | | | | | Respiratory | | | 4E-04 | | |
| | | | | | | | | Skin | | | 8E+00 | | |
| | | | | | | | | Systemic | | | 2E-02 | | |

**Table 9.6**
**Chemical Cancer Risks and Non-cancer Hazards**
**Reasonable Maximum Exposure**
**Recreator-Adolescent**

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | | Non-carcinogenic Hazard Quotient | | | | Target Organ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | RfD | RfC |
| Soil | Soil | UNDV | **Metals** | | | | | | | | | | |
| | | | ALUMINUM | NA | NA | NA | **NA** | 3.2E-03 | NA | 3.0E-05 | **3.3E-03** | Nervous System | Nervous System |
| | | | ANTIMONY | NA | NA | NA | **NA** | 2.8E-02 | NA | NA | **2.8E-02** | Hematological | NA |
| | | | ARSENIC | 1.5E-05 | 2.4E-06 | 3.3E-09 | **1.7E-05** | 2.3E-01 | 3.7E-02 | 3.5E-04 | **2.7E-01** | Skin | Respiratory |
| | | | BARIUM | NA | NA | NA | **NA** | 6.0E-03 | NA | 1.1E-04 | **6.1E-03** | Renal | Reproductive |
| | | | CADMIUM | NA | NA | 1.6E-11 | **1.6E-11** | 1.3E-03 | 1.7E-04 | 6.2E-06 | **1.5E-03** | Renal | Renal |
| | | | CHROMIUM, HEXAVALENT | 1.7E-07 | NA | 1.3E-09 | **1.7E-07** | 2.6E-04 | NA | 3.6E-07 | **2.6E-04** | None Observed | Respiratory |
| | | | COBALT | NA | NA | 4.6E-10 | **4.6E-10** | 2.6E-02 | NA | 5.9E-05 | **2.6E-02** | Endocrine | Respiratory |
| | | | COPPER | NA | NA | NA | **NA** | 3.0E-03 | NA | NA | **3.0E-03** | Gastrointestinal | NA |
| | | | CYANIDE | NA | NA | NA | **NA** | 1.4E-01 | NA | 2.0E-01 | **3.4E-01** | Reproductive | Endocrine |
| | | | IRON | NA | NA | NA | **NA** | 2.0E-02 | NA | NA | **2.0E-02** | Gastrointestinal | NA |
| | | | LEAD | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | MANGANESE | NA | NA | NA | **NA** | 7.1E-03 | NA | 1.6E-04 | **7.3E-03** | Nervous System | Nervous System |
| | | | MERCURY | NA | NA | NA | **NA** | 5.0E-03 | NA | 2.3E-07 | **5.0E-03** | Immunological | Nervous System |
| | | | THALLIUM | NA | NA | NA | **NA** | 4.8E-02 | NA | NA | **4.8E-02** | Skin | NA |
| | | | VANADIUM | NA | NA | NA | **NA** | 3.6E-03 | NA | 8.3E-06 | **3.6E-03** | Systemic | Respiratory |
| | | | ZINC | NA | NA | NA | **NA** | 2.0E-03 | NA | NA | **2.0E-03** | Hematological | NA |
| | | | **PEST/PCB** | | | | | | | | | | |
| | | | AROCLOR-1254 | 2.0E-08 | 8.9E-09 | 7.6E-10 | **2.9E-08** | 3.4E-03 | 1.6E-03 | NA | **5.0E-03** | Immunological | NA |
| | | | AROCLOR-1260 | 1.1E-07 | 5.0E-08 | 2.8E-09 | **1.6E-07** | 1.9E-02 | 8.8E-03 | NA | **2.8E-02** | Immunological | NA |
| | | | DIELDRIN | 2.2E-08 | 7.2E-09 | 2.9E-13 | **2.9E-08** | 1.9E-04 | 6.3E-05 | NA | **2.6E-04** | Hepatic | NA |
| | | | **SVOCs** | | | | | | | | | | |
| | | | BENZO(A)ANTHRACENE | 1.2E-07 | 5.3E-08 | 2.0E-09 | **1.8E-07** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(A)PYRENE | 1.5E-06 | 6.3E-07 | 4.2E-11 | **2.1E-06** | 1.2E-02 | 4.9E-03 | 8.1E-05 | **1.7E-02** | Developmental | Developmental |
| | | | BENZO(B)FLUORANTHENE | 1.8E-07 | 7.5E-08 | 4.9E-12 | **2.5E-07** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(K)FLUORANTHENE | 1.2E-08 | 5.2E-09 | 3.4E-13 | **1.8E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | CHRYSENE | 1.8E-09 | 7.6E-10 | 5.0E-14 | **2.6E-09** | NA | NA | NA | **NA** | NA | NA |
| | | | DIBENZO(A,H)ANTHRACENE | 2.3E-07 | 9.9E-08 | 6.5E-12 | **3.3E-07** | NA | NA | NA | **NA** | NA | NA |
| | | | INDENO(1,2,3-CD)PYRENE | 7.6E-08 | 3.2E-08 | 2.1E-12 | **1.1E-07** | NA | NA | NA | **NA** | NA | NA |
| | | | PENTACHLOROPHENOL | 2.8E-08 | 2.3E-08 | 1.6E-14 | **5.1E-08** | 9.8E-05 | 8.0E-05 | NA | **1.8E-04** | Hepatic | NA |
| Sediment | Sediment | UHC | **Metals** | | | | | | | | | | |
| | | | ALUMINUM | NA | NA | | **NA** | 9.1E-04 | NA | | **9.1E-04** | Nervous System | Nervous System |
| | | | ANTIMONY | NA | NA | | **NA** | 1.1E-02 | NA | | **1.1E-02** | Hematological | NA |
| | | | ARSENIC | 5.9E-05 | 2.8E-05 | | **8.7E-05** | 9.3E-01 | 4.3E-01 | | **1.4E+00** | Skin | Respiratory |
| | | | BARIUM | NA | NA | | **NA** | 3.2E-03 | NA | | **3.2E-03** | Renal | Reproductive |
| | | | CHROMIUM | 1.1E-04 | NA | | **1.1E-04** | 1.7E-01 | NA | | **1.7E-01** | None Observed | Respiratory |
| | | | COBALT | NA | NA | | **NA** | 4.9E-03 | NA | | **4.9E-03** | Endocrine | Respiratory |
| | | | COPPER | NA | NA | | **NA** | 1.1E-03 | NA | | **1.1E-03** | Gastrointestinal | NA |
| | | | CYANIDE | NA | NA | | **NA** | 3.0E-01 | NA | | **3.0E-01** | Reproductive | Endocrine |
| | | | IRON | NA | NA | | **NA** | 2.8E-03 | NA | | **2.8E-03** | Gastrointestinal | NA |
| | | | LEAD | NA | NA | | **NA** | NA | NA | | **NA** | NA | NA |
| | | | THALLIUM | NA | NA | | **NA** | 6.6E-02 | NA | | **6.6E-02** | Skin | NA |
| | | | **PEST/PCB** | | | | | | | | | | |
| | | | AROCLOR-1254 | 2.0E-08 | 2.6E-08 | | **4.6E-08** | 3.5E-03 | 4.5E-03 | | **8.0E-03** | Immunological | NA |
| | | | AROCLOR-1260 | 1.2E-08 | 1.5E-08 | | **2.7E-08** | 2.1E-03 | 2.7E-03 | | **4.7E-03** | Immunological | NA |

**Table 9.6**
**Chemical Cancer Risks and Non-cancer Hazards**
**Reasonable Maximum Exposure**
**Recreator-Adolescent**

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | | Non-carcinogenic Hazard Quotient | | | | Target Organ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | RfD | RfC |
| | | | **SVOCs** | | | | | | | | | | |
| | | | BENZO(A)ANTHRACENE | 7.1E-08 | 8.6E-08 | | **1.6E-07** | NA | NA | | **NA** | NA | NA |
| | | | BENZO(A)PYRENE | 7.2E-07 | 8.7E-07 | | **1.6E-06** | 5.6E-03 | 6.7E-03 | | **1.2E-02** | Developmental | Developmental |
| | | | BENZO(B)FLUORANTHENE | 7.0E-08 | 8.4E-08 | | **1.5E-07** | NA | NA | | **NA** | NA | NA |
| | | | BENZO(K)FLUORANTHENE | 9.7E-09 | 1.2E-08 | | **2.1E-08** | NA | NA | | **NA** | NA | NA |
| | | | CHRYSENE | 1.2E-09 | 1.4E-09 | | **2.5E-09** | NA | NA | | **NA** | NA | NA |
| | | | DIBENZO(A,H)ANTHRACENE | 1.4E-07 | 1.7E-07 | | **3.1E-07** | NA | NA | | **NA** | NA | NA |
| | | | INDENO(1,2,3-CD)PYRENE | 4.9E-08 | 5.9E-08 | | **1.1E-07** | NA | NA | | **NA** | NA | NA |
| | | | **TICs** | | | | | | | | | | |
| | | | BENZO[J]FLUORANTHENE | 5.1E-08 | 6.2E-08 | | **1.1E-07** | NA | NA | | **NA** | NA | NA |
| Surface Water | Surface Water | UHC | **Metals** | | | | | | | | | | |
| | | | ANTIMONY | | NA | | **NA** | | 1.2E-03 | | **1.2E-03** | Hematological | NA |
| | | | ARSENIC | | 2.4E-07 | | **2.4E-07** | | 3.8E-03 | | **3.8E-03** | Skin | Respiratory |
| | | | BARIUM | | NA | | **NA** | | 5.7E-04 | | **5.7E-04** | Renal | Reproductive |
| | | | CHROMIUM | | 5.8E-07 | | **5.8E-07** | | 9.1E-04 | | **9.1E-04** | None Observed | Respiratory |
| | | | CYANIDE | | NA | | **NA** | | 2.6E-04 | | **2.6E-04** | Reproductive | Endocrine |
| | | | IRON | | NA | | **NA** | | 1.6E-04 | | **1.6E-04** | Gastrointestinal | NA |
| | | | LEAD | | NA | | **NA** | | NA | | **NA** | NA | NA |
| | | | MANGANESE | | NA | | **NA** | | 5.4E-03 | | **5.4E-03** | Nervous System | Nervous System |
| | | | THALLIUM | | NA | | **NA** | | 1.5E-02 | | **1.5E-02** | Skin | NA |
| | | | VANADIUM | | NA | | **NA** | | 3.8E-04 | | **3.8E-04** | Systemic | Respiratory |
| | | | **SVOCs** | | | | | | | | | | |
| | | | BENZO(A)PYRENE | | 1.8E-05 | | **1.8E-05** | | 1.4E-01 | | **1.4E-01** | Developmental | Developmental |
| | | | BENZO(B)FLUORANTHENE | | 2.1E-06 | | **2.1E-06** | | NA | | **NA** | NA | NA |
| | | | INDENO(1,2,3-CD)PYRENE | | 3.6E-06 | | **3.6E-06** | | NA | | **NA** | NA | NA |
| | | | NAPHTHALENE | | NA | | **NA** | | 3.0E-05 | | **3.0E-05** | Systemic | Respiratory |
| | | | **VOCs** | | | | | | | | | | |
| | | | 1,4-DICHLOROBENZENE | | 7.2E-10 | | **7.2E-10** | | 1.3E-05 | | **1.3E-05** | Hepatic | Hepatic |
| | | | BENZENE | | 1.2E-08 | | **1.2E-08** | | 3.9E-04 | | **3.9E-04** | Immunological | Immunological |
| | | | DICHLOROMETHANE | | 4.4E-10 | | **4.4E-10** | | 8.6E-05 | | **8.6E-05** | Hepatic | Hepatic |
| | | | VINYL CHLORIDE | | 9.4E-07 | | **9.4E-07** | | 5.2E-05 | | **5.2E-05** | Hepatic | Hepatic |
| **Exposure Point Total - UNDV+UHC** | | | | 1.8E-04 | 5.8E-05 | 1.1E-08 | **2E-04** | 2.0E+00 | 6.6E-01 | 2.0E-01 | **3E+00** | | |
| | | | | | | | | **Total Organ HI (UNDV)** | | | | | |
| | | | | | | | | Developmental | | | 2E-01 | | |
| | | | | | | | | Endocrine | | | 2E-01 | | |
| | | | | | | | | Gastrointestinal | | | 3E-02 | | |
| | | | | | | | | Hematological | | | 4E-02 | | |
| | | | | | | | | Hepatic | | | 6E-04 | | |
| | | | | | | | | Immunological | | | 5E-02 | | |
| | | | | | | | | Nervous System | | | 2E-02 | | |
| | | | | | | | | None Observed | | | 2E-01 | | |
| | | | | | | | | Renal | | | 1E-02 | | |
| | | | | | | | | Reproductive | | | 4E-01 | | |
| | | | | | | | | Respiratory | | | 4E-04 | | |
| | | | | | | | | Skin | | | 2E+00 | | |
| | | | | | | | | Systemic | | | 4E-03 | | |

**Table 9.7**
**Chemical Cancer Risks and Non-cancer Hazards**
**Reasonable Maximum Exposure**
**Recreator-Adult**

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | | Non-carcinogenic Hazard Quotient | | | | Target Organ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | RfD | RfC |
| Soil | Soil | UNDV | **Metals** | | | | | | | | | | |
| | | | ALUMINUM | NA | NA | NA | **NA** | 1.8E-03 | NA | 3.0E-05 | **1.8E-03** | Nervous System | Nervous System |
| | | | ANTIMONY | NA | NA | NA | **NA** | 1.5E-02 | NA | NA | **1.5E-02** | Hematological | NA |
| | | | ARSENIC | 2.1E-05 | 4.5E-06 | 8.5E-09 | **2.6E-05** | 1.3E-01 | 2.7E-02 | 3.5E-04 | **1.5E-01** | Skin | Respiratory |
| | | | BARIUM | NA | NA | NA | **NA** | 3.3E-03 | NA | 1.1E-04 | **3.4E-03** | Renal | Reproductive |
| | | | CADMIUM | NA | NA | 4.2E-11 | **4.2E-11** | 7.5E-04 | 1.3E-04 | 6.2E-06 | **8.8E-04** | Renal | Renal |
| | | | CHROMIUM, HEXAVALENT | 8.0E-08 | NA | 1.1E-09 | **8.1E-08** | 1.4E-04 | NA | 3.6E-07 | **1.4E-04** | None Observed | Respiratory |
| | | | COBALT | NA | NA | 1.2E-09 | **1.2E-09** | 1.4E-02 | NA | 5.9E-05 | **1.4E-02** | Endocrine | Respiratory |
| | | | COPPER | NA | NA | NA | **NA** | 1.7E-03 | NA | NA | **1.7E-03** | Gastrointestinal | NA |
| | | | CYANIDE | NA | NA | NA | **NA** | 7.6E-02 | NA | 2.0E-01 | **2.8E-01** | Reproductive | Endocrine |
| | | | IRON | NA | NA | NA | **NA** | 1.1E-02 | NA | NA | **1.1E-02** | Gastrointestinal | NA |
| | | | LEAD | NA | NA | NA | **NA** | NA | NA | NA | **NA** | NA | NA |
| | | | MANGANESE | NA | NA | NA | **NA** | 3.9E-03 | NA | 1.6E-04 | **4.1E-03** | Nervous System | Nervous System |
| | | | MERCURY | NA | NA | NA | **NA** | 2.8E-03 | NA | 2.3E-07 | **2.8E-03** | Immunological | Nervous System |
| | | | THALLIUM | NA | NA | NA | **NA** | 2.7E-02 | NA | NA | **2.7E-02** | Skin | NA |
| | | | VANADIUM | NA | NA | NA | **NA** | 2.0E-03 | NA | 8.3E-06 | **2.0E-03** | Systemic | Respiratory |
| | | | ZINC | NA | NA | NA | **NA** | 1.1E-03 | NA | NA | **1.1E-03** | Hematological | NA |
| | | | **PEST/PCB** | | | | | | | | | | |
| | | | AROCLOR-1254 | 2.8E-08 | 1.7E-08 | 2.0E-09 | **4.7E-08** | 1.9E-03 | 1.1E-03 | NA | **3.0E-03** | Immunological | NA |
| | | | AROCLOR-1260 | 1.6E-07 | 9.4E-08 | 7.2E-09 | **2.6E-07** | 1.1E-02 | 6.3E-03 | NA | **1.7E-02** | Immunological | NA |
| | | | DIELDRIN | 3.2E-08 | 1.3E-08 | 7.6E-13 | **4.5E-08** | 1.1E-04 | 4.5E-05 | NA | **1.5E-04** | Hepatic | NA |
| | | | **SVOCs** | | | | | | | | | | |
| | | | BENZO(A)ANTHRACENE | 6.0E-08 | 3.3E-08 | 1.7E-09 | **9.5E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(A)PYRENE | 7.2E-07 | 4.0E-07 | 3.6E-11 | **1.1E-06** | 6.5E-03 | 3.5E-03 | 8.1E-05 | **1.0E-02** | Developmental | Developmental |
| | | | BENZO(B)FLUORANTHENE | 8.5E-08 | 4.7E-08 | 4.3E-12 | **1.3E-07** | NA | NA | NA | **NA** | NA | NA |
| | | | BENZO(K)FLUORANTHENE | 5.9E-09 | 3.3E-09 | 3.0E-13 | **9.2E-09** | NA | NA | NA | **NA** | NA | NA |
| | | | CHRYSENE | 8.6E-10 | 4.7E-10 | 4.3E-14 | **1.3E-09** | NA | NA | NA | **NA** | NA | NA |
| | | | DIBENZO(A,H)ANTHRACENE | 1.1E-07 | 6.2E-08 | 5.6E-12 | **1.7E-07** | NA | NA | NA | **NA** | NA | NA |
| | | | INDENO(1,2,3-CD)PYRENE | 3.6E-08 | 2.0E-08 | 1.8E-12 | **5.6E-08** | NA | NA | NA | **NA** | NA | NA |
| | | | PENTACHLOROPHENOL | 4.0E-08 | 4.3E-08 | 4.3E-14 | **8.3E-08** | 5.4E-05 | 5.7E-05 | NA | **1.1E-04** | Hepatic | NA |
| Sediment | Sediment | UHC | **Metals** | | | | | | | | | | |
| | | | ALUMINUM | NA | NA | | **NA** | 5.0E-04 | NA | | **5.0E-04** | Nervous System | Nervous System |
| | | | ANTIMONY | NA | NA | | **NA** | 6.4E-03 | NA | | **6.4E-03** | Hematological | NA |
| | | | ARSENIC | 8.6E-05 | 5.2E-05 | | **1.4E-04** | 5.1E-01 | 3.1E-01 | | **8.2E-01** | Skin | Respiratory |
| | | | BARIUM | NA | NA | | **NA** | 1.8E-03 | NA | | **1.8E-03** | Renal | Reproductive |
| | | | CHROMIUM | 5.1E-05 | NA | | **5.1E-05** | 9.2E-02 | NA | | **9.2E-02** | None Observed | Respiratory |
| | | | COBALT | NA | NA | | **NA** | 2.7E-03 | NA | | **2.7E-03** | Endocrine | Respiratory |
| | | | COPPER | NA | NA | | **NA** | 6.2E-04 | NA | | **6.2E-04** | Gastrointestinal | NA |
| | | | CYANIDE | NA | NA | | **NA** | 1.6E-01 | NA | | **1.6E-01** | Reproductive | Endocrine |
| | | | IRON | NA | NA | | **NA** | 1.6E-03 | NA | | **1.6E-03** | Gastrointestinal | NA |
| | | | LEAD | NA | NA | | **NA** | NA | NA | | **NA** | NA | NA |
| | | | THALLIUM | NA | NA | | **NA** | 3.6E-02 | NA | | **3.6E-02** | Skin | NA |
| | | | **PEST/PCB** | | | | | | | | | | |
| | | | AROCLOR-1254 | 2.9E-08 | 4.8E-08 | | **7.7E-08** | 1.9E-03 | 3.2E-03 | | **5.2E-03** | Immunological | NA |
| | | | AROCLOR-1260 | 1.7E-08 | 2.9E-08 | | **4.5E-08** | 1.1E-03 | 1.9E-03 | | **3.1E-03** | Immunological | NA |

**Table 9.7**
**Chemical Cancer Risks and Non-cancer Hazards**
**Reasonable Maximum Exposure**
**Recreator-Adult**

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | | Non-carcinogenic Hazard Quotient | | | | Target Organ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Dermal | Inhalation | Total | Ingestion | Dermal | Inhalation | Total | RfD | RfC |
| | | | **SVOCs** | | | | | | | | | | |
| | | | BENZO(A)ANTHRACENE | 3.4E-08 | 5.4E-08 | | **8.8E-08** | NA | NA | | **NA** | NA | NA |
| | | | BENZO(A)PYRENE | 3.4E-07 | 5.4E-07 | | **8.9E-07** | 3.1E-03 | 4.9E-03 | | **7.9E-03** | Developmental | Developmental |
| | | | BENZO(B)FLUORANTHENE | 3.3E-08 | 5.3E-08 | | **8.6E-08** | NA | NA | | **NA** | NA | NA |
| | | | BENZO(K)FLUORANTHENE | 4.7E-09 | 7.3E-09 | | **1.2E-08** | NA | NA | | **NA** | NA | NA |
| | | | CHRYSENE | 5.5E-10 | 8.7E-10 | | **1.4E-09** | NA | NA | | **NA** | NA | NA |
| | | | DIBENZO(A,H)ANTHRACENE | 6.8E-08 | 1.1E-07 | | **1.8E-07** | NA | NA | | **NA** | NA | NA |
| | | | INDENO(1,2,3-CD)PYRENE | 2.4E-08 | 3.7E-08 | | **6.1E-08** | NA | NA | | **NA** | NA | NA |
| | | | **TICs** | | | | | | | | | | |
| | | | BENZO[J]FLUORANTHENE | 7.4E-08 | 1.2E-07 | | **1.9E-07** | NA | NA | | **NA** | NA | NA |
| Surface Water | Surface Water | UHC | **Metals** | | | | | | | | | | |
| | | | ANTIMONY | | NA | | **NA** | | 8.9E-04 | | **8.9E-04** | Hematological | NA |
| | | | ARSENIC | | 4.6E-07 | | **4.6E-07** | | 2.7E-03 | | **2.7E-03** | Skin | Respiratory |
| | | | BARIUM | | NA | | **NA** | | 4.1E-04 | | **4.1E-04** | Renal | Reproductive |
| | | | CHROMIUM | | 3.6E-07 | | **3.6E-07** | | 6.6E-04 | | **6.6E-04** | None Observed | Respiratory |
| | | | CYANIDE | | NA | | **NA** | | 1.9E-04 | | **1.9E-04** | Reproductive | Endocrine |
| | | | IRON | | NA | | **NA** | | 1.2E-04 | | **1.2E-04** | Gastrointestinal | NA |
| | | | LEAD | | NA | | **NA** | | NA | | **NA** | NA | NA |
| | | | MANGANESE | | NA | | **NA** | | 3.9E-03 | | **3.9E-03** | Nervous System | Nervous System |
| | | | THALLIUM | | NA | | **NA** | | 1.1E-02 | | **1.1E-02** | Skin | NA |
| | | | VANADIUM | | NA | | **NA** | | 2.7E-04 | | **2.7E-04** | Systemic | Respiratory |
| | | | **SVOCs** | | | | | | | | | | |
| | | | BENZO(A)PYRENE | | 1.1E-05 | | **1.1E-05** | | 9.9E-02 | | **9.9E-02** | Developmental | Developmental |
| | | | BENZO(B)FLUORANTHENE | | 1.3E-06 | | **1.3E-06** | | NA | | **NA** | NA | NA |
| | | | INDENO(1,2,3-CD)PYRENE | | 2.3E-06 | | **2.3E-06** | | NA | | **NA** | NA | NA |
| | | | NAPHTHALENE | | NA | | **NA** | | 2.2E-05 | | **2.2E-05** | Systemic | Respiratory |
| | | | **VOCs** | | | | | | | | | | |
| | | | 1,4-DICHLOROBENZENE | | 1.3E-09 | | **1.3E-09** | | 9.6E-06 | | **9.6E-06** | Hepatic | Hepatic |
| | | | BENZENE | | 2.3E-08 | | **2.3E-08** | | 2.8E-04 | | **2.8E-04** | Immunological | Immunological |
| | | | DICHLOROMETHANE | | 2.8E-10 | | **2.8E-10** | | 6.2E-05 | | **6.2E-05** | Hepatic | Hepatic |
| | | | VINYL CHLORIDE | | 3.0E-08 | | **3.0E-08** | | 3.7E-05 | | **3.7E-05** | Hepatic | Hepatic |
| **Exposure Point Total - UNDV+UHC** | | | | 1.6E-04 | 7.3E-05 | 2.2E-08 | **2E-04** | 1.1E+00 | 4.8E-01 | 2.0E-01 | **2E+00** | | |
| | | | | | | | | **Total Organ HI (UNDV)** | | | | | |
| | | | | | | | | Developmental | | | 1E-01 | | |
| | | | | | | | | Endocrine | | | 2E-01 | | |
| | | | | | | | | Gastrointestinal | | | 1E-02 | | |
| | | | | | | | | Hematological | | | 2E-02 | | |
| | | | | | | | | Hepatic | | | 4E-04 | | |
| | | | | | | | | Immunological | | | 3E-02 | | |
| | | | | | | | | Nervous System | | | 1E-02 | | |
| | | | | | | | | None Observed | | | 9E-02 | | |
| | | | | | | | | Renal | | | 6E-03 | | |
| | | | | | | | | Reproductive | | | 2E-01 | | |
| | | | | | | | | Respiratory | | | 4E-04 | | |
| | | | | | | | | Skin | | | 1E+00 | | |
| | | | | | | | | Systemic | | | 2E-03 | | |

**Table 11**

**Summary of Total Cancer Risks and Non-cancer Hazards by Exposure Area**

| Exposure Area | Child Recreator | | Adolescent Recreator | | Adult Recreator | |
|---|---|---|---|---|---|---|
| | Total Excess Lifetime Cancer Risk | Non-cancer Hazard | Total Excess Lifetime Cancer Risk | Non-cancer Hazard | Total Excess Lifetime Cancer Risk | Non-cancer Hazard |
| UNDV+UHC | **4E-03** | **13** | **2E-04** | **3** | **2E-04** | **2** |

Notes:

**BOLD** – Cancer Risk >1 x $10^{-4}$ or Hazard Index > 1.

Blank – Receptor not evaluated in this exposure area.

**Table 12**
**Risk Summary Detail**

| Receptor/Exposure Pathway | UNDV+UHC | | |
|---|---|---|---|
| **Cancer Risk** | **Cancer Risk** | **Percent Contribution** | **Major Contributor** |
| **Child Recreator** | | | |
| Incidental Ingestion of Soil | 7.3E-05 | 2% | ARSENIC (72%) |
| Dermal Contact with Soil | 1.1E-05 | <1% | ARSENIC (54%) |
| Inhalation of Particulates | 7.9E-09 | <1% | BENZO(A)ANTHRACENE (27%) |
| Incidental Ingestion of Sediment | 3.9E-03 | 92% | CHROMIUM (81%) |
| Dermal Contact with Sediment | 9.4E-05 | 2% | ARSENIC (91%) |
| Dermal Contact with Surface Water | 1.6E-04 | 4% | BENZO(A)PYRENE (73%) |
| **Total Risk:** | **4E-03** | | |
| **Adolescent Recreator** | | | |
| Incidental Ingestion of Soil | 1.7E-05 | 7% | ARSENIC (86%) |
| Dermal Contact with Soil | 3.4E-06 | 1% | ARSENIC (71%) |
| Inhalation of Particulates | 1.1E-08 | <1% | ARSENIC (31%) |
| Incidental Ingestion of Sediment | 1.7E-04 | 69% | CHROMIUM (64%) |
| Dermal Contact with Sediment | 2.9E-05 | 12% | ARSENIC (95%) |
| Dermal Contact with Surface Water | 2.5E-05 | 10% | BENZO(A)PYRENE (70%) |
| **Total Risk:** | **2E-04** | | |
| **Adult Recreator** | | | |
| Incidental Ingestion of Soil | 2.3E-05 | 10% | ARSENIC (94%) |
| Dermal Contact with Soil | 5.2E-06 | 2% | ARSENIC (86%) |
| Inhalation of Particulates | 2.2E-08 | <1% | ARSENIC (39%) |
| Incidental Ingestion of Sediment | 1.4E-04 | 59% | ARSENIC (62%) |
| Dermal Contact with Sediment | 5.3E-05 | 23% | ARSENIC (98%) |
| Dermal Contact with Surface Water | 1.6E-05 | 7% | BENZO(A)PYRENE (71%) |
| **Total Risk:** | **2E-04** | | |

**Table 12**
**Risk Summary Detail**

| Receptor/Exposure Pathway | UNDV+UHC | | |
|---|---|---|---|
| **Non-cancer Hazard** | **Non-cancer Hazard** | **Percent Contribution** | **Major Contributor** |
| **Child Recreator** | | | |
| Incidental Ingestion of Soil | 3.3E+00 | 24% | ARSENIC (42%) |
| Dermal Contact with Soil | 2.3E-01 | 2% | ARSENIC (71%) |
| Inhalation of Particulates | 2.0E-01 | 2% | CYANIDE (100%) |
| Incidental Ingestion of Sediment | 8.8E+00 | 65% | ARSENIC (62%) |
| Dermal Contact with Sediment | 6.7E-01 | 5% | ARSENIC (97%) |
| Dermal Contact with Surface Water | 2.5E-01 | 2% | BENZO(A)PYRENE (83%) |
| **Total Hazard:** | **1E+01** | | |
| **Adolescent Recreator** | | | |
| Incidental Ingestion of Soil | 5.6E-01 | 19% | ARSENIC (42%) |
| Dermal Contact with Soil | 5.3E-02 | 2% | ARSENIC (71%) |
| Inhalation of Particulates | 2.0E-01 | 7% | CYANIDE (100%) |
| Incidental Ingestion of Sediment | 1.5E+00 | 51% | ARSENIC (62%) |
| Dermal Contact with Sediment | 4.4E-01 | 15% | ARSENIC (97%) |
| Dermal Contact with Surface Water | 1.7E-01 | 6% | BENZO(A)PYRENE (83%) |
| **Total Hazard:** | **3E+00** | | |
| **Adult Recreator** | | | |
| Incidental Ingestion of Soil | 3.1E-01 | 17% | ARSENIC (42%) |
| Dermal Contact with Soil | 3.8E-02 | 2% | ARSENIC (71%) |
| Inhalation of Particulates | 2.0E-01 | 11% | CYANIDE (100%) |
| Incidental Ingestion of Sediment | 8.2E-01 | 46% | ARSENIC (62%) |
| Dermal Contact with Sediment | 3.2E-01 | 18% | ARSENIC (97%) |
| Dermal Contact with Surface Water | 1.2E-01 | 7% | BENZO(A)PYRENE (83%) |
| **Total Hazard:** | **2E+00** | | |

Note:
Major Contributor – COPC contributing majority of risk, by receptor & pathway (% contribution)

## Table 13
## Risk Summary Detail by Media

| Receptor/Exposure Media | UNDV+UHC | |
|---|---|---|
| **Non-cancer Hazard** | **Non-cancer Hazard** | **Percent Contribution** |
| **Child Recreator** | | |
| Soil | 3.7E+00 | 28% |
| Sediment | 9.5E+00 | 70% |
| Surface Water | 2.5E-01 | 2% |
| **Total Hazard:** | **1E+01** | |
| **Adolescent Recreator** | | |
| Soil | 8.1E-01 | 28% |
| Sediment | 1.9E+00 | 66% |
| Surface Water | 1.7E-01 | 6% |
| **Total Hazard:** | **3E+00** | |
| **Adult Recreator** | | |
| Soil | 5.5E-01 | 30% |
| Sediment | 1.1E+00 | 63% |
| Surface Water | 1.2E-01 | 7% |
| **Total Hazard:** | **2E+00** | |
| **Cancer Risk** | **Cancer Risk** | **Percent Contribution** |
| **Child Recreator** | | |
| Soil | 8.4E-05 | 2% |
| Sediment | 4.0E-03 | 94% |
| Surface Water | 1.6E-04 | 4% |
| **Total Risk:** | **4E-03** | |
| **Adolescent Recreator** | | |
| Soil | 2.1E-05 | 9% |
| Sediment | 2.0E-04 | 81% |
| Surface Water | 2.5E-05 | 10% |
| **Total Risk:** | **2E-04** | |
| **Adult Recreator** | | |
| Soil | 2.8E-05 | 12% |
| Sediment | 1.9E-04 | 81% |
| Surface Water | 1.6E-05 | 7% |
| **Total Risk:** | **2E-04** | |

**Table 14.1**
**Cancer Risk and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | UNDV+UHC | |
|---|---|---|---|---|
| | | | Cancer Risk | % Contribution |
| Child Recreator | Soil | **Metals** | | |
| | | ALUMINUM | NA | NA |
| | | ANTIMONY | NA | NA |
| | | ARSENIC | 5.9E-05 | **70%** |
| | | BARIUM | NA | NA |
| | | CADMIUM | 9.6E-12 | <1% |
| | | CHROMIUM, HEXAVALENT | 1.4E-06 | 2% |
| | | COBALT | 2.7E-10 | <1% |
| | | COPPER | NA | NA |
| | | CYANIDE | NA | NA |
| | | IRON | NA | NA |
| | | LEAD | NA | NA |
| | | MANGANESE | NA | NA |
| | | MERCURY | NA | NA |
| | | THALLIUM | NA | NA |
| | | VANADIUM | NA | NA |
| | | ZINC | NA | NA |
| | | **PEST/PCB** | | |
| | | AROCLOR-1254 | 9.3E-08 | <1% |
| | | AROCLOR-1260 | 5.2E-07 | <1% |
| | | DIELDRIN | 9.7E-08 | <1% |
| | | **SVOCs** | | |
| | | BENZO(A)ANTHRACENE | 1.4E-06 | 2% |
| | | BENZO(A)PYRENE | 1.6E-05 | **19%** |
| | | BENZO(B)FLUORANTHENE | 2.0E-06 | 2% |
| | | BENZO(K)FLUORANTHENE | 1.4E-07 | <1% |
| | | CHRYSENE | 2.0E-08 | <1% |
| | | DIBENZO(A,H)ANTHRACENE | 2.6E-06 | 3% |
| | | INDENO(1,2,3-CD)PYRENE | 8.3E-07 | <1% |
| | | PENTACHLOROPHENOL | 1.6E-07 | <1% |
| | | **Total Risks - Soil** | **8.4E-05** | |
| | Sediment | **Metals** | | |
| | | ALUMINUM | NA | NA |
| | | ANTIMONY | NA | NA |
| | | ARSENIC | 8.0E-04 | **20%** |

**Table 14.1**
**Cancer Risk and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | UNDV+UHC | |
|---|---|---|---|---|
| | | | Cancer Risk | % Contribution |
| | | BARIUM | NA | NA |
| | | CHROMIUM | 3.1E-03 | **79%** |
| | | COBALT | NA | NA |
| | | COPPER | NA | NA |
| | | CYANIDE | NA | NA |
| | | IRON | NA | NA |
| | | LEAD | NA | NA |
| | | THALLIUM | NA | NA |
| | | **PEST/PCB** | | |
| | | AROCLOR-1254 | 3.2E-07 | <1% |
| | | AROCLOR-1260 | 1.9E-07 | <1% |
| | | **SVOCs** | | |
| | | BENZO(A)ANTHRACENE | 2.7E-06 | <1% |
| | | BENZO(A)PYRENE | 2.7E-05 | <1% |
| | | BENZO(B)FLUORANTHENE | 2.6E-06 | <1% |
| | | BENZO(K)FLUORANTHENE | 3.6E-07 | <1% |
| | | CHRYSENE | 4.3E-08 | <1% |
| | | DIBENZO(A,H)ANTHRACENE | 5.3E-06 | <1% |
| | | INDENO(1,2,3-CD)PYRENE | 1.8E-06 | <1% |
| | | **TICs** | | |
| | | BENZO[J]FLUORANTHENE | 8.1E-07 | <1% |
| | | **Total Risks - Sediment** | **4.0E-03** | |
| | Surface Water | **Metals** | | |
| | | ANTIMONY | NA | NA |
| | | ARSENIC | 7.6E-07 | <1% |
| | | BARIUM | NA | NA |
| | | CHROMIUM | 3.9E-06 | 2% |
| | | CYANIDE | NA | NA |
| | | IRON | NA | NA |
| | | LEAD | NA | NA |
| | | MANGANESE | NA | NA |
| | | THALLIUM | NA | NA |
| | | VANADIUM | NA | NA |
| | | **SVOCs** | | |
| | | BENZO(A)PYRENE | 1.2E-04 | **73%** |

**Table 14.1**
**Cancer Risk and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | UNDV+UHC | |
|---|---|---|---|---|
| | | | Cancer Risk | % Contribution |
| | | BENZO(B)FLUORANTHENE | 1.4E-05 | **9%** |
| | | INDENO(1,2,3-CD)PYRENE | 2.4E-05 | **15%** |
| | | NAPHTHALENE | NA | NA |
| | | **VOCs** | | |
| | | 1,4-DICHLOROBENZENE | 2.2E-09 | <1% |
| | | BENZENE | 3.8E-08 | <1% |
| | | DICHLOROMETHANE | 2.9E-09 | <1% |
| | | VINYL CHLORIDE | 1.4E-06 | <1% |
| | | **Total Risks - Surface Water** | **1.6E-04** | |
| | | **Total Risks - Child Recreator** | **4E-03** | |
| Adolescent Recreator | Soil | **Metals** | | |
| | | ALUMINUM | NA | NA |
| | | ANTIMONY | NA | NA |
| | | ARSENIC | 1.7E-05 | **83%** |
| | | BARIUM | NA | NA |
| | | CADMIUM | 1.6E-11 | <1% |
| | | CHROMIUM, HEXAVALENT | 1.7E-07 | <1% |
| | | COBALT | 4.6E-10 | <1% |
| | | COPPER | NA | NA |
| | | CYANIDE | NA | NA |
| | | IRON | NA | NA |
| | | LEAD | NA | NA |
| | | MANGANESE | NA | NA |
| | | MERCURY | NA | NA |
| | | THALLIUM | NA | NA |
| | | VANADIUM | NA | NA |
| | | ZINC | NA | NA |
| | | **PEST/PCB** | | |
| | | AROCLOR-1254 | 2.9E-08 | <1% |
| | | AROCLOR-1260 | 1.6E-07 | <1% |
| | | DIELDRIN | 2.9E-08 | <1% |
| | | **SVOCs** | | |
| | | BENZO(A)ANTHRACENE | 1.8E-07 | <1% |
| | | BENZO(A)PYRENE | 2.1E-06 | **10%** |
| | | BENZO(B)FLUORANTHENE | 2.5E-07 | 1% |

**Table 14.1**
**Cancer Risk and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | UNDV+UHC | |
|---|---|---|---|---|
| | | | Cancer Risk | % Contribution |
| | | BENZO(K)FLUORANTHENE | 1.8E-08 | <1% |
| | | CHRYSENE | 2.6E-09 | <1% |
| | | DIBENZO(A,H)ANTHRACENE | 3.3E-07 | 2% |
| | | INDENO(1,2,3-CD)PYRENE | 1.1E-07 | <1% |
| | | PENTACHLOROPHENOL | 5.1E-08 | <1% |
| | | **Total Risks - Soil** | **2.1E-05** | |
| | Sediment | **Metals** | | |
| | | ALUMINUM | NA | NA |
| | | ANTIMONY | NA | NA |
| | | ARSENIC | 8.7E-05 | **44%** |
| | | BARIUM | NA | NA |
| | | CHROMIUM | 1.1E-04 | **54%** |
| | | COBALT | NA | NA |
| | | COPPER | NA | NA |
| | | CYANIDE | NA | NA |
| | | IRON | NA | NA |
| | | LEAD | NA | NA |
| | | THALLIUM | NA | NA |
| | | **PEST/PCB** | | |
| | | AROCLOR-1254 | 4.6E-08 | <1% |
| | | AROCLOR-1260 | 2.7E-08 | <1% |
| | | **SVOCs** | | |
| | | BENZO(A)ANTHRACENE | 1.6E-07 | <1% |
| | | BENZO(A)PYRENE | 1.6E-06 | <1% |
| | | BENZO(B)FLUORANTHENE | 1.5E-07 | <1% |
| | | BENZO(K)FLUORANTHENE | 2.1E-08 | <1% |
| | | CHRYSENE | 2.5E-09 | <1% |
| | | DIBENZO(A,H)ANTHRACENE | 3.1E-07 | <1% |
| | | INDENO(1,2,3-CD)PYRENE | 1.1E-07 | <1% |
| | | **TICs** | | |
| | | BENZO[J]FLUORANTHENE | 1.1E-07 | <1% |
| | | **Total Risks - Sediment** | **2.0E-04** | |
| | Surface Water | **Metals** | | |
| | | ANTIMONY | NA | NA |
| | | ARSENIC | 2.4E-07 | <1% |

**Table 14.1**
**Cancer Risk and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | UNDV+UHC | |
|---|---|---|---|---|
| | | | Cancer Risk | % Contribution |
| | | BARIUM | NA | NA |
| | | CHROMIUM | 5.8E-07 | 2% |
| | | CYANIDE | NA | NA |
| | | IRON | NA | NA |
| | | LEAD | NA | NA |
| | | MANGANESE | NA | NA |
| | | THALLIUM | NA | NA |
| | | VANADIUM | NA | NA |
| | | **SVOCs** | | |
| | | BENZO(A)PYRENE | 1.8E-05 | **70%** |
| | | BENZO(B)FLUORANTHENE | 2.1E-06 | **8%** |
| | | INDENO(1,2,3-CD)PYRENE | 3.6E-06 | **14%** |
| | | NAPHTHALENE | NA | NA |
| | | **VOCs** | | |
| | | 1,4-DICHLOROBENZENE | 7.2E-10 | <1% |
| | | BENZENE | 1.2E-08 | <1% |
| | | DICHLOROMETHANE | 4.4E-10 | <1% |
| | | VINYL CHLORIDE | 9.4E-07 | 4% |
| | | **Total Risks - Surface Water** | **2.5E-05** | |
| | | **Total Risks - Adolescent Recreator** | **2E-04** | |
| Adult Recreator | Soil | **Metals** | | |
| | | ALUMINUM | NA | NA |
| | | ANTIMONY | NA | NA |
| | | ARSENIC | 2.6E-05 | **92%** |
| | | BARIUM | NA | NA |
| | | CADMIUM | 4.2E-11 | <1% |
| | | CHROMIUM, HEXAVALENT | 8.1E-08 | <1% |
| | | COBALT | 1.2E-09 | <1% |
| | | COPPER | NA | NA |
| | | CYANIDE | NA | NA |
| | | IRON | NA | NA |
| | | LEAD | NA | NA |
| | | MANGANESE | NA | NA |
| | | MERCURY | NA | NA |
| | | THALLIUM | NA | NA |

**Table 14.1**
**Cancer Risk and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | UNDV+UHC | |
|---|---|---|---|---|
| | | | Cancer Risk | % Contribution |
| | | VANADIUM | NA | NA |
| | | ZINC | NA | NA |
| | | **PEST/PCB** | | |
| | | AROCLOR-1254 | 4.7E-08 | <1% |
| | | AROCLOR-1260 | 2.6E-07 | <1% |
| | | DIELDRIN | 4.5E-08 | <1% |
| | | **SVOCs** | | |
| | | BENZO(A)ANTHRACENE | 9.5E-08 | <1% |
| | | BENZO(A)PYRENE | 1.1E-06 | 4% |
| | | BENZO(B)FLUORANTHENE | 1.3E-07 | <1% |
| | | BENZO(K)FLUORANTHENE | 9.2E-09 | <1% |
| | | CHRYSENE | 1.3E-09 | <1% |
| | | DIBENZO(A,H)ANTHRACENE | 1.7E-07 | <1% |
| | | INDENO(1,2,3-CD)PYRENE | 5.6E-08 | <1% |
| | | PENTACHLOROPHENOL | 8.3E-08 | <1% |
| | | **Total Risks - Soil** | **2.8E-05** | |
| | Sediment | **Metals** | | |
| | | ALUMINUM | NA | NA |
| | | ANTIMONY | NA | NA |
| | | ARSENIC | 1.4E-04 | **72%** |
| | | BARIUM | NA | NA |
| | | CHROMIUM | 5.1E-05 | **27%** |
| | | COBALT | NA | NA |
| | | COPPER | NA | NA |
| | | CYANIDE | NA | NA |
| | | IRON | NA | NA |
| | | LEAD | NA | NA |
| | | THALLIUM | NA | NA |
| | | **PEST/PCB** | | |
| | | AROCLOR-1254 | 7.7E-08 | <1% |
| | | AROCLOR-1260 | 4.5E-08 | <1% |
| | | **SVOCs** | | |
| | | BENZO(A)ANTHRACENE | 8.8E-08 | <1% |
| | | BENZO(A)PYRENE | 8.9E-07 | <1% |
| | | BENZO(B)FLUORANTHENE | 8.6E-08 | <1% |

**Table 14.1**
**Cancer Risk and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | UNDV+UHC | |
|---|---|---|---|---|
| | | | Cancer Risk | % Contribution |
| | | BENZO(K)FLUORANTHENE | 1.2E-08 | <1% |
| | | CHRYSENE | 1.4E-09 | <1% |
| | | DIBENZO(A,H)ANTHRACENE | 1.8E-07 | <1% |
| | | INDENO(1,2,3-CD)PYRENE | 6.1E-08 | <1% |
| | | **TICs** | | |
| | | BENZO[J]FLUORANTHENE | 1.9E-07 | <1% |
| | | **Total Risks - Sediment** | **1.9E-04** | |
| | Surface Water | **Metals** | | |
| | | ANTIMONY | NA | NA |
| | | ARSENIC | 4.6E-07 | 3% |
| | | BARIUM | NA | NA |
| | | CHROMIUM | 3.6E-07 | 2% |
| | | CYANIDE | NA | NA |
| | | IRON | NA | NA |
| | | LEAD | NA | NA |
| | | MANGANESE | NA | NA |
| | | THALLIUM | NA | NA |
| | | VANADIUM | NA | NA |
| | | **SVOCs** | | |
| | | BENZO(A)PYRENE | 1.1E-05 | **71%** |
| | | BENZO(B)FLUORANTHENE | 1.3E-06 | **8%** |
| | | INDENO(1,2,3-CD)PYRENE | 2.3E-06 | **15%** |
| | | NAPHTHALENE | NA | NA |
| | | **VOCs** | | |
| | | 1,4-DICHLOROBENZENE | 1.3E-09 | <1% |
| | | BENZENE | 2.3E-08 | <1% |
| | | DICHLOROMETHANE | 2.8E-10 | <1% |
| | | VINYL CHLORIDE | 3.0E-08 | <1% |
| | | **Total Risks - Surface Water** | **1.6E-05** | |
| | | **Total Risks - Adult Recreator** | **2E-04** | |

Notes:
**BOLD, Shaded – Percent contribution for specific medium, receptor, and exposure area ≥5%.**
NA – Not Applicable.

**Table 14.2**

**Non-cancer Hazard and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | UNDV+UHC | |
|---|---|---|---|---|
| | | | Non-cancer Hazard | % Contribution |
| Child Recreator | Soil | **Metals** | | |
| | | ALUMINUM | 1.9E-02 | <1% |
| | | ANTIMONY | 1.6E-01 | 4% |
| | | ARSENIC | 1.5E+00 | **41%** |
| | | BARIUM | 3.5E-02 | <1% |
| | | CADMIUM | 8.7E-03 | <1% |
| | | CHROMIUM, HEXAVALENT | 1.5E-03 | <1% |
| | | COBALT | 1.5E-01 | 4% |
| | | COPPER | 1.8E-02 | <1% |
| | | CYANIDE | 1.0E+00 | **27%** |
| | | IRON | 1.2E-01 | 3% |
| | | LEAD | NA | NA |
| | | MANGANESE | 4.2E-02 | 1% |
| | | MERCURY | 3.0E-02 | <1% |
| | | THALLIUM | 2.9E-01 | **8%** |
| | | VANADIUM | 2.1E-02 | <1% |
| | | ZINC | 1.2E-02 | <1% |
| | | **PEST/PCB** | | |
| | | AROCLOR-1254 | 2.7E-02 | <1% |
| | | AROCLOR-1260 | 1.5E-01 | 4% |
| | | DIELDRIN | 1.4E-03 | <1% |
| | | **SVOCs** | | |
| | | BENZO(A)ANTHRACENE | NA | NA |
| | | BENZO(A)PYRENE | 9.0E-02 | 2% |
| | | BENZO(B)FLUORANTHENE | NA | NA |
| | | BENZO(K)FLUORANTHENE | NA | NA |
| | | CHRYSENE | NA | NA |
| | | DIBENZO(A,H)ANTHRACENE | NA | NA |
| | | INDENO(1,2,3-CD)PYRENE | NA | NA |
| | | PENTACHLOROPHENOL | 9.2E-04 | <1% |
| | | **Total Risks - Soil** | **4E+00** | |
| | Sediment | **Metals** | | |
| | | ALUMINUM | 5.4E-03 | <1% |
| | | ANTIMONY | 6.8E-02 | <1% |

**Table 14.2**

**Non-cancer Hazard and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | UNDV+UHC | |
|---|---|---|---|---|
| | | | Non-cancer Hazard | % Contribution |
| | | ARSENIC | 6.1E+00 | **65%** |
| | | BARIUM | 1.9E-02 | <1% |
| | | CHROMIUM | 9.8E-01 | **10%** |
| | | COBALT | 2.9E-02 | <1% |
| | | COPPER | 6.6E-03 | <1% |
| | | CYANIDE | 1.7E+00 | **18%** |
| | | IRON | 1.7E-02 | <1% |
| | | LEAD | NA | NA |
| | | THALLIUM | 3.9E-01 | 4% |
| | | **PEST/PCB** | | |
| | | AROCLOR-1254 | 2.7E-02 | <1% |
| | | AROCLOR-1260 | 1.6E-02 | <1% |
| | | **SVOCs** | | |
| | | BENZO(A)ANTHRACENE | NA | NA |
| | | BENZO(A)PYRENE | 4.3E-02 | <1% |
| | | BENZO(B)FLUORANTHENE | NA | NA |
| | | BENZO(K)FLUORANTHENE | NA | NA |
| | | CHRYSENE | NA | NA |
| | | DIBENZO(A,H)ANTHRACENE | NA | NA |
| | | INDENO(1,2,3-CD)PYRENE | NA | NA |
| | | **TICs** | | |
| | | BENZO[J]FLUORANTHENE | NA | NA |
| | | **Total Risks - Sediment** | **9E+00** | |
| | Surface Water | **Metals** | | |
| | | ANTIMONY | 1.9E-03 | <1% |
| | | ARSENIC | 5.7E-03 | 2% |
| | | BARIUM | 8.6E-04 | <1% |
| | | CHROMIUM | 1.4E-03 | <1% |
| | | CYANIDE | 4.0E-04 | <1% |
| | | IRON | 2.4E-04 | <1% |
| | | LEAD | NA | NA |
| | | MANGANESE | 8.2E-03 | 3% |
| | | THALLIUM | 2.3E-02 | **9%** |
| | | VANADIUM | 5.7E-04 | <1% |

**Table 14.2**

**Non-cancer Hazard and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | UNDV+UHC | |
|---|---|---|---|---|
| | | | Non-cancer Hazard | % Contribution |
| | | **SVOCs** | | |
| | | BENZO(A)PYRENE | 2.1E-01 | **83%** |
| | | BENZO(B)FLUORANTHENE | NA | NA |
| | | INDENO(1,2,3-CD)PYRENE | NA | NA |
| | | NAPHTHALENE | 4.6E-05 | <1% |
| | | **VOCs** | | |
| | | 1,4-DICHLOROBENZENE | 2.0E-05 | <1% |
| | | BENZENE | 5.9E-04 | <1% |
| | | DICHLOROMETHANE | 1.3E-04 | <1% |
| | | VINYL CHLORIDE | 7.8E-05 | <1% |
| | | **Total Risks - Surface Water** | **3E-01** | |
| | | **Total Risks - Child Recreator** | **1E+01** | |
| Adolescent Recreator | Soil | **Metals** | | |
| | | ALUMINUM | 3.3E-03 | <1% |
| | | ANTIMONY | 2.8E-02 | 3% |
| | | ARSENIC | 2.7E-01 | **33%** |
| | | BARIUM | 6.1E-03 | <1% |
| | | CADMIUM | 1.5E-03 | <1% |
| | | CHROMIUM, HEXAVALENT | 2.6E-04 | <1% |
| | | COBALT | 2.6E-02 | 3% |
| | | COPPER | 3.0E-03 | <1% |
| | | CYANIDE | 3.4E-01 | **42%** |
| | | IRON | 2.0E-02 | 2% |
| | | LEAD | NA | NA |
| | | MANGANESE | 7.3E-03 | <1% |
| | | MERCURY | 5.0E-03 | <1% |
| | | THALLIUM | 4.8E-02 | **6%** |
| | | VANADIUM | 3.6E-03 | <1% |
| | | ZINC | 2.0E-03 | <1% |
| | | **PEST/PCB** | | |
| | | AROCLOR-1254 | 5.0E-03 | <1% |
| | | AROCLOR-1260 | 2.8E-02 | 3% |
| | | DIELDRIN | 2.6E-04 | <1% |
| | | **SVOCs** | | |

**Table 14.2**

**Non-cancer Hazard and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | UNDV+UHC | |
|---|---|---|---|---|
| | | | Non-cancer Hazard | % Contribution |
| | | BENZO(A)ANTHRACENE | NA | NA |
| | | BENZO(A)PYRENE | 1.7E-02 | 2% |
| | | BENZO(B)FLUORANTHENE | NA | NA |
| | | BENZO(K)FLUORANTHENE | NA | NA |
| | | CHRYSENE | NA | NA |
| | | DIBENZO(A,H)ANTHRACENE | NA | NA |
| | | INDENO(1,2,3-CD)PYRENE | NA | NA |
| | | PENTACHLOROPHENOL | 1.8E-04 | <1% |
| | | **Total Risks - Soil** | **8E-01** | |
| | Sediment | **Metals** | | |
| | | ALUMINUM | 9.1E-04 | <1% |
| | | ANTIMONY | 1.1E-02 | <1% |
| | | ARSENIC | 1.4E+00 | **70%** |
| | | BARIUM | 3.2E-03 | <1% |
| | | CHROMIUM | 1.7E-01 | **9%** |
| | | COBALT | 4.9E-03 | <1% |
| | | COPPER | 1.1E-03 | <1% |
| | | CYANIDE | 3.0E-01 | **15%** |
| | | IRON | 2.8E-03 | <1% |
| | | LEAD | NA | NA |
| | | THALLIUM | 6.6E-02 | 3% |
| | | **PEST/PCB** | | |
| | | AROCLOR-1254 | 8.0E-03 | <1% |
| | | AROCLOR-1260 | 4.7E-03 | <1% |
| | | **SVOCs** | | |
| | | BENZO(A)ANTHRACENE | NA | NA |
| | | BENZO(A)PYRENE | 1.2E-02 | <1% |
| | | BENZO(B)FLUORANTHENE | NA | NA |
| | | BENZO(K)FLUORANTHENE | NA | NA |
| | | CHRYSENE | NA | NA |
| | | DIBENZO(A,H)ANTHRACENE | NA | NA |
| | | INDENO(1,2,3-CD)PYRENE | NA | NA |
| | | **TICs** | | |
| | | BENZO[J]FLUORANTHENE | NA | NA |

**Table 14.2**

**Non-cancer Hazard and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | UNDV+UHC | |
|---|---|---|---|---|
| | | | Non-cancer Hazard | % Contribution |
| | | **Total Risks - Sediment** | **2E+00** | |
| | Surface Water | **Metals** | | |
| | | ANTIMONY | 1.2E-03 | <1% |
| | | ARSENIC | 3.8E-03 | 2% |
| | | BARIUM | 5.7E-04 | <1% |
| | | CHROMIUM | 9.1E-04 | <1% |
| | | CYANIDE | 2.6E-04 | <1% |
| | | IRON | 1.6E-04 | <1% |
| | | LEAD | NA | NA |
| | | MANGANESE | 5.4E-03 | 3% |
| | | THALLIUM | 1.5E-02 | **9%** |
| | | VANADIUM | 3.8E-04 | <1% |
| | | **SVOCs** | | |
| | | BENZO(A)PYRENE | 1.4E-01 | **83%** |
| | | BENZO(B)FLUORANTHENE | NA | NA |
| | | INDENO(1,2,3-CD)PYRENE | NA | NA |
| | | NAPHTHALENE | 3.0E-05 | <1% |
| | | **VOCs** | | |
| | | 1,4-DICHLOROBENZENE | 1.3E-05 | <1% |
| | | BENZENE | 3.9E-04 | <1% |
| | | DICHLOROMETHANE | 8.6E-05 | <1% |
| | | VINYL CHLORIDE | 5.2E-05 | <1% |
| | | **Total Risks - Surface Water** | **2E-01** | |
| | | **Total Risks - Adolescent Recreator** | **3E+00** | |
| Adult Recreator | Soil | **Metals** | | |
| | | ALUMINUM | 1.8E-03 | <1% |
| | | ANTIMONY | 1.5E-02 | 3% |
| | | ARSENIC | 1.5E-01 | **28%** |
| | | BARIUM | 3.4E-03 | <1% |
| | | CADMIUM | 8.8E-04 | <1% |
| | | CHROMIUM, HEXAVALENT | 1.4E-04 | <1% |
| | | COBALT | 1.4E-02 | 2.6% |
| | | COPPER | 1.7E-03 | <1% |
| | | CYANIDE | 2.8E-01 | **51%** |

**Table 14.2**

**Non-cancer Hazard and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | UNDV+UHC | |
|---|---|---|---|---|
| | | | Non-cancer Hazard | % Contribution |
| | | IRON | 1.1E-02 | 2% |
| | | LEAD | NA | NA |
| | | MANGANESE | 4.1E-03 | <1% |
| | | MERCURY | 2.8E-03 | <1% |
| | | THALLIUM | 2.7E-02 | 5% |
| | | VANADIUM | 2.0E-03 | <1% |
| | | ZINC | 1.1E-03 | <1% |
| | | **PEST/PCB** | | |
| | | AROCLOR-1254 | 3.0E-03 | <1% |
| | | AROCLOR-1260 | 1.7E-02 | 3% |
| | | DIELDRIN | 1.5E-04 | <1% |
| | | **SVOCs** | | |
| | | BENZO(A)ANTHRACENE | NA | NA |
| | | BENZO(A)PYRENE | 1.0E-02 | 2% |
| | | BENZO(B)FLUORANTHENE | NA | NA |
| | | BENZO(K)FLUORANTHENE | NA | NA |
| | | CHRYSENE | NA | NA |
| | | DIBENZO(A,H)ANTHRACENE | NA | NA |
| | | INDENO(1,2,3-CD)PYRENE | NA | NA |
| | | PENTACHLOROPHENOL | 1.1E-04 | <1% |
| | | **Total Risks - Soil** | **5E-01** | |
| | Sediment | **Metals** | | |
| | | ALUMINUM | 5.0E-04 | <1% |
| | | ANTIMONY | 6.4E-03 | <1% |
| | | ARSENIC | 8.2E-01 | **72%** |
| | | BARIUM | 1.8E-03 | <1% |
| | | CHROMIUM | 9.2E-02 | **8%** |
| | | COBALT | 2.7E-03 | <1% |
| | | COPPER | 6.2E-04 | <1% |
| | | CYANIDE | 1.6E-01 | **14%** |
| | | IRON | 1.6E-03 | <1% |
| | | LEAD | NA | NA |
| | | THALLIUM | 3.6E-02 | 3% |

**Table 14.2**

**Non-cancer Hazard and Percent Contribution by Medium for Each Receptor and Exposure Area**

| Receptor | Exposure Medium | Chemical of Potential Concern | UNDV+UHC | |
|---|---|---|---|---|
| | | | Non-cancer Hazard | % Contribution |
| | | **PEST/PCB** | | |
| | | AROCLOR-1254 | 5.2E-03 | <1% |
| | | AROCLOR-1260 | 3.1E-03 | <1% |
| | | **SVOCs** | | |
| | | BENZO(A)ANTHRACENE | NA | NA |
| | | BENZO(A)PYRENE | 7.9E-03 | <1% |
| | | BENZO(B)FLUORANTHENE | NA | NA |
| | | BENZO(K)FLUORANTHENE | NA | NA |
| | | CHRYSENE | NA | NA |
| | | DIBENZO(A,H)ANTHRACENE | NA | NA |
| | | INDENO(1,2,3-CD)PYRENE | NA | NA |
| | | **TICs** | | |
| | | BENZO[J]FLUORANTHENE | NA | NA |
| | | **Total Risks - Sediment** | **1E+00** | |
| | Surface Water | **Metals** | | |
| | | ANTIMONY | 8.9E-04 | <1% |
| | | ARSENIC | 2.7E-03 | 2% |
| | | BARIUM | 4.1E-04 | <1% |
| | | CHROMIUM | 6.6E-04 | <1% |
| | | CYANIDE | 1.9E-04 | <1% |
| | | IRON | 1.2E-04 | <1% |
| | | LEAD | NA | NA |
| | | MANGANESE | 3.9E-03 | 3% |
| | | THALLIUM | 1.1E-02 | **9%** |
| | | VANADIUM | 2.7E-04 | <1% |
| | | **SVOCs** | | |
| | | BENZO(A)PYRENE | 9.9E-02 | **83%** |
| | | BENZO(B)FLUORANTHENE | NA | NA |
| | | INDENO(1,2,3-CD)PYRENE | NA | NA |
| | | NAPHTHALENE | 2.2E-05 | <1% |
| | | **VOCs** | | |
| | | 1,4-DICHLOROBENZENE | 9.6E-06 | <1% |
| | | BENZENE | 2.8E-04 | <1% |
| | | DICHLOROMETHANE | 6.2E-05 | <1% |

## Table 14.2
## Non-cancer Hazard and Percent Contribution by Medium for Each Receptor and Exposure Area

| Receptor | Exposure Medium | Chemical of Potential Concern | UNDV+UHC | |
|---|---|---|---|---|
| | | | Non-cancer Hazard | % Contribution |
| | | VINYL CHLORIDE | 3.7E-05 | <1% |
| | | **Total Risks - Surface Water** | **1E-01** | |
| | | **Total Risks - Adult Recreator** | **2E+00** | |

Notes:

**BOLD, Shaded – Percent contribution for specific medium, receptor, and exposure area ≥5%.**

NA – Not Applicable.

# Appendix D

## EPH Screening Results

**Table 1 EPH Fraction Data**

| Exposure A | Station | Sample ID | Sample Date | Depth (ft) | C9-C12 ALIPHATICS MG/KG | C12-C16 ALIPHATICS MG/KG | C16-C21 ALIPHATICS MG/KG | C21-C40 ALIPHATICS MG/KG | C10-C12 AROMATICS MG/KG | C12-C16 AROMATICS MG/KG | C16-C21 AROMATICS MG/KG | C21-C36 AROMATICS MG/KG | TOTAL EPH MG/KG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NFA | MPSB0189 | MPSB0189-SS-AA-AE-0 | 6/17/2014 | 0-2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0189 | MPSB0189-SS-AJ-AK-0 | 6/17/2014 | 4.5-5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0190 | MPSB0190-SS-AA-AB-0 | 6/17/2014 | 0-0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0190 | MPSB0190-SS-AD-AE-0 | 6/17/2014 | 1.5-2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0191 | MPSB0191-SS-AA-AE-0 | 6/17/2014 | 0-2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0191 | MPSB0191-SS-AJ-AK-0 | 6/17/2014 | 4.5-5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0192 | MPSB0192-SS-AA-AE-0 | 6/17/2014 | 0-2 | 14 | 5.5 | 5.6 | 100 | 7 | 4.5 | 3.6 | 39 | 179 |
| NFA | MPSB0192 | MPSB0192-SS-AA-AE-1 | 6/17/2014 | 0-2 | 15 | 5.6 | 7.4 | 150 | 7.9 | 5.4 | 5.3 | 66 | 263 |
| NFA | MPSB0192 | MPSB0192-SS-AJ-AK-0 | 6/17/2014 | 4.5-5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0193 | MPSB0193-SS-AA-AE-0 | 6/17/2014 | 0-2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0193 | MPSB0193-SS-AI-AJ-0 | 6/17/2014 | 4-4.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0194 | MPSB0194-SS-AA-AE-0 | 6/18/2014 | 0-2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0194 | MPSB0194-SS-AK-AL-0 | 6/18/2014 | 5-5.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0195 | MPSB0195-SS-AA-AE-0 | 6/18/2014 | 0-2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0195 | MPSB0195-SS-AT-AU-0 | 6/18/2014 | 9.5-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0196 | MPSB0196-SS-AA-AB-0 | 6/18/2014 | 0-0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0197 | MPSB0197-SS-AA-AE-0 | 6/19/2014 | 0-2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0197 | MPSB0197-SS-AK-AL-0 | 6/19/2014 | 5-5.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0198 | MPSB0198-SS-AA-AE-0 | 6/19/2014 | 0-2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0198 | MPSB0198-SS-AJ-AK-0 | 6/19/2014 | 4.5-5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0199 | MPSB0199-SS-AA-AE-0 | 6/19/2014 | 0-2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0199 | MPSB0199-SS-AA-AE-1 | 6/19/2014 | 0-2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0199 | MPSB0199-SS-AK-AL-0 | 6/19/2014 | 5-5.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0200 | MPSB0200-SS-AA-AE-0 | 6/19/2014 | 0-2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0201 | MPSB0201-SS-AA-AB-0 | 6/19/2014 | 0-0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0201 | MPSB0201-SS-AT-AU-0 | 6/19/2014 | 9.5-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0210 | MPSB0210-SS-AA-AE-0 | 9/24/2015 | 0-2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0210 | MPSB0210-SS-AE-AI-0 | 9/24/2015 | 2-4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0210 | MPSB0210-SS-AI-AM-0 | 9/24/2015 | 4-6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0210 | MPSB0210-SS-AM-AQ-0 | 9/24/2015 | 6-8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0210 | MPSB0210-SS-AQ-AU-0 | 9/24/2015 | 8-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0210 | MPSB0210-SS-AQ-AU-1 | 9/24/2015 | 8-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0212 | MPSB0212-SS-AA-AE-0 | 9/25/2015 | 0-2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0212 | MPSB0212-SS-AE-AI-0 | 9/25/2015 | 2-4 | 9.4 | 3.5 | 5.7 | 66 | 6.4 | 4.9 | 9.8 | 31 | 137 |
| NFA | MPSB0212 | MPSB0212-SS-AI-AM-0 | 9/25/2015 | 4-6 | 8.1 | 2.7 | 4.6 | 37 | 14 | 7.6 | 9.6 | 15 | 99 |
| NFA | MPSB0212 | MPSB0212-SS-AM-AQ-0 | 9/25/2015 | 6-8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NFA | MPSB0212 | MPSB0212-SS-AQ-AU-0 | 9/25/2015 | 8-10 | 200 | 13 | 0 | 0 | 58 | 19 | 17 | 6.6 | 314 |
| NFA | MPSB0212 | MPSB0212-SS-AQ-AU-1 | 9/25/2015 | 8-10 | 330 | 32 | 15 | 12 | 62 | 20 | 17 | 5.7 | 494 |
| SFA | MPSB0206 | MPSB0206-SS-AA-AE-0 | 9/18/2015 | 0-2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SFA | MPSB0206 | MPSB0206-SS-AE-AI-0 | 9/18/2015 | 2-4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SFA | MPSB0206 | MPSB0206-SS-AI-AM-0 | 9/18/2015 | 4-6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SFA | MPSB0206 | MPSB0206-SS-AM-AP-0 | 9/18/2015 | 6-7.5 | 6.8 | 7.1 | 23 | 27 | 14 | 6.7 | 98 | 260 | 443 |
| SFA | MPSB0206 | MPSB0206-SS-AP-AU-0 | 9/18/2015 | 7.5-10 | 19 | 14 | 28 | 16 | 30 | 16 | 170 | 300 | 593 |
| SFA | MPSB0206 | MPSB0206-SS-AP-AU-1 | 9/18/2015 | 7.5-10 | 6.9 | 12 | 23 | 15 | 19 | 11 | 150 | 210 | 447 |
| SFA | MPSB0207 | MPSB0207-SS-AA-AE-0 | 9/21/2015 | 0-2 | 8 | 2.9 | 12 | 140 | 15 | 6 | 17 | 88 | 289 |

| Exposure A | Station | Sample ID | Sample Date | Depth (ft) | C9-C12 ALIPHATICS MG/KG | C12-C16 ALIPHATICS MG/KG | C16-C21 ALIPHATICS MG/KG | C21-C40 ALIPHATICS MG/KG | C10-C12 AROMATICS MG/KG | C12-C16 AROMATICS MG/KG | C16-C21 AROMATICS MG/KG | C21-C36 AROMATICS MG/KG | TOTAL EPH MG/KG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SFA | MPSB0207 | MPSB0207-SS-AE-AI-0 | 9/21/2015 | 2-4 | 37 | 7.6 | 12 | 69 | 17 | 8.2 | 24 | 51 | 226 |
| SFA | MPSB0207 | MPSB0207-SS-AI-AM-0 | 9/21/2015 | 4-6 | 46 | 12 | 7.9 | 81 | 15 | 7 | 16 | 50 | 235 |
| SFA | MPSB0207 | MPSB0207-SS-AM-AQ-0 | 9/21/2015 | 6-8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SFA | MPSB0207 | MPSB0207-SS-AQ-AU-0 | 9/21/2015 | 8-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SFA | MPSB0208 | MPSB0208-SS-AA-AE-0 | 9/21/2015 | 0-2 | 16 | 5.8 | 4.7 | 21 | 19 | 9.4 | 11 | 12 | 99 |
| SFA | MPSB0208 | MPSB0208-SS-AE-AI-0 | 9/21/2015 | 2-4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SFA | MPSB0208 | MPSB0208-SS-AI-AM-0 | 9/21/2015 | 4-6 | 14 | 4.5 | 4.5 | 15 | 0 | 0 | 0 | 0 | 38 |
| SFA | MPSB0208 | MPSB0208-SS-AM-AQ-0 | 9/21/2015 | 6-8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SFA | MPSB0208 | MPSB0208-SS-AQ-AU-0 | 9/21/2015 | 8-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SFA | MPSB0304 | MPSB0304-SS-AI-AJ-0 | 10/5/2016 | 4-4.5 | 17 | 6.8 | 7.4 | 8.4 | 0 | 0 | 0 | 0 | 40 |
| SFA | MPSB0305 | MPSB0305-SS-AN-AO-0 | 10/5/2016 | 6.5-7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SFA | MPSB0308 | MPSB0308-SS-AE-AF-0 | 10/5/2016 | 2-2.5 | 3300 | 520 | 320 | 330 | 500 | 140 | 170 | 170 | 5450 |
| SFA | MPSB0308 | MPSB0308-SS-AE-AF-1 | 10/5/2016 | 2-2.5 | 2200 | 310 | 170 | 220 | 290 | 93 | 47 | 74 | 3404 |
| UNDV | HCSB0498 | HCSB0498-SS-AC-AD-0 | 6/16/2014 | 1-1.5 | 1900 | 200 | 140 | 1600 | 450 | 84 | 100 | 560 | 5034 |
| UNDV | HCSB0499 | HCSB0499-SS-AF-AG-0 | 6/16/2014 | 2.5-3 | 170 | 28 | 50 | 750 | 38 | 12 | 49 | 390 | 1487 |
| UNDV | HCSB0500 | HCSB0500-SS-AA-AB-0 | 6/16/2014 | 0-0.5 | 1200 | 120 | 90 | 1800 | 240 | 38 | 99 | 690 | 4277 |
| UNDV | HCSB0501 | HCSB0501-SS-AB-AC-0 | 6/16/2014 | 0.5-1 | 510 | 79 | 0 | 880 | 88 | 20 | 43 | 320 | 1940 |
| UNDV | HCSB0501 | HCSB0501-SS-AB-AC-1 | 6/16/2014 | 0.5-1 | 280 | 55 | 37 | 610 | 71 | 20 | 57 | 430 | 1560 |
| UNDV | MPSB0202 | MPSB0202-SS-AA-AE-0 | 9/16/2015 | 0-2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| UNDV | MPSB0202 | MPSB0202-SS-AE-AI-0 | 9/16/2015 | 2-4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| UNDV | MPSB0202 | MPSB0202-SS-AI-AM-0 | 9/16/2015 | 4-6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| UNDV | MPSB0202 | MPSB0202-SS-AM-AQ-0 | 9/16/2015 | 6-8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| UNDV | MPSB0202 | MPSB0202-SS-AQ-AU-0 | 9/16/2015 | 8-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| UNDV | MPSB0203 | MPSB0203-SS-AA-AF-0 | 9/14/2015 | 0-2.5 | 12 | 4.5 | 6 | 32 | 12 | 7.1 | 10 | 10 | 94 |
| UNDV | MPSB0203 | MPSB0203-SS-AF-AI-0 | 9/14/2015 | 2.5-4 | 270 | 150 | 140 | 79 | 26 | 31 | 120 | 63 | 879 |
| UNDV | MPSB0203 | MPSB0203-SS-AI-AM-0 | 9/14/2015 | 4-6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| UNDV | MPSB0203 | MPSB0203-SS-AM-AQ-0 | 9/14/2015 | 6-8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| UNDV | MPSB0203 | MPSB0203-SS-AQ-AU-0 | 9/14/2015 | 8-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| UNDV | MPSB0204 | MPSB0204-SS-AA-AE-0 | 9/17/2015 | 0-2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| UNDV | MPSB0204 | MPSB0204-SS-AE-AI-0 | 9/17/2015 | 2-4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| UNDV | MPSB0204 | MPSB0204-SS-AI-AO-0 | 9/17/2015 | 4-7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| UNDV | MPSB0204 | MPSB0204-SS-AO-AQ-0 | 9/17/2015 | 7-8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| UNDV | MPSB0204 | MPSB0204-SS-AQ-AU-0 | 9/17/2015 | 8-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| UNDV | MPSB0209 | MPSB0209-SS-AA-AE-0 | 9/22/2015 | 0-2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| UNDV | MPSB0209 | MPSB0209-SS-AE-AI-0 | 9/22/2015 | 2-4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| UNDV | MPSB0209 | MPSB0209-SS-AI-AM-0 | 9/22/2015 | 4-6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| UNDV | MPSB0209 | MPSB0209-SS-AM-AQ-0 | 9/22/2015 | 6-8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| UNDV | MPSB0209 | MPSB0209-SS-AQ-AU-0 | 9/22/2015 | 8-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| UNDV | MPSB0321 | MPSB0321-SS-AD-AE-0 | 10/7/2016 | 1.5-2 | 130 | 26 | 95 | 710 | 180 | 79 | 110 | 420 | 1750 |
| UNDV | MPSB0324 | MPSB0324-SS-AJ-AK-0 | 10/10/2016 | 4.5-5 | 160 | 30 | 92 | 710 | 25 | 10 | 83 | 380 | 1490 |
| UNDV | MPSB0324 | MPSB0324-SS-AJ-AK-1 | 10/10/2016 | 4.5-5 | 120 | 23 | 64 | 510 | 40 | 17 | 80 | 360 | 1214 |
| UNDV | MPSB0325 | MPSB0325-SS-AB-AC-0 | 10/7/2016 | 0.5-1 | 160 | 52 | 100 | 720 | 86 | 41 | 64 | 300 | 1523 |
| UNDV | MPSB0326 | MPSB0326-SS-AD-AE-0 | 10/11/2016 | 1.5-2 | 150 | 34 | 110 | 730 | 37 | 18 | 57 | 280 | 1416 |
| UNDV | MPSB0327 | MPSB0327-SS-AB-AC-0 | 10/11/2016 | 0.5-1 | 10 | 8.2 | 21 | 160 | 34 | 15 | 30 | 130 | 408 |
| UNDV | MPSB0327 | MPSB0327-SS-AB-AC-1 | 10/11/2016 | 0.5-1 | 6.5 | 5.3 | 14 | 120 | 23 | 11 | 18 | 75 | 273 |
| UNDV | MPSB0328 | MPSB0328-SS-AA-AB-0 | 10/7/2016 | 0-0.5 | 350 | 73 | 85 | 400 | 54 | 27 | 65 | 190 | 1244 |
| UNDV | MPSB0333 | MPSB0333-SS-AC-AD-0 | 10/7/2016 | 1-1.5 | 150 | 45 | 61 | 230 | 39 | 31 | 240 | 460 | 1256 |

| Exposure A | Station | Sample ID | Sample Date | Depth (ft) | C9-C12 ALIPHATICS MG/KG | C12-C16 ALIPHATICS MG/KG | C16-C21 ALIPHATICS MG/KG | C21-C40 ALIPHATICS MG/KG | C10-C12 AROMATICS MG/KG | C12-C16 AROMATICS MG/KG | C16-C21 AROMATICS MG/KG | C21-C36 AROMATICS MG/KG | TOTAL EPH MG/KG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UNDV | MPSB0334 | MPSB0334-SS-AB-AC-0 | 10/5/2016 | 0.5-1 | 51 | 15 | 17 | 150 | 21 | 12 | 160 | 460 | 886 |
| UNDV | MPSB0335 | MPSB0335-SS-AD-AE-0 | 10/5/2016 | 1.5-2 | 9.6 | 9 | 25 | 190 | 17 | 9.7 | 65 | 210 | 535 |
| UNDV | MPSB0336 | MPSB0336-SS-AA-AB-0 | 10/7/2016 | 0-0.5 | 43 | 13 | 15 | 150 | 19 | 9.8 | 66 | 190 | 506 |
| UNDV | MPSB0337 | MPSB0337-SS-AC-AD-0 | 10/7/2016 | 1-1.5 | 120 | 15 | 63 | 560 | 25 | 9.9 | 99 | 430 | 1322 |
| UNDV | MPSB0338 | MPSB0338-SS-AB-AC-0 | 10/7/2016 | 0.5-1 | 9.3 | 6.2 | 30 | 370 | 30 | 13 | 77 | 310 | 846 |

Notes:

Values of zero were reported as non-detects, and converted to zero per NJ DEP guidance.

**Table 2 NJ EPH SRC (Residential) for Total EPH Greater than 1700 mg/kg**

| Group | Fraction | SFA<br>MPSB0308<br>MPSB0308-SS-AE-AF-0<br>10/5/2016<br>2-2.5 | SFA<br>MPSB0308<br>MPSB0308-SS-AE-AF-1<br>10/5/2016<br>2-2.5 (DUP) | SFA<br>MPSB0308<br>MPSB0308-SS-AE-AF **AVG**<br>10/5/2016<br>2-2.5 (AVG) | UNDV<br>HCSB0498<br>HCSB0498-SS-AC-AD-0<br>6/16/2014<br>1-1.5 | UNDV<br>HCSB0500<br>HCSB0500-SS-AA-AB-0<br>6/16/2014<br>0-0.5 | UNDV<br>HCSB0501<br>HCSB0501-SS-AB-AC-0<br>6/16/2014<br>0.5-1 | UNDV<br>MPSB0321<br>MPSB0321-SS-AD-AE-0<br>10/7/2016<br>1.5-2 |
|---|---|---|---|---|---|---|---|---|
| ALIPHATICS | C9-C12 ALIPHATICS | 3300 | 2200 | 2750 | 1900 | 1200 | 510 | 130 |
| ALIPHATICS | C12-C16 ALIPHATICS | 520 | 310 | 415 | 200 | 120 | 79 | 26 |
| ALIPHATICS | C16-C21 ALIPHATICS | 320 | 170 | 245 | 140 | 90 | *0* | 95 |
| ALIPHATICS | C21-C40 ALIPHATICS | 330 | 220 | 275 | 1600 | 1800 | 880 | 710 |
| AROMATICS | C10-C12 AROMATICS | 500 | 290 | 395 | 450 | 240 | 88 | 180 |
| AROMATICS | C12-C16 AROMATICS | 140 | 93 | 116.5 | 84 | 38 | 20 | 79 |
| AROMATICS | C16-C21 AROMATICS | 170 | 47 | 108.5 | 100 | 99 | 43 | 110 |
| AROMATICS | C21-C36 AROMATICS | 170 | 74 | 122 | 560 | 690 | 320 | 420 |
| | **Total EPH** | **5450** | **3404** | **4427** | **5034** | **4277** | **1940** | **1750** |
| | | | | | | | | |
| | **Calculated EPH SRC# (mg/kg)** | **5,000** | **5,300** | **5,100** | **5,200** | **5,300** | **5,400** | **3,900** |
| | **Allowable% EPH SRC (mg/kg)** | **5,000** | **5,300** | **5,100** | **5,200** | **5,300** | **5,400** | **3,900** |
| | **ABOVE/BELOW ALLOWABLE EPH SRC (i.e., PASS or FAIL)** | **ABOVE (FAIL)** | **BELOW (PASS)** | **BELOW (PASS)** | **BELOW (PASS)** | **BELOW (PASS)** | **BELOW (PASS)** | **BELOW (PASS)** |

## COMPOSITION-SPECIFIC EXTRACTABLE PETROLEUM HYDROCARBON (EPH) SOIL REMEDIATION CRITERION (SRC) CALCULATOR FOR NON-#2 FUEL OIL/DIESEL OIL PETROLEUM HYDRCARBON MIXTURES (Version 2.0, August 9, 2010)

**DATA ENTRY CELLS**

ENTER ALL CONCENTRATIONS AS MILLIGRAMS/KILOGRAM (mg/kg)
FOR NON DETECT VALUES, ENTER "0" or "ND" (without the quotation marks)
REMEMBER TO ENTER ACTUAL SAMPLE IDENTIFICATION IN PLACE OF "SAMPLE 1", ETC.
REMEMBER TO INDICATE WHETHER THE SAMPLE IS "RESIDENTIAL" (R) OR "NON-RESIDENTIAL" (N) [OR USE DROP-DOWN LIST]
ALL DATA MUST BE ENTERED FOR EACH SAMPLE FOR THE EPH CRITERION TO BE CALCULATED
CLICK ON THE "CALCULATE EPH SRC" BUTTON TO CALCULATE THE SAMPLE-SPECIFIC EPH SOIL REMEDIATION CRITERION
IF YOU CHANGE ANY INPUT DATA, YOU MUST CLICK ON "CALCULATE EPH SRC" AGAIN TO RECALCULATE THE SOIL REMEDIATION CRITERION
IF THE RESULTS FROM THE GC ANALYSIS INDICATE AN EPH CONCENTRATION LESS THAN 1,700 mg/kg, IT IS NOT NECESSARY TO USE THIS CALCULATOR

| EC* RANGE / SAMPLE ID | | MPSB0308-SS-AE-AF-0 | MPSB0308-SS-AE-AF-1 | MPSB0308-SS-AE-AF **AVG** | SAMPLE 4 | SAMPLE 5 |
|---|---|---|---|---|---|---|
| Enter Residential or Non-Residential | | Residential | Residential | Residential | | |
| ALIPHATICS | EC9-EC12 | 3300 | 2200 | 2750 | | |
| | EC12-EC16 | 520 | 310 | 415 | | |
| | EC16-EC21 | 320 | 170 | 245 | | |
| | EC21-EC40 | 330 | 220 | 275 | | |
| AROMATICS | EC10-EC12 | 500 | 290 | 395 | | |
| | EC12-EC16 | 140 | 93 | 116.5 | | |
| | EC16-EC21 | 170 | 47 | 108.5 | | |
| | EC21-EC36 | 170 | 74 | 122 | | |
| Total Concentration (mg/kg) | | **5450** | **3404** | **4427** | | |

| | | | | | |
|---|---|---|---|---|---|
| Calculated EPH SRC# (mg/kg) | 5,000 | 5,300 | 5,100 | | |
| Allowable% EPH SRC (mg/kg) | 5,000 | 5,300 | 5,100 | | |
| ABOVE/BELOW ALLOWABLE EPH SRC (i.e., PASS or FAIL) | ABOVE (FAIL) | BELOW (PASS) | BELOW (PASS) | | |

* = Equivalent Carbon
\# = Soil Remediation Criterion
% = Accounts for residual product
17,000^ = Default maximum value for all non-#2 fuel oil/diesel oil petroleum hydrocarbon mixtures

Calculate EPH SRC | Print Results | Intro Message
Reset Data | Instructions | *Run Date = 01/17/2017*

## COMPOSITION-SPECIFIC EXTRACTABLE PETROLEUM HYDROCARBON (EPH) SOIL REMEDIATION CRITERION (SRC) CALCULATOR FOR NON-#2 FUEL OIL/DIESEL OIL PETROLEUM HYDRCARBON MIXTURES (Version 2.0, August 9, 2010)

**DATA ENTRY CELLS**

ENTER ALL CONCENTRATIONS AS MILLIGRAMS/KILOGRAM (mg/kg)
FOR NON DETECT VALUES, ENTER "0" or "ND" (without the quotation marks)
REMEMBER TO ENTER ACTUAL SAMPLE IDENTIFICATION IN PLACE OF "SAMPLE 1", ETC.
REMEMBER TO INDICATE WHETHER THE SAMPLE IS "RESIDENTIAL" (R) OR "NON-RESIDENTIAL" (N) [OR USE DROP-DOWN LIST]
ALL DATA MUST BE ENTERED FOR EACH SAMPLE FOR THE EPH CRITERION TO BE CALCULATED
CLICK ON THE "CALCULATE EPH SRC" BUTTON TO CALCULATE THE SAMPLE-SPECIFIC EPH SOIL REMEDIATION CRITERION
IF YOU CHANGE ANY INPUT DATA, YOU MUST CLICK ON "CALCULATE EPH SRC" AGAIN TO RECALCULATE THE SOIL REMEDIATION CRITERION
IF THE RESULTS FROM THE GC ANALYSIS INDICATE AN EPH CONCENTRATION LESS THAN 1,700 mg/kg, IT IS NOT NECESSARY TO USE THIS CALCULATOR

| EC* RANGE / SAMPLE ID | | HCSB0498-SS-AC-AD-0 | HCSB0500-SS-AA-AB-0 | HCSB0501-SS-AB-AC-0 | MPSB0321-SS-AD-AE-0 | SAMPLE 5 |
|---|---|---|---|---|---|---|
| Enter Residential or Non-Residential | | Residential | Residential | Residential | Residential | |
| ALIPHATICS | EC9-EC12 | 1900 | 1200 | 510 | 130 | |
| | EC12-EC16 | 200 | 120 | 79 | 26 | |
| | EC16-EC21 | 140 | 90 | 0 | 95 | |
| | EC21-EC40 | 1600 | 1800 | 880 | 710 | |
| AROMATICS | EC10-EC12 | 450 | 240 | 88 | 180 | |
| | EC12-EC16 | 84 | 38 | 20 | 79 | |
| | EC16-EC21 | 100 | 99 | 43 | 110 | |
| | EC21-EC36 | 560 | 690 | 320 | 420 | |
| Total Concentration (mg/kg) | | 5034 | 4277 | 1940 | 1750 | |

| | | | | | |
|---|---|---|---|---|---|
| Calculated EPH SRC# (mg/kg) | 5,200 | 5,300 | 5,400 | 3,900 | |
| Allowable% EPH SRC (mg/kg) | 5,200 | 5,300 | 5,400 | 3,900 | |
| ABOVE/BELOW ALLOWABLE EPH SRC (i.e., PASS or FAIL) | BELOW (PASS) | BELOW (PASS) | BELOW (PASS) | BELOW (PASS) | |

* = Equivalent Carbon
\# = Soil Remediation Criterion
% = Accounts for residual product
17,000^ = Default maximum value for all non-#2 fuel oil/diesel oil petroleum hydrocarbon mixtures

Calculate EPH SRC | Print Results | Intro Message
Reset Data | Instructions

*Run Date = 01/13/2017*

# Appendix E

## Screening for Tentatively Identified Compounds

**Table 1 FMP TIC Summary**

| Group | Analyte | Soil 0-10 ft | | | | Sediment 0-0.5 ft | | | | Surface Water All Depths | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/L) | Max. (mg/L) |
| SVOC | (TIC) (+)-2-BORNANONE | 1 | 747 | 1.9 | 1.9 | | | | | | | | |
| SVOC | (TIC) (+)-CYCLOISOATIVENE | 2 | 747 | 0.25 | 0.28 | | | | | | | | |
| SVOC | (TIC) (+)-EPI-BICYCLOSESQUIPHELLANDRENE | 1 | 747 | 0.12 | 0.12 | | | | | | | | |
| SVOC | (TIC) (1R)-2,6,6-TRIMETHYLBICYCLO[3.1.1]HEPT-2 | 6 | 747 | 0.22 | 57 | | | | | | | | |
| SVOC | (TIC) (1R,2S,6S,7S,8S)-8-ISOPROPYL-1-METHYL-3- | 1 | 747 | 0.69 | 0.69 | | | | | | | | |
| SVOC | (TIC) (1R,2S,8R,8AR)-8-ACETOXY-1-(2-HYDROXYETH | 4 | 747 | 0.21 | 0.96 | | | | | | | | |
| SVOC | (TIC) (1R,4AR,4BS,7R,10AR)-1,4A,7-TRIMETHYL-7- | 1 | 747 | 0.83 | 0.83 | | | | | | | | |
| SVOC | (TIC) (1S,4AR,5S,8AR)-1,4A-DIMETHYL-6-METHYLEN | 1 | 747 | 0.93 | 0.93 | | | | | | | | |
| SVOC | (TIC) (3,3-DIMETHYLOXIRANYL)METHANOL | 5 | 747 | 0.085 | 1.5 | | | | | | | | |
| SVOC | (TIC) (4,6-DICHLORO[1,3,5]TRIAZIN-2-YL)-PHENYL | 1 | 747 | 0.21 | 0.21 | | | | | | | | |
| SVOC | (TIC) (7A-ISOPROPENYL-4,5-DIMETHYLOCTAHYDROIND | 1 | 747 | 0.22 | 0.22 | | | | | | | | |
| SVOC | (TIC) (S)(+)-Z-13-METHYL-11-PENTADECEN-1-OL AC | 1 | 747 | 2 | 2 | | | | | | | | |
| SVOC | (TIC) (Z) PHENYLPROPYL CINNAMATE | 1 | 747 | 71 | 71 | | | | | | | | |
| SVOC | (TIC) (Z)-14-TRICOSENYL FORMATE | 1 | 747 | 0.48 | 0.48 | | | | | | | | |
| SVOC | (TIC) (Z)-4-METHYL-2-HEXENE | 1 | 747 | 11 | 11 | | | | | | | | |
| SVOC | (TIC) .ALPHA.-AMYRIN | 9 | 747 | 0.21 | 1.4 | | | | | | | | |
| SVOC | (TIC) .ALPHA.-CARYOPHYLLENE | 2 | 747 | 0.27 | 0.59 | | | | | | | | |
| SVOC | (TIC) .ALPHA.-CUBEBENE | 1 | 747 | 0.2 | 0.2 | | | | | | | | |
| SVOC | (TIC) .ALPHA.-METHYLSTILBENE | 1 | 747 | 12 | 12 | | | | | | | | |
| SVOC | (TIC) .ALPHA.-METHYLSTYRENE | 1 | 747 | 0.3 | 0.3 | | | | | | | | |
| SVOC | (TIC) .ALPHA.-MUUROLENE | 1 | 747 | 0.74 | 0.74 | | | | | | | | |
| SVOC | (TIC) .ALPHA.-PINENE | 8 | 747 | 0.09 | 2.8 | | | | | | | | |
| SVOC | (TIC) .ALPHA.-PINENE,(-)- | 1 | 747 | 0.46 | 0.46 | | | | | | | | |
| SVOC | (TIC) .BETA.-AMYRIN | 8 | 747 | 0.085 | 0.69 | | | | | | | | |
| SVOC | (TIC) .BETA.-AMYRIN TRIMETHYLSILYL ETHER | 2 | 747 | 0.19 | 0.23 | | | | | | | | |
| SVOC | (TIC) .BETA.-COPAENE | 1 | 747 | 0.091 | 0.091 | | | | | | | | |
| SVOC | (TIC) .BETA.-HUMULENE | 1 | 747 | 0.58 | 0.58 | | | | | | | | |
| SVOC | (TIC) .BETA.-ISO-METHYL IONONE | 8 | 747 | 0.087 | 0.38 | | | | | | | | |
| SVOC | (TIC) .BETA.-MYRCENE | 1 | 747 | 0.16 | 0.16 | | | | | | | | |
| SVOC | (TIC) .BETA.-PHENYLPROPIOPHENONE | 1 | 747 | 0.12 | 0.12 | | | | | | | | |
| SVOC | (TIC) .BETA.-PINENE | 8 | 747 | 0.092 | 2.5 | | | | | | | | |
| SVOC | (TIC) .BETA.-SITOSTEROL | 55 | 747 | 0.086 | 9.7 | | | | | | | | |
| SVOC | (TIC) .BETA.-SITOSTEROL) | 1 | 747 | 0.29 | 0.29 | | | | | | | | |
| SVOC | (TIC) .DELTA.-SELINENE | 1 | 747 | 0.18 | 0.18 | | | | | | | | |
| SVOC | (TIC) .GAMMA.-SITOSTEROL | 63 | 747 | 0.13 | 11 | 2 | 17 | 2.7 | 4.3 | | | | |
| SVOC | (TIC) [1,1-BIPHENYL]-4-CARBOXALDEHYDE | 4 | 747 | 0.097 | 4.8 | | | | | | | | |
| SVOC | (TIC) [3,4:9,10]DIBENZPYRENE | 1 | 747 | 0.9 | 0.9 | | | | | | | | |
| SVOC | (TIC) 1-(HYDROXY-PHENYL-METHYL)-2-METHYL-CYCLO | 1 | 747 | 0.41 | 0.41 | | | | | | | | |
| SVOC | (TIC) 1,12-BENZPERYLENE | | | | | 1 | 17 | 1.8 | 1.8 | | | | |
| SVOC | (TIC) 1,12-BIS(2-NITROPHENOXY)DODECANE | 1 | 747 | 0.29 | 0.29 | | | | | | | | |
| SVOC | (TIC) 1,19-EICOSADIENE | 2 | 747 | 0.17 | 9.5 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,3,4,4,5,5-OCTAC | 2 | 747 | 0.098 | 0.14 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,3,4,4,5,6-OCTAC | 3 | 747 | 0.56 | 0.94 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,3,4,4,5,6-OCTACH | 4 | 747 | 0.11 | 0.85 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,3,4,4,5-HEPTACHL | 4 | 747 | 0.32 | 3.7 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,3,4,4,6,6-OCTAC | 3 | 747 | 0.73 | 7.2 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,3,4,4,6-HEPTACHL | 7 | 747 | 0.084 | 2.9 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,3,4,4-HEXACHLORO | 3 | 747 | 0.15 | 7.2 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,3,4,5,5,6-OCTAC | 3 | 747 | 0.1 | 0.43 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,3,4,5,5,6-OCTACH | 3 | 747 | 0.13 | 0.88 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,3,4,5,6,6-OCTAC | 3 | 747 | 0.076 | 0.62 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,3,4,5,6,6-OCTACH | 5 | 747 | 0.092 | 5.9 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,3,4,5,6-HEPTACH | 3 | 747 | 0.1 | 0.38 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,3,4,5,6-HEPTACHL | 3 | 747 | 0.14 | 0.37 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,3,4,5-HEXACHLORO | 2 | 747 | 0.41 | 1.8 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,3,4,5-HEXACHLORO- | 7 | 747 | 0.11 | 1.5 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,3,4,6,6-HEPTACHL | 2 | 747 | 0.1 | 0.33 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,3,4,6-HEXACHLORO- | 2 | 747 | 0.13 | 0.28 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,3,5,5,6-HEPTACHL | 4 | 747 | 0.16 | 8 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,3,5,5-HEXACHLORO | 3 | 747 | 0.21 | 1.6 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,3,5,6,6-HEPTACHL | 1 | 747 | 0.18 | 0.18 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,3,5,6-HEXACHLORO | 2 | 747 | 0.23 | 8.8 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,3,5-PENTACHLORO- | 2 | 747 | 0.17 | 5.1 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,3,6,6-HEXACHLORO | 1 | 747 | 0.77 | 0.77 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,4,4,5,6,6-OCTACH | 5 | 747 | 0.086 | 0.66 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,4,4,5,6-HEPTACHL | 10 | 747 | 0.11 | 1.1 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,4,4,5,6-HEPTACHLO | 1 | 747 | 19 | 19 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,4,4,5-HEXACHLORO | 8 | 747 | 0.19 | 9.7 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,4,4,5-HEXACHLORO- | 4 | 747 | 0.65 | 2.2 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,4,4,6-HEXACHLORO- | 3 | 747 | 0.3 | 2.5 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,4,5,5,6-HEPTACHL | 3 | 747 | 0.16 | 0.42 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,4,5,5-HEXACHLORO | 6 | 747 | 0.09 | 6.7 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,4,5,5-HEXACHLORO- | 8 | 747 | 0.092 | 1.2 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,4,5,6,6-HEPTACHLO | 4 | 747 | 0.33 | 1.9 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,4,5,6-HEXACHLORO | 5 | 747 | 0.099 | 0.7 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,4,5,6-HEXACHLORO- | 3 | 747 | 0.12 | 2.8 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,4,5-PENTACHLORO- | 2 | 747 | 0.26 | 0.54 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,5,5,6-HEXACHLORO- | 1 | 747 | 2 | 2 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,3,5-TETRACHLORO- | 1 | 747 | 0.38 | 0.38 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,4,4,5,5-HEXACHLORO | 6 | 747 | 0.22 | 4.5 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,4,4,5,6-HEXACHLORO | 2 | 747 | 0.11 | 0.84 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,4,4,5-PENTACHLORO- | 1 | 747 | 13 | 13 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,4,4,6,6-HEXACHLORO | 2 | 747 | 0.5 | 1.3 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,4,5,6-PENTACHLORO- | 1 | 747 | 5.3 | 5.3 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,4,6-TETRACHLORO- | 1 | 747 | 0.71 | 0.71 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2,5,5-TETRACHLORO- | 2 | 747 | 0.13 | 0.7 | | | | | | | | |

**Table 1 FMP TIC Summary**

| Group | Analyte | Soil 0-10 ft | | | | Sediment 0-0.5 ft | | | | Surface Water All Depths | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/L) | Max. (mg/L) |
| SVOC | (TIC) 1,1-BIPHENYL, 2,2-DIPHENOXY- | 1 | 747 | 0.11 | 0.11 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,3,3,4,4,5,5-HEPTACHL | 6 | 747 | 0.11 | 14 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,3,3,4,4,5,6-HEPTACHLO | 4 | 747 | 0.16 | 8.3 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,3,3,4,4,5-HEXACHLORO | 10 | 747 | 0.072 | 22 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,3,3,4,4-PENTACHLORO- | 4 | 747 | 0.1 | 1.3 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,3,3,4,5,5,6-HEPTACHL | 3 | 747 | 0.52 | 2.7 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,3,3,4,5,5,6-HEPTACHLO | 2 | 747 | 0.092 | 0.16 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,3,3,4,5,6-HEXACHLORO- | 3 | 747 | 0.13 | 0.44 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,3,3,4,6-PENTACHLORO | 1 | 747 | 0.6 | 0.6 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,3,3,4,6-PENTACHLORO- | 2 | 747 | 0.23 | 0.48 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,3,4,4,5,5-HEXACHLORO | 8 | 747 | 0.099 | 22 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,3,4,4,5-PENTACHLORO- | 4 | 747 | 0.13 | 0.45 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,3,4,5,5-PENTACHLORO- | 2 | 747 | 0.32 | 0.47 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,3,4,5,6-PENTACHLORO- | 2 | 747 | 0.13 | 0.23 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,3,4-TRICHLORO- | 1 | 747 | 0.38 | 0.38 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2,3,5-TRICHLORO- | 1 | 747 | 0.38 | 0.38 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2-AZIDO- | | | | | 1 | 17 | 1.3 | 1.3 | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2-ETHYL- | 1 | 747 | 5.2 | 5.2 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 2-METHYL- | | | | | 1 | 17 | 0.13 | 0.13 | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 3,3,4,4,5,5-HEXACHLORO | 4 | 747 | 0.095 | 0.41 | | | | | | | | |
| SVOC | (TIC) 1,1-BIPHENYL, 3,4-DIMETHYL- | 2 | 747 | 1 | 1 | | | | | | | | |
| SVOC | (TIC) 1,2,4,6-TETRATHIEPANE | 1 | 747 | 0.1 | 0.1 | | | | | | | | |
| SVOC | (TIC) 1,2,4,8-TETRAMETHYLBICYCLO[6.3.0]UNDECA- | 2 | 747 | 0.13 | 0.19 | | | | | | | | |
| SVOC | (TIC) 1,2,4-METHENO-1H-INDENE, OCTAHYDRO-1,7A- | 2 | 747 | 0.12 | 1.1 | | | | | | | | |
| SVOC | (TIC) 1,2,4-TRIMETHYLBENZENE | 13 | 747 | 0.077 | 120 | | | | | | | | |
| SVOC | (TIC) 1,2:3,4-DIBENZOPYRENE | 5 | 747 | 0.13 | 2.3 | | | | | | | | |
| SVOC | (TIC) 1,2:3,4-DIBENZPYRENE | 3 | 747 | 0.75 | 1.8 | 1 | 17 | 2.2 | 2.2 | | | | |
| SVOC | (TIC) 1,2:4,5-DIBENZOPYRENE | 7 | 747 | 0.11 | 4.7 | | | | | | | | |
| SVOC | (TIC) 1,2:4,5-DIBENZPYRENE | 2 | 747 | 1.3 | 4.5 | | | | | | | | |
| SVOC | (TIC) 1,2:7,8-DIBENZOPHENANTHRENE | 2 | 747 | 0.19 | 0.41 | 1 | 17 | 0.82 | 0.82 | | | | |
| SVOC | (TIC) 1,21-DOCOSADIENE | 1 | 747 | 0.23 | 0.23 | | | | | | | | |
| SVOC | (TIC) 1,2-BENZENEDICARBOXYLIC ACID, BUTYL CYCL | 1 | 747 | 0.13 | 0.13 | | | | | | | | |
| SVOC | (TIC) 1,2-BENZENEDICARBOXYLIC ACID, DIISOOCTYL | 1 | 747 | 0.22 | 0.22 | | | | | | | | |
| SVOC | (TIC) 1,2-DIHYDRO-3-ACETYL-4-METHYL-9H-PYRROLO | 1 | 747 | 0.13 | 0.13 | | | | | | | | |
| SVOC | (TIC) 1,3,5-TRIMETHYLADAMANTANE | 1 | 747 | 0.19 | 0.19 | | | | | | | | |
| SVOC | (TIC) 1,3,5-TRIOXANE | 1 | 747 | 0.63 | 0.63 | | | | | | | | |
| SVOC | (TIC) 1,3,5-TRIPHENYL-1,5-PENTANEDIONE | 1 | 747 | 0.2 | 0.2 | | | | | | | | |
| SVOC | (TIC) 1,3,8-P-MENTHATRIENE | 1 | 747 | 0.5 | 0.5 | | | | | | | | |
| SVOC | (TIC) 1,3-BENZODIOXOLE, 5-(1-PROPENYL)- | 1 | 747 | 0.16 | 0.16 | | | | | | | | |
| SVOC | (TIC) 1,3-BIS-T-BUTYLPEROXY-PHTHALAN | 1 | 747 | 0.092 | 0.092 | | | | | | | | |
| SVOC | (TIC) 1,3-CYCLOHEXADIENE, 1,2,3,4,5,6-HEXAMETH | 1 | 747 | 66 | 66 | | | | | | | | |
| SVOC | (TIC) 1,3-CYCLOPENTADIENE, 1,2,3,4-TETRAMETHYL | 2 | 747 | 3.4 | 77 | | | | | | | | |
| SVOC | (TIC) 1,3-DIMETHYLDIBENZOTHIOPHENE | 1 | 747 | 3.6 | 3.6 | | | | | | | | |
| SVOC | (TIC) 1,3-DIOXOLANE, 2-(4-METHOXYPHENYL)-2-MET | 2 | 747 | 0.12 | 0.67 | | | | | | | | |
| SVOC | (TIC) 1,3-DIOXOLANE, 2,2-DIMETHYL- | 1 | 747 | 0.1 | 0.1 | | | | | | | | |
| SVOC | (TIC) 1,3-DIOXOLANE, 4-ETHYL-4-METHYL-2-PENTAD | 1 | 747 | 0.35 | 0.35 | | | | | | | | |
| SVOC | (TIC) 1,3-DITHIOLANE, 2-METHYL-2-PROPYL- | 1 | 747 | 1.7 | 1.7 | | | | | | | | |
| SVOC | (TIC) 1,3-PENTADIENE, 1,1-DIPHENYL-, (Z)- | 1 | 747 | 0.45 | 0.45 | | | | | | | | |
| SVOC | (TIC) 1,4,5,8-TETRAMETHYLNAPHTHALENE | 1 | 747 | 0.82 | 0.82 | | | | | | | | |
| SVOC | (TIC) 1,4:5,8-DIMETHANONAPHTHALENE, 1,2,3,4,10 | 1 | 747 | 0.53 | 0.53 | | | | | | | | |
| SVOC | (TIC) 1,4-BENZENEDICARBOXYLIC ACID, BIS | 1 | 747 | 0.18 | 0.18 | | | | | | | | |
| SVOC | (TIC) 1,4-BENZENEDICARBOXYLIC ACID, BIS(2-HYDR | 1 | 747 | 0.092 | 0.092 | | | | | | | | |
| SVOC | (TIC) 1,4-BUTANEDIOL, DIACETATE | 1 | 747 | 0.099 | 0.099 | | | | | | | | |
| SVOC | (TIC) 1,4-CYCLOHEXADIENE, 3-ETHENYL-1,2-DIMETH | 1 | 747 | 0.51 | 0.51 | | | | | | | | |
| SVOC | (TIC) 1,4-DIOXANE | 1 | 747 | 0.015 | 0.015 | | | | | | | | |
| SVOC | (TIC) 1,4-METHANO-1H-INDENE, OCTAHYDRO-4-METHY | 2 | 747 | 0.08 | 0.44 | | | | | | | | |
| SVOC | (TIC) 1,4-METHANOAZULENE, DECAHYDRO-4,8,8-TRIM | 2 | 747 | 0.54 | 4.8 | | | | | | | | |
| SVOC | (TIC) 1,4-NAPHTHALENEDIONE, 5-HYDROXY- | 2 | 747 | 0.38 | 1.4 | | | | | | | | |
| SVOC | (TIC) 1,5,6,7-TETRAMETHYL-3-PHENYLBICYCLO[3.2. | 1 | 747 | 0.25 | 0.25 | | | | | | | | |
| SVOC | (TIC) 1,5,9-UNDECATRIENE, 2,6,10-TRIMETHYL-, ( | 1 | 747 | 3.4 | 3.4 | | | | | | | | |
| SVOC | (TIC) 1,6-CYCLODECADIENE, 1-METHYL-5-METHYLENE | 3 | 747 | 0.18 | 0.32 | | | | | | | | |
| SVOC | (TIC) 1,7,7-TRIMETHYL-2-VINYLBICYCLO[2.2.1]HEP | 2 | 747 | 0.62 | 8.4 | | | | | | | | |
| SVOC | (TIC) 1,8-DIAZACYCLOTETRADECANE-2,9-DIONE | 1 | 747 | 0.22 | 0.22 | | | | | | | | |
| SVOC | (TIC) 1,8-NAPHTHALIC ANHYDRIDE | 5 | 747 | 0.32 | 0.51 | | | | | | | | |
| SVOC | (TIC) 10,18-BISNORABIETA-5,7,9(10),11,13 | 1 | 747 | 2.5 | 2.5 | | | | | | | | |
| SVOC | (TIC) 10,18-BISNORABIETA-5,7,9(10),11,13-PENTA | 77 | 747 | 0.075 | 12 | 1 | 17 | 0.68 | 0.68 | | | | |
| SVOC | (TIC) 10,18-BISNORABIETA-5,7,9,10,11,13-PENT-1 | 1 | 747 | 0.077 | 0.077 | | | | | | | | |
| SVOC | (TIC) 10,18-BISNORABIETA-5,7,9,10,11,13-PENT-2 | 1 | 747 | 0.083 | 0.083 | | | | | | | | |
| SVOC | (TIC) 10,18-BISNORABIETA-8,11,13-TRIENE | 11 | 747 | 0.081 | 2.3 | | | | | | | | |
| SVOC | (TIC) 10-METHYLNONADECANE | 3 | 747 | 0.087 | 0.14 | | | | | | | | |
| SVOC | (TIC) 10-NONADECANOL | 8 | 747 | 0.53 | 5.7 | | | | | | | | |
| SVOC | (TIC) 10-OCTADECENAL | 1 | 747 | 0.33 | 0.33 | | | | | | | | |
| SVOC | (TIC) 10UNKNOWN 4H-CYCLOPENTA[DEF]PHENANTHRENE | 1 | 747 | 0.57 | 0.57 | | | | | | | | |
| SVOC | (TIC) 11,12-DIBROMO-TETRADECAN-1-OL ACETATE | 1 | 747 | 0.21 | 0.21 | | | | | | | | |
| SVOC | (TIC) 11,13-DIMETHYL-12-TETRADECEN-1-OL ACETAT | 3 | 747 | 0.14 | 0.33 | | | | | | | | |
| SVOC | (TIC) 11H-BENZO[A]FLUOREN-11-ONE | 47 | 747 | 0.079 | 6 | 1 | 17 | 1.5 | 1.5 | | | | |
| SVOC | (TIC) 11H-BENZO[A]FLUORENE | 34 | 747 | 0.11 | 8.1 | 3 | 17 | 0.7 | 3.1 | | | | |
| SVOC | (TIC) 11H-BENZO[B]FLUORENE | 51 | 747 | 0.08 | 13 | 6 | 17 | 0.54 | 5.5 | | | | |
| SVOC | (TIC) 11H-INDENO(1,2-B)QUINOLINE | 1 | 747 | 3.8 | 3.8 | | | | | | | | |
| SVOC | (TIC) 11H-INDENO[2,1-A]PHENANTHRENE | 1 | 747 | 1.9 | 1.9 | | | | | | | | |
| SVOC | (TIC) 11-ISOPROPYLIDENETRICYCLO[4.3.1.1(2,5)]U | 1 | 747 | 0.13 | 0.13 | | | | | | | | |
| SVOC | (TIC) 11-OCTADECENOIC ACID, METHYL ESTER | 1 | 747 | 0.08 | 0.08 | | | | | | | | |
| SVOC | (TIC) 13-DOCOSENAMIDE, (Z)- | 9 | 747 | 0.082 | 0.27 | | | | | | | | |
| SVOC | (TIC) 13H-DIBENZO[A,H]FLUORENE | 2 | 747 | 2 | 6.3 | | | | | | | | |
| SVOC | (TIC) 13-OCTADECENAL | 1 | 747 | 0.26 | 0.26 | | | | | | | | |
| SVOC | (TIC) 14-OCTADECENAL | 1 | 747 | 0.23 | 0.23 | | | | | | | | |

**Table 1 FMP TIC Summary**

| Group | Analyte | Soil 0-10 ft | | | | Sediment 0-0.5 ft | | | | Surface Water All Depths | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/L) | Max. (mg/L) |
| SVOC | (TIC) 15-ISOBUTYL-(13.ALPHA.H)-ISOCOPALANE | 1 | 747 | 0.22 | 0.22 | | | | | | | | |
| SVOC | (TIC) 16-HENTRIACONTANONE | 3 | 747 | 0.12 | 0.18 | | | | | | | | |
| SVOC | (TIC) 16-OCTADECENAL | 2 | 747 | 0.23 | 1.2 | | | | | | | | |
| SVOC | (TIC) 17-(1,5-DIMETHYLHEXYL)-10,13-DIMETHYL | 2 | 747 | 0.35 | 1.4 | | | | | | | | |
| SVOC | (TIC) 17-(1,5-DIMETHYLHEXYL)-10,13-DIMETHYL-4- | 4 | 747 | 0.17 | 11 | | | | | | | | |
| SVOC | (TIC) 17-OCTADECEN-14-YN-1-OL | 1 | 747 | 1.6 | 1.6 | | | | | | | | |
| SVOC | (TIC) 17-OCTADECENAL | 1 | 747 | 0.47 | 0.47 | | | | | | | | |
| SVOC | (TIC) 17-PENTATRIACONTENE | 10 | 747 | 0.15 | 1.1 | | | | | | | | |
| SVOC | (TIC) 18-NONADECENOIC ACID | 1 | 747 | 1.1 | 1.1 | | | | | | | | |
| SVOC | (TIC) 18-NORABIETANE | 16 | 747 | 0.077 | 4.5 | | | | | | | | |
| SVOC | (TIC) 1A,9B-DIHYDRO-1H-CYCLOPROPA[A]ANTHRACENE | 1 | 747 | 1.3 | 1.3 | | | | | | | | |
| SVOC | (TIC) 1-ADAMANTANECARBOXLIC ACID CHLORIDE | 1 | 747 | 0.21 | 0.21 | | | | | | | | |
| SVOC | (TIC) 1-ADAMANTANECARBOXYLIC ACID, 3,4-DICHLOR | 1 | 747 | 0.19 | 0.19 | | | | | | | | |
| SVOC | (TIC) 1-ADAMANTANEMETHANOL | 5 | 747 | 0.24 | 50 | | | | | | | | |
| SVOC | (TIC) 1-BUTENE, 3,3-DIMETHYL- | 5 | 747 | 0.16 | 2 | | | | | | | | |
| SVOC | (TIC) 1-CYCLOHEXENE, 1,3,3-TRIMETHYL-2-(1-METH | 1 | 747 | 0.33 | 0.33 | | | | | | | | |
| SVOC | (TIC) 1-CYCLOHEXYL-2-METHYL-PROP-2-EN-1-ONE | 1 | 747 | 18 | 18 | | | | | | | | |
| SVOC | (TIC) 1-DECALONE (CIS-TRANS) | 1 | 747 | 0.12 | 0.12 | | | | | | | | |
| SVOC | (TIC) 1-DECANOL, 2-ETHYL- | 1 | 747 | 2.6 | 2.6 | | | | | | | | |
| SVOC | (TIC) 1-DECANOL, 2-HEXYL- | 1 | 747 | 0.27 | 0.27 | | | | | | | | |
| SVOC | (TIC) 1-DECANOL, 2-METHYL- | 1 | 747 | 88 | 88 | | | | | | | | |
| SVOC | (TIC) 1-DECENE | 5 | 747 | 0.097 | 0.38 | | | | | | | | |
| SVOC | (TIC) 1-DOCOSANOL | 1 | 747 | 0.97 | 0.97 | | | | | | | | |
| SVOC | (TIC) 1-DOCOSENE | 20 | 747 | 0.072 | 3.3 | | | | | | | | |
| SVOC | (TIC) 1-DODECANOL | 70 | 747 | 0.074 | 0.72 | | | | | | | | |
| SVOC | (TIC) 1-DODECANOL, 2-METHYL-, (S)- | 1 | 747 | 0.1 | 0.1 | | | | | | | | |
| SVOC | (TIC) 1-EICOSANOL | 3 | 747 | 0.33 | 0.6 | | | | | | | | |
| SVOC | (TIC) 1-EICOSENE | 1 | 747 | 0.24 | 0.24 | | | | | | | | |
| SVOC | (TIC) 1-EICOSYNE | 1 | 747 | 0.7 | 0.7 | | | | | | | | |
| SVOC | (TIC) 1-ETHYL-3-METHYLCYCLOHEXANE (C,T) | 1 | 747 | 8.4 | 8.4 | | | | | | | | |
| SVOC | (TIC) 1-ETHYL-4-METHYLCYCLOHEXANE | 1 | 747 | 0.16 | 0.16 | | | | | | | | |
| SVOC | (TIC) 1-ETHYL-5-METHYLCYCLOPENTENE | 1 | 747 | 8.2 | 8.2 | | | | | | | | |
| SVOC | (TIC) 1H-3A,7-METHANOAZULENE, 2,3,4,7,8,8A-HEX | 2 | 747 | 0.25 | 0.32 | | | | | | | | |
| SVOC | (TIC) 1H-3A,7-METHANOAZULENE,2,3,4,7,8,8A-HEX | 5 | 747 | 0.35 | 2.4 | | | | | | | | |
| SVOC | (TIC) 1H-BENZ[F]INDENE, 2-PHENYL- | 1 | 747 | 0.46 | 0.46 | 1 | 17 | 0.9 | 0.9 | | | | |
| SVOC | (TIC) 1H-CYCLOPENTA[1,3]CYCLOPROPA[1,2]BENZENE | 9 | 747 | 0.098 | 2.8 | | | | | | | | |
| SVOC | (TIC) 1H-CYCLOPROPA[A]NAPHTHALENE, 1A,2,3,5,6, | 1 | 747 | 0.49 | 0.49 | | | | | | | | |
| SVOC | (TIC) 1H-CYCLOPROPA[L]PHENANTHRENE,1A,9B | 1 | 747 | 0.15 | 0.15 | | | | | | | | |
| SVOC | (TIC) 1H-CYCLOPROPA[L]PHENANTHRENE,1A,9B-DIHYD | 8 | 747 | 0.13 | 2.3 | | | | | | | | |
| SVOC | (TIC) 1-HENEICOSANOL | 1 | 747 | 0.087 | 0.087 | | | | | | | | |
| SVOC | (TIC) 1-HENTETRACONTANOL | 1 | 747 | 0.16 | 0.16 | | | | | | | | |
| SVOC | (TIC) 1-HEPTACOSANOL | 5 | 747 | 0.11 | 0.67 | | | | | | | | |
| SVOC | (TIC) 1-HEPTADECANOL | 1 | 747 | 0.28 | 0.28 | | | | | | | | |
| SVOC | (TIC) 1-HEPTADECENE | 3 | 747 | 0.49 | 0.61 | | | | | | | | |
| SVOC | (TIC) 1-HEPTANOL, 6-METHYL- | 1 | 747 | 0.079 | 0.079 | | | | | | | | |
| SVOC | (TIC) 1-HEXACOSANOL | 5 | 747 | 0.082 | 0.3 | | | | | | | | |
| SVOC | (TIC) 1-HEXACOSENE | 1 | 747 | 0.16 | 0.16 | | | | | | | | |
| SVOC | (TIC) 1-HEXADECANOL | 1 | 747 | 0.23 | 0.23 | | | | | | | | |
| SVOC | (TIC) 1-HEXADECANOL, 2-METHYL- | 1 | 747 | 0.15 | 0.15 | | | | | | | | |
| SVOC | (TIC) 1-HEXANOL, 2-ETHYL- | 1 | 747 | 0.1 | 0.1 | | | | | | | | |
| SVOC | (TIC) 1-HEXANOL, 5-METHYL-2-(1-METHYLETHYL)- | 1 | 747 | 1.3 | 1.3 | | | | | | | | |
| SVOC | (TIC) 1-HEXENE, 4,5-DIMETHYL- | 1 | 747 | 0.1 | 0.1 | | | | | | | | |
| SVOC | (TIC) 1H-INDEN-1-ONE, 2-(2,3-DIHYDRO-1H-INDEN- | 1 | 747 | 2.9 | 2.9 | | | | | | | | |
| SVOC | (TIC) 1H-INDENE, 2,3-DIHYDRO-1,1,3-TRIMETHYL-3 | 1 | 747 | 23 | 23 | | | | | | | | |
| SVOC | (TIC) 1H-INDENE, 2,3-DIHYDRO-1,1,4-TRIMETHYL- | 4 | 747 | 1.4 | 6.9 | | | | | | | | |
| SVOC | (TIC) 1H-INDENE, 2,3-DIHYDRO-1,1,5-TRIMETHYL- | 12 | 747 | 0.089 | 7.8 | | | | | | | | |
| SVOC | (TIC) 1H-INDENE, 2,3-DIHYDRO-1,1,6-TRIMETHYL- | 1 | 747 | 2.4 | 2.4 | | | | | | | | |
| SVOC | (TIC) 1H-INDENE, 2,3-DIHYDRO-1,1-DIMETHYL- | 12 | 747 | 0.17 | 160 | | | | | | | | |
| SVOC | (TIC) 1H-INDENE, 2,3-DIHYDRO-1,2-DIMETHYL- | 2 | 747 | 0.2 | 1.1 | | | | | | | | |
| SVOC | (TIC) 1H-INDENE, 2,3-DIHYDRO-1,3-DIMETHYL- | 2 | 747 | 0.3 | 3 | | | | | | | | |
| SVOC | (TIC) 1H-INDENE, 2,3-DIHYDRO-1,5,7-TRIMETHYL- | 1 | 747 | 0.39 | 0.39 | | | | | | | | |
| SVOC | (TIC) 1H-INDENE, 2,3-DIHYDRO-1,6-DIMETHYL- | 5 | 747 | 0.13 | 19 | | | | | | | | |
| SVOC | (TIC) 1H-INDENE, 2,3-DIHYDRO-4,7-DIMETHYL- | 6 | 747 | 0.17 | 13 | | | | | | | | |
| SVOC | (TIC) 1H-INDENE, 2,3-DIHYDRO-4-METHYL- | 4 | 747 | 0.086 | 20 | | | | | | | | |
| SVOC | (TIC) 1H-INDENE, 2-METHYL-3-PHENYL- | 1 | 747 | 0.086 | 0.086 | | | | | | | | |
| SVOC | (TIC) 1H-INDENE, 2-PHENYL- | 2 | 747 | 5.8 | 7.8 | | | | | | | | |
| SVOC | (TIC) 1H-INDENE, OCTAHYDRO-, CIS- | 4 | 747 | 0.25 | 20 | | | | | | | | |
| SVOC | (TIC) 1H-INDENE, OCTAHYDRO-, TRANS- | 2 | 747 | 0.39 | 7.9 | | | | | | | | |
| SVOC | (TIC) 1H-INDENE, OCTAHYDRO-5-METHYL- | 2 | 747 | 3.8 | 66 | | | | | | | | |
| SVOC | (TIC) 1H-INDENE,2,3-DIHYDRO-2,2-DIMETHYL- | 5 | 747 | 0.14 | 3.6 | | | | | | | | |
| SVOC | (TIC) 1H-NAPHTHO[2,1-B]PYRAN, 4A,5,6,6A,7,8,9, | 1 | 747 | 0.25 | 0.25 | | | | | | | | |
| SVOC | (TIC) 1H-PHENALENE | 1 | 747 | 8.8 | 8.8 | | | | | | | | |
| SVOC | (TIC) 1H-PHENANTHRO[9,10-D]IMIDAZOL-2-AMINE | | | | | 1 | 17 | 0.56 | 0.56 | | | | |
| SVOC | (TIC) 1-ISOPROPENYLNAPHTHALENE | 1 | 747 | 1.1 | 1.1 | | | | | | | | |
| SVOC | (TIC) 1-ISOPROPYL-4,7-DIMETHYL-1,2,3,5,6,8A-HE | 1 | 747 | 1.3 | 1.3 | | | | | | | | |
| SVOC | (TIC) 1-METHYL-4-(1-METHYLETHYL)-CYCLOHEXANE | 2 | 747 | 0.85 | 55 | | | | | | | | |
| SVOC | (TIC) 1-METHYLDECAHYDRONAPHTHALENE | 4 | 747 | 0.97 | 42 | | | | | | | | |
| SVOC | (TIC) 1-NAPHTHALENEPROPANOL, .ALPHA.-ETHENYLDE | 2 | 747 | 0.078 | 0.12 | | | | | | | | |
| SVOC | (TIC) 1-NAPHTHALENOL, 1,2,3,4,4A,7,8,8A-OCTAHY | 1 | 747 | 0.35 | 0.35 | | | | | | | | |
| SVOC | (TIC) 1-NAPHTHALENOL, DECAHYDRO-4A-METHYL-8-ME | 2 | 747 | 0.17 | 1.3 | | | | | | | | |
| SVOC | (TIC) 1-NONADECENE | 3 | 747 | 0.17 | 4.7 | | | | | | | | |
| SVOC | (TIC) 1-OCTADECANOL | 1 | 747 | 0.22 | 0.22 | | | | | | | | |
| SVOC | (TIC) 1-OCTADECENE | 1 | 747 | 0.12 | 0.12 | | | | | | | | |
| SVOC | (TIC) 1-OCTANOL, 2-BUTYL- | 1 | 747 | 0.17 | 0.17 | | | | | | | | |
| SVOC | (TIC) 1-OCTENE, 3,7-DIMETHYL- | 1 | 747 | 0.47 | 0.47 | | | | | | | | |
| SVOC | (TIC) 1-PENTADECANETHIOL | 1 | 747 | 0.18 | 0.18 | | | | | | | | |

**Table 1 FMP TIC Summary**

| Group | Analyte | Soil 0-10 ft | | | | Sediment 0-0.5 ft | | | | Surface Water All Depths | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/L) | Max. (mg/L) |
| SVOC | (TIC) 1-PENTENE, 2,3-DIMETHYL- | 4 | 747 | 1.2 | 3.4 | | | | | | | | |
| SVOC | (TIC) 1-PENTENE, 2,4,4-TRIMETHYL- | 1 | 747 | 0.26 | 0.26 | | | | | | | | |
| SVOC | (TIC) 1-PENTENE, 3,3-DIMETHYL- | 12 | 747 | 0.44 | 7.5 | | | | | | | | |
| SVOC | (TIC) 1-PHENANTHRENECARBOXALDEHYDE, 7-ETHENYL- | 1 | 747 | 0.1 | 0.1 | | | | | | | | |
| SVOC | (TIC) 1-PHENANTHRENECARBOXYLIC ACID, 1,2,3,4,4 | 17 | 747 | 0.083 | 11 | | | | | | | | |
| SVOC | (TIC) 1-PHENANTHRENECARBOXYLIC ACID, 7-ETHENYL | 1 | 747 | 13 | 13 | | | | | | | | |
| SVOC | (TIC) 1-PHENANTHRENECARBOXYLICACID,1,2,3,4,4 | 1 | 747 | 3.2 | 3.2 | | | | | | | | |
| SVOC | (TIC) 1-PHENYL-1-BUTENE | 3 | 747 | 0.18 | 12 | | | | | | | | |
| SVOC | (TIC) 1-PHENYLCYCLOHEXANOL-1 | 1 | 747 | 0.23 | 0.23 | | | | | | | | |
| SVOC | (TIC) 1-PROPANOL, 2,2-DIMETHYL- | 1 | 747 | 0.13 | 0.13 | | | | | | | | |
| SVOC | (TIC) 1R,3Z,9S-2,6,10,10-TETRAMETHYLBICYCLO[7. | 2 | 747 | 0.085 | 0.2 | | | | | | | | |
| SVOC | (TIC) 1R-.ALPHA.-PINENE | 18 | 747 | 0.11 | 6.1 | | | | | | | | |
| SVOC | (TIC) 1-TETRACOSANOL | 4 | 747 | 0.094 | 0.44 | | | | | | | | |
| SVOC | (TIC) 1-TRIDECENE | 2 | 747 | 0.081 | 0.096 | | | | | | | | |
| SVOC | (TIC) 1-UNDECANOL | 1 | 747 | 0.17 | 0.17 | | | | | | | | |
| SVOC | (TIC) 1UNKNOWN 4H-CYCLOPENTA[DEF]PHENANTHRENE | 1 | 747 | 0.5 | 0.5 | | | | | | | | |
| SVOC | (TIC) 2(1H)NAPHTHALENONE, 3,5,6,7,8,8A-HEXAHYD | 1 | 747 | 0.083 | 0.083 | | | | | | | | |
| SVOC | (TIC) 2(1H)-NAPHTHALENONE, OCTAHYDRO-4A-METHYL | 1 | 747 | 0.17 | 0.17 | | | | | | | | |
| SVOC | (TIC) 2-(4-FORMYL-PHENOXY)-ACETAMIDE | 1 | 747 | 0.22 | 0.22 | | | | | | | | |
| SVOC | (TIC) 2,10,11-TRIOXA-6-AZONIA-1-BORATATRICYCLO | 1 | 747 | 0.076 | 0.076 | | | | | | | | |
| SVOC | (TIC) 2,2,3,3,4,5,6-HEPTACHLORO-1,1-BIPHENY | 1 | 747 | 0.41 | 0.41 | | | | | | | | |
| SVOC | (TIC) 2,2,3,3,4,5,6-HEPTACHLOROBIPHENYL | 5 | 747 | 0.1 | 12 | | | | | | | | |
| SVOC | (TIC) 2,2,3,3,5,6-HEXACHLORO-1,1-BIPHENYL | 2 | 747 | 0.074 | 0.1 | | | | | | | | |
| SVOC | (TIC) 2,2,3,4,4,6,6-HEPTACHLORO-1,1-BIPHEN | 6 | 747 | 0.09 | 1.9 | | | | | | | | |
| SVOC | (TIC) 2,2,3,4,4,6-HEXACHLORO-1,1-BIPHENYL | 2 | 747 | 0.19 | 0.53 | | | | | | | | |
| SVOC | (TIC) 2,2,3,4,4-PENTACHLORO-1,1-BIPHENYL | 1 | 747 | 0.33 | 0.33 | | | | | | | | |
| SVOC | (TIC) 2,2,3,4,5,6-HEXACHLORO-1,1-BIPHENYL | 5 | 747 | 0.097 | 1.9 | | | | | | | | |
| SVOC | (TIC) 2,2,3,4,5-PENTACHLORO-1,1-BIPHENYL | 1 | 747 | 1.7 | 1.7 | | | | | | | | |
| SVOC | (TIC) 2,2,3,4,6-PENTACHLORO-1,1-BIPHENYL | 3 | 747 | 0.22 | 0.44 | | | | | | | | |
| SVOC | (TIC) 2,2,3,5,6-PENTACHLORO-1,1-BIPHENYL | 2 | 747 | 0.099 | 5.2 | | | | | | | | |
| SVOC | (TIC) 2,2,3,6,6-PENTACHLORO-1,1-BIPHENYL | 1 | 747 | 0.098 | 0.098 | | | | | | | | |
| SVOC | (TIC) 2,2,4,6-TETRACHLORO-1,1-BIPHENYL | 2 | 747 | 0.084 | 0.13 | | | | | | | | |
| SVOC | (TIC) 2,2,4A,6A,8A,9,12B,14A-OCTAMETHYL-1,2,3, | 4 | 747 | 0.19 | 0.68 | | | | | | | | |
| SVOC | (TIC) 2,2-BINAPHTHALENE | 2 | 747 | 0.41 | 2.5 | | | | | | | | |
| SVOC | (TIC) 2,2-DIBROMO-1,1-BINAPHTHAL | 1 | 747 | 0.42 | 0.42 | | | | | | | | |
| SVOC | (TIC) 2,3,3,4,4,5,6-HEPTACHLORO-1,1-BIPHEN | 3 | 747 | 0.096 | 0.27 | | | | | | | | |
| SVOC | (TIC) 2,3,3,4,4,6-HEXACHLORO-1,1-BIPHENYL | 1 | 747 | 0.099 | 0.099 | | | | | | | | |
| SVOC | (TIC) 2,3,3,4,5,5-HEXACHLORO-1,1-BIPHENYL | 1 | 747 | 0.074 | 0.074 | | | | | | | | |
| SVOC | (TIC) 2,3,3,4,5,6-HEXACHLORO-1,1-BIPHENYL | 4 | 747 | 0.11 | 3 | | | | | | | | |
| SVOC | (TIC) 2,3,3,4,5-PENTACHLORO-1,1-BIPHENYL | 4 | 747 | 0.094 | 0.6 | | | | | | | | |
| SVOC | (TIC) 2,3,3,5,5,6-HEXACHLORO-1,1-BIPHENYL | 1 | 747 | 0.093 | 0.093 | | | | | | | | |
| SVOC | (TIC) 2,3,4,4,5,6-HEXACHLORO-1,1-BIPHENYL | 5 | 747 | 0.096 | 0.97 | | | | | | | | |
| SVOC | (TIC) 2,3-DIHYDRO-TRIMETHYL-1H-INDENEISOMER | 1 | 747 | 10 | 10 | | | | | | | | |
| SVOC | (TIC) 2,3-DIMETHYLDECANE | 1 | 747 | 2.2 | 2.2 | | | | | | | | |
| SVOC | (TIC) 2,4,4-TRIMETHYL-1-HEXENE | 1 | 747 | 2.9 | 2.9 | | | | | | | | |
| SVOC | (TIC) 2,4,5,5,8A-PENTAMETHYL-6,7,8,8A-TETRAHYD | 1 | 747 | 0.37 | 0.37 | | | | | | | | |
| SVOC | (TIC) 2,4A,8,8-TETRAMETHYLDECAHYDROCYCLOPROPA[ | 1 | 747 | 0.22 | 0.22 | | | | | | | | |
| SVOC | (TIC) 2,4-CHOLESTADIEN-1-ONE | 1 | 747 | 0.15 | 0.15 | | | | | | | | |
| SVOC | (TIC) 2,5-HEXANEDIONE | 1 | 747 | 0.098 | 0.098 | | | | | | | | |
| SVOC | (TIC) 2,6,10,14,18,22-TETRACOSAHEXAENE, 2,6,10 | 5 | 747 | 0.076 | 1.4 | | | | | | | | |
| SVOC | (TIC) 2,6,10,14,18-PENTAMETHYL-2,6,10,14,18-EI | 1 | 747 | 0.1 | 0.1 | | | | | | | | |
| SVOC | (TIC) 2,6-DIMETHYLDECANE | 4 | 747 | 0.31 | 13 | | | | | | | | |
| SVOC | (TIC) 2,8-DIMETHYLDIBENZO(B,D)THIOPHENE | 1 | 747 | 0.4 | 0.4 | | | | | | | | |
| SVOC | (TIC) 22,23,-DIHYDRO-STIGMASTEROL | 1 | 747 | 2.6 | 2.6 | | | | | | | | |
| SVOC | (TIC) 22,23-DIHYDRO-STIGMASTEROL | 3 | 747 | 1.1 | 2.4 | | | | | | | | |
| SVOC | (TIC) 226 ALDOL CONDENSATE | | | | | 1 | 17 | 2 | 2 | | | | |
| SVOC | (TIC) 227 AROMATIC | | | | | 1 | 17 | 3 | 3 | | | | |
| SVOC | (TIC) 228 BENZONAPHTHOFURAN | | | | | 1 | 17 | 2 | 2 | | | | |
| SVOC | (TIC) 229 BENZONAPHTHOTHIOPHENE | | | | | 1 | 17 | 2 | 2 | | | | |
| SVOC | (TIC) 22-STIGMASTEN-3-ONE | 1 | 747 | 0.078 | 0.078 | | | | | | | | |
| SVOC | (TIC) 230 PAH | | | | | 1 | 17 | 1 | 1 | | | | |
| SVOC | (TIC) 231 PAH | | | | | 1 | 17 | 2 | 2 | | | | |
| SVOC | (TIC) 232 PAH | | | | | 1 | 17 | 2 | 2 | | | | |
| SVOC | (TIC) 233 PAH | | | | | 1 | 17 | 2 | 2 | | | | |
| SVOC | (TIC) 234 PAH | | | | | 1 | 17 | 3 | 3 | | | | |
| SVOC | (TIC) 235 PAH | | | | | 1 | 17 | 3 | 3 | | | | |
| SVOC | (TIC) 236 PAH | | | | | 1 | 17 | 3 | 3 | | | | |
| SVOC | (TIC) 237 PAH | | | | | 1 | 17 | 5 | 5 | | | | |
| SVOC | (TIC) 238 PAH | | | | | 1 | 17 | 8 | 8 | | | | |
| SVOC | (TIC) 248 HEXAMETHYLPHOSPHORIC TRIAMID | | | | | | | | | 1 | 8 | 0.01 | 0.01 |
| SVOC | (TIC) 26-NOR-5-CHOLESTEN-3.BETA.-OL-25-ONE | 11 | 747 | 0.09 | 0.73 | | | | | | | | |
| SVOC | (TIC) 28-NOR-17.ALPHA.(H)-HOPANE | 16 | 747 | 0.071 | 2.2 | | | | | | | | |
| SVOC | (TIC) 28-NOR-17.BETA.(H)-HOPANE | 17 | 747 | 0.087 | 1.6 | | | | | | | | |
| SVOC | (TIC) 2-BROMO DODECANE | 3 | 747 | 0.21 | 1.2 | | | | | | | | |
| SVOC | (TIC) 2-BUTEN-1-OL, 2-METHYL- | 1 | 747 | 0.095 | 0.095 | | | | | | | | |
| SVOC | (TIC) 2-BUTEN-1-OL, 3-METHYL- | 2 | 747 | 0.089 | 0.62 | | | | | | | | |
| SVOC | (TIC) 2-BUTENAL, 2-METHYL- | 1 | 747 | 0.082 | 0.082 | | | | | | | | |
| SVOC | (TIC) 2-BUTENAL, 3-METHYL- | 10 | 747 | 0.11 | 1.5 | | | | | | | | |
| SVOC | (TIC) 2-BUTENE, 2,3-DIMETHYL- | 1 | 747 | 0.3 | 0.3 | | | | | | | | |
| SVOC | (TIC) 2-CHLORO-7-METHYLQUINOXALINE | 1 | 747 | 0.11 | 0.11 | | | | | | | | |
| SVOC | (TIC) 2-CYCLOHEXEN-1-OL | 2 | 747 | 0.091 | 0.27 | | | | | | | | |
| SVOC | (TIC) 2-CYCLOHEXEN-1-ONE | 2 | 747 | 0.091 | 0.097 | | | | | | | | |
| SVOC | (TIC) 2-CYCLOHEXEN-1-ONE, 2-(2-METHYL-2-PROPEN | 1 | 747 | 0.096 | 0.096 | | | | | | | | |
| SVOC | (TIC) 2-CYCLOHEXEN-1-ONE, 4,5-DIMETHYL- | 2 | 747 | 30 | 210 | | | | | | | | |
| SVOC | (TIC) 2-CYCLOHEXENE-1-CARBOXALDEHYDE, 2,6,6-TR | 1 | 747 | 4.1 | 4.1 | | | | | | | | |
| SVOC | (TIC) 2-DECENE, 5-METHYL-, (Z)- | 1 | 747 | 3.4 | 3.4 | | | | | | | | |

**Table 1 FMP TIC Summary**

| Group | Analyte | Soil 0-10 ft | | | | Sediment 0-0.5 ft | | | | Surface Water All Depths | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/L) | Max. (mg/L) |
| SVOC | (TIC) 2-DODECEN-1-YL(-)SUCCINIC ANHYDRIDE | 4 | 747 | 0.22 | 0.43 | | | | | | | | |
| SVOC | (TIC) 2-ETHYL-2,3-DIHYDRO-1H-INDENE | 1 | 747 | 0.5 | 0.5 | | | | | | | | |
| SVOC | (TIC) 2H-3,5A-EPOXYNAPHTH[2,1-B]OXEPIN, DODECA | 1 | 747 | 2.4 | 2.4 | | | | | | | | |
| SVOC | (TIC) 2-HEPTENE, 5-METHYL- | 1 | 747 | 11 | 11 | | | | | | | | |
| SVOC | (TIC) 2-HEXYL-1-OCTANOL | 1 | 747 | 0.71 | 0.71 | | | | | | | | |
| SVOC | (TIC) 2-METHYL-3-TRANS-PROPENYLPYRAZINE | 1 | 747 | 32 | 32 | | | | | | | | |
| SVOC | (TIC) 2-METHYLADAMANTANE | 5 | 747 | 2.1 | 98 | | | | | | | | |
| SVOC | (TIC) 2-METHYLCHRYSENE | 1 | 747 | 0.77 | 0.77 | | | | | | | | |
| SVOC | (TIC) 2-METHYLINDAN-2-OL | 1 | 747 | 23 | 23 | | | | | | | | |
| SVOC | (TIC) 2-NAPHTHALENEMETHANOL, DECAHYDRO-.ALPHA. | 1 | 747 | 0.75 | 0.75 | | | | | | | | |
| SVOC | (TIC) 2-NAPHTHALENOL, 1-[(4-METHYL-2-NITROPHEN | 1 | 747 | 0.52 | 0.52 | | | | | | | | |
| SVOC | (TIC) 2-NAPHTHALENOL, 1-[(4-NITROPHENYL)AZO]- | 5 | 747 | 0.11 | 3.2 | | | | | | | | |
| SVOC | (TIC) 2-NAPHTHALENOL, 1-NITROSO- | 2 | 747 | 0.08 | 0.55 | | | | | | | | |
| SVOC | (TIC) 2-NONADECANONE | 1 | 747 | 0.36 | 0.36 | | | | | | | | |
| SVOC | (TIC) 2-OCTENE, 2,6-DIMETHYL- | 1 | 747 | 1.1 | 1.1 | | | | | | | | |
| SVOC | (TIC) 2-PENTANONE, 4-HYDROXY- | 4 | 747 | 0.086 | 0.62 | | | | | | | | |
| SVOC | (TIC) 2-PENTANONE, 4-HYDROXY-4- | | | | | 3 | 17 | 6 | 13 | | | | |
| SVOC | (TIC) 2-PENTANONE, 4-HYDROXY-4-METHYL- | 367 | 747 | 1.6 | 250 | 10 | 17 | 10 | 32 | | | | |
| SVOC | (TIC) 2-PENTEN-1-OL, 2-METHYL-, (Z)- | 1 | 747 | 0.14 | 0.14 | | | | | | | | |
| SVOC | (TIC) 2-PENTENE, 2,3-DIMETHYL- | 1 | 747 | 1.9 | 1.9 | | | | | | | | |
| SVOC | (TIC) 2-PENTENE, 2-METHYL- | 2 | 747 | 0.16 | 0.34 | | | | | | | | |
| SVOC | (TIC) 2-PENTENE, 3,4-DIMETHYL-, (Z)- | 1 | 747 | 0.16 | 0.16 | | | | | | | | |
| SVOC | (TIC) 2-PENTENE, 4-METHYL-, (E)- | 1 | 747 | 0.28 | 0.28 | | | | | | | | |
| SVOC | (TIC) 2-PHENANTHRENOL, 4B,5,6,7,8,8A,9,10-12.1 | 1 | 747 | 0.11 | 0.11 | | | | | | | | |
| SVOC | (TIC) 2-PHENANTHRENOL, 4B,5,6,7,8,8A,9,10-12.2 | 1 | 747 | 0.18 | 0.18 | | | | | | | | |
| SVOC | (TIC) 2-PHENANTHRENOL, 4B,5,6,7,8,8A,9,10-OCTA | 3 | 747 | 0.43 | 2 | | | | | | | | |
| SVOC | (TIC) 2-PHENYLNAPHTHALENE | 15 | 747 | 0.072 | 1.9 | 1 | 17 | 0.25 | 0.25 | | | | |
| SVOC | (TIC) 2-PROPANONE, 1-CYCLOHEXYL- | 1 | 747 | 0.75 | 0.75 | | | | | | | | |
| SVOC | (TIC) 2-PROPENAL, 3-(4-METHYLPHENYL)- | 1 | 747 | 3 | 3 | | | | | | | | |
| SVOC | (TIC) 2-PROPENOIC ACID, 2-METHYL-, ETHENYL EST | 3 | 747 | 0.47 | 2.1 | | | | | | | | |
| SVOC | (TIC) 2-PROPENOIC ACID, 3-PHENYL- | 1 | 747 | 1.6 | 1.6 | | | | | | | | |
| SVOC | (TIC) 2-PROPENOIC ACID, 3-PHENYL-, 1,7,7-TRIME | 2 | 747 | 0.46 | 0.99 | | | | | | | | |
| SVOC | (TIC) 2-PROPENOIC ACID, PENTADECYL ESTER | 2 | 747 | 0.15 | 0.19 | | | | | | | | |
| SVOC | (TIC) 2-PROPENOIC ACID, TRIDECYL ESTER | 1 | 747 | 0.2 | 0.2 | | | | | | | | |
| SVOC | (TIC) 2-PYRROLIDINONE | 3 | 747 | 0.38 | 0.83 | | | | | | | | |
| SVOC | (TIC) 2-PYRROLIDINONE, 1-METHYL- | 8 | 747 | 0.077 | 0.25 | | | | | | | | |
| SVOC | (TIC) 2-THIAZOLIDINIMINE, 3-METHYL- | 1 | 747 | 0.086 | 0.086 | | | | | | | | |
| SVOC | (TIC) 2-TRIDECANONE | 1 | 747 | 0.19 | 0.19 | | | | | | | | |
| SVOC | (TIC) 2UNKNOWN 4H-CYCLOPENTA[DEF]PHENANTHRENE | 1 | 747 | 0.49 | 0.49 | | | | | | | | |
| SVOC | (TIC) 3(4H)-PHENANTHRENONE, 4A,4B,5,6,7,8,8A,9 | 1 | 747 | 0.22 | 0.22 | | | | | | | | |
| SVOC | (TIC) 3,34,4-TETRACHLORODIPHENYLSULFIDE | 1 | 747 | 1.2 | 1.2 | | | | | | | | |
| SVOC | (TIC) 3,3-DIMETHYL-1,5-DIAZABICYCLO[3.1.0]HEXA | 1 | 747 | 3.2 | 3.2 | | | | | | | | |
| SVOC | (TIC) 3,4:8,9-DIBENZOPYRENE | 2 | 747 | 0.34 | 3.1 | | | | | | | | |
| SVOC | (TIC) 3,4:9,10-DIBENZOPYRENE | 5 | 747 | 0.37 | 0.56 | | | | | | | | |
| SVOC | (TIC) 3,4-DIETHYL-3-HEXENE | 2 | 747 | 0.29 | 0.38 | | | | | | | | |
| SVOC | (TIC) 3,4-DIHYDROCYCLOPENTA(CD) | | | | | 1 | 17 | 1.4 | 1.4 | | | | |
| SVOC | (TIC) 3,4-DIHYDROCYCLOPENTA(CD)PYRENE (ACEPYRE | 10 | 747 | 0.093 | 8.7 | 1 | 17 | 1.2 | 1.2 | | | | |
| SVOC | (TIC) 3,4-DIMETHYLCYCLOHEXANOL | 1 | 747 | 2.3 | 2.3 | | | | | | | | |
| SVOC | (TIC) 3,5-DIMETHYL-3-HEPTENE | 1 | 747 | 0.6 | 0.6 | | | | | | | | |
| SVOC | (TIC) 349 ALDOL CONDENSATE | 1 | 747 | 0.2 | 0.2 | | | | | | | | |
| SVOC | (TIC) 350 ALDOL CONDENSATE | 1 | 747 | 0.2 | 0.2 | | | | | | | | |
| SVOC | (TIC) 351 ALDOL CONDENSATE | 1 | 747 | 0.2 | 0.2 | | | | | | | | |
| SVOC | (TIC) 352 ALDOL CONDENSATE | 1 | 747 | 0.3 | 0.3 | | | | | | | | |
| SVOC | (TIC) 353 ALDOL CONDENSATE | 1 | 747 | 0.8 | 0.8 | | | | | | | | |
| SVOC | (TIC) 354 ALKANE | 1 | 747 | 0.1 | 0.1 | | | | | | | | |
| SVOC | (TIC) 360 UNKNOWN PHENOL | 1 | 747 | 0.4 | 0.4 | | | | | | | | |
| SVOC | (TIC) 392 ALDOL CONDENSATE | 1 | 747 | 0.3 | 0.3 | | | | | | | | |
| SVOC | (TIC) 393 C3, ALKYLBENZENE | 1 | 747 | 0.2 | 0.2 | | | | | | | | |
| SVOC | (TIC) 394 C3, ALKYLBENZENE | 1 | 747 | 0.4 | 0.4 | | | | | | | | |
| SVOC | (TIC) 395 C3, ALKYLBENZENE | 1 | 747 | 0.5 | 0.5 | | | | | | | | |
| SVOC | (TIC) 396 C4, ALKYLBENZENE | 1 | 747 | 0.3 | 0.3 | | | | | | | | |
| SVOC | (TIC) 397 C4, ALKYLBENZENE | 1 | 747 | 0.3 | 0.3 | | | | | | | | |
| SVOC | (TIC) 398 PAH | 1 | 747 | 0.2 | 0.2 | | | | | | | | |
| SVOC | (TIC) 3-ACRIDINOL, 9-PHENYL- | 1 | 747 | 0.67 | 0.67 | | | | | | | | |
| SVOC | (TIC) 3-ADAMANTAN-1-YL-1,1,1-TRIFLUOROPENTANE- | 2 | 747 | 8 | 30 | | | | | | | | |
| SVOC | (TIC) 3-BROMOCINNAMIC ACID | 1 | 747 | 0.46 | 0.46 | | | | | | | | |
| SVOC | (TIC) 3-BUTEN-2-ONE, 3-METHYL- | 30 | 747 | 0.083 | 2.6 | 1 | 17 | 0.74 | 0.74 | | | | |
| SVOC | (TIC) 3-CARENE | 2 | 747 | 0.25 | 0.7 | | | | | | | | |
| SVOC | (TIC) 3-CHLORO-11H-PYRIDO[3,2-4,5]PYRROLO[3, | 1 | 747 | 0.91 | 0.91 | | | | | | | | |
| SVOC | (TIC) 3-CYCLOHEXEN-1-OL, 4-METHYL-1-(1-METHYLE | 1 | 747 | 1.2 | 1.2 | | | | | | | | |
| SVOC | (TIC) 3-CYCLOHEXYLTHIOLANE,S,S-DIOXIDE | 1 | 747 | 0.64 | 0.64 | | | | | | | | |
| SVOC | (TIC) 3-DECANOL | 1 | 747 | 0.17 | 0.17 | | | | | | | | |
| SVOC | (TIC) 3-EICOSENE, (E)- | 3 | 747 | 0.25 | 0.43 | | | | | | | | |
| SVOC | (TIC) 3-ETHYL-3-PHENYL-1-PENTENE | 1 | 747 | 0.75 | 0.75 | | | | | | | | |
| SVOC | (TIC) 3-FLUORANTHENAMINE | 2 | 747 | 2.1 | 3.2 | 1 | 17 | 0.69 | 0.69 | | | | |
| SVOC | (TIC) 3-FLUOROCHOLEST-5-ENE | 1 | 747 | 0.12 | 0.12 | | | | | | | | |
| SVOC | (TIC) 3-HEPTANONE, 5-METHYL- | 1 | 747 | 1.2 | 1.2 | | | | | | | | |
| SVOC | (TIC) 3-HEPTEN-1-OL, (E)- | 1 | 747 | 5.9 | 5.9 | | | | | | | | |
| SVOC | (TIC) 3-HEPTENE, 4-PROPYL- | 2 | 747 | 0.092 | 48 | | | | | | | | |
| SVOC | (TIC) 3-HEXANOL, 2,5-DIMETHYL- | 1 | 747 | 0.73 | 0.73 | | | | | | | | |
| SVOC | (TIC) 3-HEXEN-2-ONE, 5-METHYL- | 1 | 747 | 0.17 | 0.17 | | | | | | | | |
| SVOC | (TIC) 3-HEXENE, 3-ETHYL-2,5-DIMETHYL- | 3 | 747 | 0.27 | 7.7 | | | | | | | | |
| SVOC | (TIC) 3-HEXENE-2,5-DIONE | 4 | 747 | 0.13 | 0.29 | | | | | | | | |
| SVOC | (TIC) 3-MERCAPTO-3-METHYLBUTANOL | 1 | 747 | 0.47 | 0.47 | | | | | | | | |
| SVOC | (TIC) 3-PENTANOL, 2,4-DIMETHYL- | 1 | 747 | 0.18 | 0.18 | | | | | | | | |
| SVOC | (TIC) 3-PENTEN-1-OL, 2-METHYL- | 1 | 747 | 0.22 | 0.22 | | | | | | | | |

**Table 1 FMP TIC Summary**

| Group | Analyte | Soil 0-10 ft | | | | Sediment 0-0.5 ft | | | | Surface Water All Depths | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/L) | Max. (mg/L) |
| SVOC | (TIC) 3-PENTEN-2-OL | 9 | 747 | 0.096 | 0.61 | | | | | | | | |
| SVOC | (TIC) 3-PENTEN-2-ONE | 1 | 747 | 0.8 | 0.8 | | | | | | | | |
| SVOC | (TIC) 3-PENTEN-2-ONE, (E)- | 2 | 747 | 0.22 | 1 | | | | | | | | |
| SVOC | (TIC) 3-PENTEN-2-ONE, 4-METHYL- | 171 | 747 | 0.085 | 4.3 | | | | | | | | |
| SVOC | (TIC) 3-PHENYLBUT-1-ENE | 1 | 747 | 2.5 | 2.5 | | | | | | | | |
| SVOC | (TIC) 3UNKNOWN 4H-CYCLOPENTA[DEF]PHENANTHRENE | 1 | 747 | 0.66 | 0.66 | | | | | | | | |
| SVOC | (TIC) 4,22-STIGMASTADIENE-3-ONE | 2 | 747 | 0.15 | 0.16 | | | | | | | | |
| SVOC | (TIC) 4,4,6A,6B,8A,11,11,14B-OCTAMETHYL-1,4,4A | 1 | 747 | 0.36 | 0.36 | | | | | | | | |
| SVOC | (TIC) 4,4,6A,6B,8A,11,12,14B-OCTAMETHYL-1,4,4A | 7 | 747 | 0.26 | 7.3 | | | | | | | | |
| SVOC | (TIC) 4,4-BIS(TETRAHYDROTHIOPYRAN) | 1 | 747 | 0.21 | 0.21 | | | | | | | | |
| SVOC | (TIC) 4,4-DIALLYL-CYCLOHEXANONE | 1 | 747 | 2.2 | 2.2 | | | | | | | | |
| SVOC | (TIC) 4,4-DINITRODIPHENYLSULPHIDE | 1 | 747 | 0.2 | 0.2 | | | | | | | | |
| SVOC | (TIC) 4,7-METHANOINDENE, 1,2,3,5,6,7,8,8-OCTAC | 1 | 747 | 0.23 | 0.23 | | | | | | | | |
| SVOC | (TIC) 403 ALDOL CONDENSATE | 1 | 747 | 0.2 | 0.2 | | | | | | | | |
| SVOC | (TIC) 404 ALDOL CONDENSATE | 1 | 747 | 0.2 | 0.2 | | | | | | | | |
| SVOC | (TIC) 405 ALDOL CONDENSATE | 1 | 747 | 0.7 | 0.7 | | | | | | | | |
| SVOC | (TIC) 406 C3, ALKYLBENZENE | 1 | 747 | 0.1 | 0.1 | | | | | | | | |
| SVOC | (TIC) 407 ORGANIC ACID | 1 | 747 | 0.2 | 0.2 | | | | | | | | |
| SVOC | (TIC) 4-AMINO-2,6-DIMETHYL-3-PYRIDYL 1-ADAMANT | 1 | 747 | 4.2 | 4.2 | | | | | | | | |
| SVOC | (TIC) 4B,8-DIMETHYL-2-ISOPROPYLPHENANTHRENE | 36 | 747 | 0.074 | 5 | | | | | | | | |
| SVOC | (TIC) 4-CHLORO-2-BUTANONE | 5 | 747 | 0.09 | 0.15 | | | | | | | | |
| SVOC | (TIC) 4-FORMYLFLUORENONE | 1 | 747 | 1.5 | 1.5 | | | | | | | | |
| SVOC | (TIC) 4H-1-BENZOPYRAN-4-ONE, 2,3-DIHYDRO-5,7-D | 1 | 747 | 2.6 | 2.6 | | | | | | | | |
| SVOC | (TIC) 4H-CYCLOPENTA[DEF]PHENANT | | | | | 3 | 17 | 0.5 | 1.4 | | | | |
| SVOC | (TIC) 4H-CYCLOPENTA[DEF]PHENANTHRENE | 54 | 747 | 0.079 | 29 | 4 | 17 | 0.47 | 2.2 | | | | |
| SVOC | (TIC) 4-METHYL-2-HEXENE,C&T | 1 | 747 | 1.6 | 1.6 | | | | | | | | |
| SVOC | (TIC) 4-NONENE, 3-METHYL-, (Z)- | 1 | 747 | 0.14 | 0.14 | | | | | | | | |
| SVOC | (TIC) 4-OCTEN-3-ONE | 1 | 747 | 2.8 | 2.8 | | | | | | | | |
| SVOC | (TIC) 4-OCTENE, 2,3,6-TRIMETHYL- | 1 | 747 | 9.2 | 9.2 | | | | | | | | |
| SVOC | (TIC) 4-OCTENE, 2,3,7-TRIMETHYL-, [S-(E)]- | 1 | 747 | 0.094 | 0.094 | 1 | 17 | 1.3 | 1.3 | | | | |
| SVOC | (TIC) 4-TERT-BUTYLTOLUENE | 1 | 747 | 16 | 16 | | | | | | | | |
| SVOC | (TIC) 4UNKNOWN 4H-CYCLOPENTA[DEF]PHENANTHRENE | 1 | 747 | 0.64 | 0.64 | | | | | | | | |
| SVOC | (TIC) 5-(1-ISOPROPENYL-4,5-DIMETHYLBICYCLO[4.3 | 1 | 747 | 0.13 | 0.13 | | | | | | | | |
| SVOC | (TIC) 5,12-NAPHTHACENEDIONE | 16 | 747 | 0.094 | 9.4 | 3 | 17 | 0.93 | 1.3 | | | | |
| SVOC | (TIC) 5,16[1,2]:8,13[1,2]-DIBENZENODIBEN | 1 | 747 | 5.2 | 5.2 | | | | | | | | |
| SVOC | (TIC) 5,9-DODECADIEN-2-ONE, 6,10-DIMETHYL-, (E | 1 | 747 | 0.07 | 0.07 | | | | | | | | |
| SVOC | (TIC) 5.ALPHA.,14.BETA.-ANDROSTANE, 16.ALPHA., | 1 | 747 | 0.59 | 0.59 | | | | | | | | |
| SVOC | (TIC) 5.ALPHA.-PREGNANE-12,20-DIONE | 1 | 747 | 0.083 | 0.083 | | | | | | | | |
| SVOC | (TIC) 5A,8B,9A,14B,17A,20R-CHOLESTANE | 1 | 747 | 0.3 | 0.3 | | | | | | | | |
| SVOC | (TIC) 5-BROMO-4-OXO-4,5,6,7-TETRAH | 1 | 747 | 2.4 | 2.4 | | | | | | | | |
| SVOC | (TIC) 5-BROMO-4-OXO-4,5,6,7-TETRAHYDROBENZOFUR | 1 | 747 | 0.27 | 0.27 | | | | | | | | |
| SVOC | (TIC) 5-CHOLESTENE-3-OL, 24-METHYL- | 8 | 747 | 0.24 | 0.69 | | | | | | | | |
| SVOC | (TIC) 5-EICOSENE, (E)- | 1 | 747 | 0.12 | 0.12 | | | | | | | | |
| SVOC | (TIC) 5-ETHYLDECANE | 6 | 747 | 0.19 | 33 | | | | | | | | |
| SVOC | (TIC) 5-HEXEN-2-ONE, 5-METHYL- | 1 | 747 | 0.099 | 0.099 | | | | | | | | |
| SVOC | (TIC) 5H-INDENO[1,2-B]PYRIDINE | 1 | 747 | 0.14 | 0.14 | | | | | | | | |
| SVOC | (TIC) 5H-PYRROLO(3,2-D)PYRIMIDINE-2,4-DIAMINE | 1 | 747 | 0.15 | 0.15 | | | | | | | | |
| SVOC | (TIC) 5-ISOPROPENYL-2-METHYLCYCLOPENT-1-ENECAR | 1 | 747 | 0.084 | 0.084 | | | | | | | | |
| SVOC | (TIC) 5-METHYL-(E)-2-HEPTEN-4-ONE | 1 | 747 | 0.93 | 0.93 | | | | | | | | |
| SVOC | (TIC) 5UNKNOWN 4H-CYCLOPENTA[DEF]PHENANTHRENE | 1 | 747 | 16 | 16 | | | | | | | | |
| SVOC | (TIC) 6,10,14-HEXADECATRIEN-1-OL, 3,7,11,15-TE | 1 | 747 | 1.5 | 1.5 | | | | | | | | |
| SVOC | (TIC) 6,6-BIAZULENE, | 1 | 747 | 1.8 | 1.8 | | | | | | | | |
| SVOC | (TIC) 6,6-DIPHENYLFULVENE | 1 | 747 | 0.44 | 0.44 | | | | | | | | |
| SVOC | (TIC) 6-AMINO-2,4-DIMETHYL-5-METHOXYQUINOLINE | 1 | 747 | 0.13 | 0.13 | | | | | | | | |
| SVOC | (TIC) 6-BUTYL-1,4-CYCLOHEPTADIENE | 1 | 747 | 0.12 | 0.12 | | | | | | | | |
| SVOC | (TIC) 6-ISOPROPENYL-4,8A-DIMETHYL-1,2,3,5,6,7, | 1 | 747 | 0.24 | 0.24 | | | | | | | | |
| SVOC | (TIC) 6-ISOPROPENYL-4,8A-DIMETHYL-4A,5,6,7,8,8 | 2 | 747 | 0.082 | 2.4 | | | | | | | | |
| SVOC | (TIC) 6-ISOPROPYLQUINOLINE | 1 | 747 | 0.17 | 0.17 | | | | | | | | |
| SVOC | (TIC) 6-NONEN-1-OL, (E)- | 1 | 747 | 6.5 | 6.5 | | | | | | | | |
| SVOC | (TIC) 6-OCTADECENOIC ACID, (Z)- | 3 | 747 | 1.5 | 3.1 | | | | | | | | |
| SVOC | (TIC) 6-PHENYLBENZOCYCLOHEPTEN-7-ONE | 1 | 747 | 3.8 | 3.8 | | | | | | | | |
| SVOC | (TIC) 6-TERT-BUTYL-2,4-DIMETHYLPHENOL | 1 | 747 | 0.18 | 0.18 | | | | | | | | |
| SVOC | (TIC) 6UNKNOWN 4H-CYCLOPENTA[DEF]PHENANTHRENE | 1 | 747 | 22 | 22 | | | | | | | | |
| SVOC | (TIC) 7H-BENZ[DE]ANTHRACEN-7-ONE | 22 | 747 | 0.083 | 8.5 | 4 | 17 | 0.88 | 2.7 | | | | |
| SVOC | (TIC) 7H-BENZO[C]CARBAZOLE | | | | | 1 | 17 | 1.1 | 1.1 | | | | |
| SVOC | (TIC) 7H-BENZO[C]FLUORENE | 2 | 747 | 0.21 | 0.36 | | | | | | | | |
| SVOC | (TIC) 7-HEXADECENOIC ACID, METHYL ESTER, (Z)- | 2 | 747 | 0.15 | 0.6 | | | | | | | | |
| SVOC | (TIC) 7-ISOPROPENYL-1,4A-DIMETHYL-4,4A,5,6,7,8 | 1 | 747 | 0.89 | 0.89 | | | | | | | | |
| SVOC | (TIC) 7-OXODEHYDROABIETIC ACID, METHYL ESTER | 1 | 747 | 0.12 | 0.12 | | | | | | | | |
| SVOC | (TIC) 7-PROPYLIDENE-BICYCLO[4.1.0]HEPTANE | 2 | 747 | 0.13 | 0.19 | | | | | | | | |
| SVOC | (TIC) 7UNKNOWN 4H-CYCLOPENTA[DEF]PHENANTHRENE | 1 | 747 | 43 | 43 | | | | | | | | |
| SVOC | (TIC) 8-HEPTADECENE | 1 | 747 | 2.9 | 2.9 | | | | | | | | |
| SVOC | (TIC) 8-ISOPROPYL-1,3-DIMETHYLPHENANTHRENE | 1 | 747 | 0.71 | 0.71 | | | | | | | | |
| SVOC | (TIC) 8-METHYL -9-PROPYL-2H,3H,6H-[1,4]DIOXINO | 1 | 747 | 2.2 | 2.2 | | | | | | | | |
| SVOC | (TIC) 8UNKNOWN 4H-CYCLOPENTA[DEF]PHENANTHRENE | 1 | 747 | 41 | 41 | | | | | | | | |
| SVOC | (TIC) 9(1H)-PHENANTHRENONE, 2,3,4,4A,10,10A-HE | 1 | 747 | 0.29 | 0.29 | | | | | | | | |
| SVOC | (TIC) 9,10,ANTHRACENEDIONE | 15 | 747 | 0.15 | 7.4 | | | | | | | | |
| SVOC | (TIC) 9,10[1,2]-BENZENOANTHRACENE, 9,10-DIHY | 1 | 747 | 0.15 | 0.15 | | | | | | | | |
| SVOC | (TIC) 9,10-ANTHRACENEDIONE | 84 | 747 | 0.074 | 20 | 9 | 17 | 0.38 | 5.5 | | | | |
| SVOC | (TIC) 9,10-ANTHRACENEDIONE, 1,4,5,8-TETRAAMINO | 1 | 747 | 0.096 | 0.096 | | | | | | | | |
| SVOC | (TIC) 9,10-ANTHRECENDIONE | 1 | 747 | 3.6 | 3.6 | | | | | | | | |
| SVOC | (TIC) 9,10-DIMETHYLANTHRACENE | 7 | 747 | 0.095 | 29 | | | | | | | | |
| SVOC | (TIC) 9,12,15-OCTADECATRIENAL | 1 | 747 | 0.91 | 0.91 | | | | | | | | |
| SVOC | (TIC) 9,12,15-OCTADECATRIENOIC ACID, (Z,Z,Z)- | 2 | 747 | 0.17 | 3.3 | | | | | | | | |
| SVOC | (TIC) 9,9-DIMETHYL-9-SILA-9,10-DIHYDROPHENANTH | 1 | 747 | 0.13 | 0.13 | | | | | | | | |
| SVOC | (TIC) 9-ANTHRACENECARBONITRILE | 1 | 747 | 0.16 | 0.16 | | | | | | | | |

**Table 1 FMP TIC Summary**

| Group | Analyte | Soil 0-10 ft | | | | Sediment 0-0.5 ft | | | | Surface Water All Depths | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/L) | Max. (mg/L) |
| SVOC | (TIC) 9HCARBOZO1 | | | | | 1 | 17 | 0.8 | 0.8 | | | | |
| SVOC | (TIC) 9H-CYCLOPENTA[A]PYRENE | 1 | 747 | 0.34 | 0.34 | | | | | | | | |
| SVOC | (TIC) 9-HEXADECENOIC ACID | 1 | 747 | 0.28 | 0.28 | | | | | | | | |
| SVOC | (TIC) 9-HEXADECENOIC ACID, METHYL ESTER | 6 | 747 | 0.11 | 0.36 | | | | | | | | |
| SVOC | (TIC) 9-HEXADECENOIC ACID, METHYL ESTER, (Z)- | 1 | 747 | 0.084 | 0.084 | | | | | | | | |
| SVOC | (TIC) 9H-FLUOREN-9-ONE | 14 | 747 | 0.087 | 0.81 | | | | | | | | |
| SVOC | (TIC) 9H-FLUORENE, 1-METHYL- | 3 | 747 | 1.5 | 15 | | | | | | | | |
| SVOC | (TIC) 9H-FLUORENE, 2,3-DIMETHYL- | 2 | 747 | 3.8 | 10 | | | | | | | | |
| SVOC | (TIC) 9H-FLUORENE, 2-METHYL- | 3 | 747 | 0.14 | 5.9 | | | | | | | | |
| SVOC | (TIC) 9H-FLUORENE, 3-METHYL- | 2 | 747 | 4.2 | 10 | | | | | | | | |
| SVOC | (TIC) 9-METHYLBICYCLO[3.3.1]NONANE | 2 | 747 | 0.69 | 4.4 | | | | | | | | |
| SVOC | (TIC) 9-OCTADECENAMIDE, (Z)- | 108 | 747 | 0.093 | 23 | | | | | | | | |
| SVOC | (TIC) 9-OCTADECENOIC ACID | 1 | 747 | 0.32 | 0.32 | | | | | | | | |
| SVOC | (TIC) 9-OCTADECENOIC ACID (Z)-, 2,3-DIHYDROXYP | 2 | 747 | 0.23 | 0.44 | | | | | | | | |
| SVOC | (TIC) 9-OCTADECENOIC ACID (Z)-, METHYL ESTER | 2 | 747 | 0.24 | 0.39 | | | | | | | | |
| SVOC | (TIC) 9-OCTADECENOIC ACID, (E)- | 5 | 747 | 0.66 | 3.4 | | | | | | | | |
| SVOC | (TIC) 9-TERT-BUTYL-PHENOL | 1 | 747 | 0.44 | 0.44 | | | | | | | | |
| SVOC | (TIC) 9-TRICOSENE, (Z)- | 1 | 747 | 0.44 | 0.44 | | | | | | | | |
| SVOC | (TIC) 9UNKNOWN 4H-CYCLOPENTA[DEF]PHENANTHRENE | 1 | 747 | 0.43 | 0.43 | | | | | | | | |
| SVOC | (TIC) ABIETIC ACID | 1 | 747 | 0.1 | 0.1 | | | | | | | | |
| SVOC | (TIC) ACETAMIDE, N-(2,5-DIMETHYLPHENYL)- | 1 | 747 | 0.097 | 0.097 | | | | | | | | |
| SVOC | (TIC) ACETIC ACID, (2,4-XYLYL)- | 1 | 747 | 0.67 | 0.67 | | | | | | | | |
| SVOC | (TIC) ACETIC ACID, 3-[1,3]DIOXOLAN-2-YLPROPYL | 61 | 747 | 0.074 | 5.8 | | | | | | | | |
| SVOC | (TIC) ACRIDINE | 2 | 747 | 0.21 | 6.9 | | | | | | | | |
| SVOC | (TIC) ADAMANTANE | 1 | 747 | 8.2 | 8.2 | | | | | | | | |
| SVOC | (TIC) ADAMANTANE, 1,3-DIMETHYL- | 17 | 747 | 0.098 | 20 | 2 | 17 | 2.3 | 2.4 | | | | |
| SVOC | (TIC) ADAMANTANE, 1-CHLORO- | 1 | 747 | 38 | 38 | | | | | | | | |
| SVOC | (TIC) ADAMANTANE-1-CARBOHYDRAZIDE, N2-(2-FLUOR | 1 | 747 | 1.5 | 1.5 | | | | | | | | |
| SVOC | (TIC) AH1 | 1 | 747 | 20 | 20 | | | | | | | | |
| SVOC | (TIC) AH2 | 1 | 747 | 20 | 20 | | | | | | | | |
| SVOC | (TIC) AKUAMMILAN-17-OIC ACID, METHYL ESTER | 1 | 747 | 0.13 | 0.13 | | | | | | | | |
| SVOC | (TIC) ALDOL CONDENSATION PRODUCT | 109 | 747 | 1.2 | 150 | | | | | | | | |
| SVOC | (TIC) ALPHA-AMYRIN | 1 | 747 | 0.12 | 0.12 | | | | | | | | |
| SVOC | (TIC) AMYLENE HYDRATE | 2 | 747 | 0.51 | 0.53 | | | | | | | | |
| SVOC | (TIC) ANDROST-4-EN-3-ONE, 17-HYDROXY-, (10.ALP | 2 | 747 | 0.07 | 0.4 | | | | | | | | |
| SVOC | (TIC) ANDROST-4-EN-3-ONE, 17-HYDROXY-, (17.BET | 1 | 747 | 0.11 | 0.11 | | | | | | | | |
| SVOC | (TIC) ANDROSTAN-4-ONE, (5.BETA.)- | 1 | 747 | 1.4 | 1.4 | | | | | | | | |
| SVOC | (TIC) A-NEOGAMMACER-22(29)-ENE | 8 | 747 | 0.22 | 0.93 | | | | | | | | |
| SVOC | (TIC) ANISOLE, 2,3,4,5,6-PENTACHLORO- | 4 | 747 | 0.098 | 0.11 | | | | | | | | |
| SVOC | (TIC) ANTHRA(1,2-B)THIOPHENE | 3 | 747 | 0.16 | 4.4 | | | | | | | | |
| SVOC | (TIC) ANTHRACENE, 1,4-DIMETHYL- | 3 | 747 | 0.16 | 2.4 | | | | | | | | |
| SVOC | (TIC) ANTHRACENE, 1-METHYL- | 15 | 747 | 0.089 | 28 | | | | | | | | |
| SVOC | (TIC) ANTHRACENE, 2-METHYL- | 15 | 747 | 0.14 | 15 | 4 | 17 | 0.19 | 2.6 | | | | |
| SVOC | (TIC) ANTHRACENE, 9-(3-BUTENYL)- | 1 | 747 | 0.088 | 0.088 | | | | | | | | |
| SVOC | (TIC) ANTHRACENE, 9-BUTYL- | 1 | 747 | 0.59 | 0.59 | | | | | | | | |
| SVOC | (TIC) ANTHRACENE, 9-CYCLOHEXYLTETRADECAHYDRO- | 1 | 747 | 0.11 | 0.11 | | | | | | | | |
| SVOC | (TIC) ANTHRACENE, 9-DODECYLTETRADECAHYDRO- | 6 | 747 | 0.12 | 0.48 | | | | | | | | |
| SVOC | (TIC) ANTHRACENE, 9-METHYL- | 3 | 747 | 0.12 | 0.51 | 2 | 17 | 0.41 | 2.6 | | | | |
| SVOC | (TIC) ARHY1 | 1 | 747 | 8 | 8 | | | | | | | | |
| SVOC | (TIC) AROHYDROC1 | | | | | 2 | 17 | 0.3 | 0.9 | | | | |
| SVOC | (TIC) AROMH1 | 1 | 747 | 20 | 20 | | | | | | | | |
| SVOC | (TIC) AROMHYDR1 | 1 | 747 | 0.5 | 0.5 | | | | | | | | |
| SVOC | (TIC) AROMHYDR2 | 1 | 747 | 0.6 | 0.6 | | | | | | | | |
| SVOC | (TIC) AROMHYDR3 | 1 | 747 | 5 | 5 | | | | | | | | |
| SVOC | (TIC) AROMHYDR4 | 1 | 747 | 2 | 2 | | | | | | | | |
| SVOC | (TIC) AROMHYDRO | 1 | 747 | 20 | 20 | | | | | | | | |
| SVOC | (TIC) AROMHYDRO1 | | | | | 1 | 17 | 1 | 1 | | | | |
| SVOC | (TIC) AZULENE, 1,2,3,5,6,7,8,8A-OCTAHYDRO-1,4- | 1 | 747 | 0.25 | 0.25 | | | | | | | | |
| SVOC | (TIC) AZULENE, 4,6,8-TRIMETHYL- | 1 | 747 | 0.97 | 0.97 | | | | | | | | |
| SVOC | (TIC) AZULENE, 7-ETHYL-1,4-DIMETHYL- | 1 | 747 | 1.1 | 1.1 | | | | | | | | |
| SVOC | (TIC) BACCHARANE | 1 | 747 | 0.18 | 0.18 | | | | | | | | |
| SVOC | (TIC) BEHENIC ALCOHOL | 1 | 747 | 0.3 | 0.3 | | | | | | | | |
| SVOC | (TIC) BENZ(A)ANTHRACENE-7,12-DIONE | 6 | 747 | 0.15 | 5.9 | 2 | 17 | 1.2 | 2.1 | | | | |
| SVOC | (TIC) BENZ[A]ANTHRACENE, 12-METHYL- | 1 | 747 | 1.8 | 1.8 | | | | | | | | |
| SVOC | (TIC) BENZ[A]ANTHRACENE, 1-METHYL- | 4 | 747 | 0.084 | 1.4 | | | | | | | | |
| SVOC | (TIC) BENZ[A]ANTHRACENE, 4-METHYL- | 2 | 747 | 2 | 2.8 | | | | | | | | |
| SVOC | (TIC) BENZ[A]ANTHRACENE, 7,12-D | | | | | 1 | 17 | 1 | 1 | | | | |
| SVOC | (TIC) BENZ[A]ANTHRACENE, 7,12-DIMETHYL- | 1 | 747 | 0.11 | 0.11 | | | | | | | | |
| SVOC | (TIC) BENZ[A]ANTHRACENE, 7-METHYL- | 6 | 747 | 0.17 | 2.9 | 1 | 17 | 0.25 | 0.25 | | | | |
| SVOC | (TIC) BENZ[A]ANTHRACENE, 8-METHYL- | 2 | 747 | 0.072 | 0.46 | 1 | 17 | 0.85 | 0.85 | | | | |
| SVOC | (TIC) BENZ[A]ANTHRACENE, 9-METHYL- | 1 | 747 | 2.6 | 2.6 | | | | | | | | |
| SVOC | (TIC) BENZ[A]ANTHRACENE-5,6-DIOL, 5,6-DIHYDRO- | 1 | 747 | 1.8 | 1.8 | | | | | | | | |
| SVOC | (TIC) BENZ[E]ACEPHENANTHRYLENE | 8 | 747 | 0.075 | 0.44 | | | | | | | | |
| SVOC | (TIC) BENZ[J]ACEANTHRYLENE, 3-METHYL- | 3 | 747 | 0.33 | 2 | | | | | | | | |
| SVOC | (TIC) BENZANTHRENE | 1 | 747 | 0.47 | 0.47 | | | | | | | | |
| SVOC | (TIC) BENZENAMINE, 2,5-DICHLORO- | 2 | 747 | 0.079 | 0.12 | | | | | | | | |
| SVOC | (TIC) BENZENAMINE, 2,6-DIMETHYL-N-(4,4-DIMETHY | 1 | 747 | 0.31 | 0.31 | | | | | | | | |
| SVOC | (TIC) BENZENAMINE, 4-[2-(4-NITROPHENYL)ETHENYL | 1 | 747 | 2.7 | 2.7 | | | | | | | | |
| SVOC | (TIC) BENZENAMINE,2-METHOXY-5-NITRO- | 1 | 747 | 1.5 | 1.5 | | | | | | | | |
| SVOC | (TIC) BENZENE, (1,1-DIMETHYLPROPYL)- | 4 | 747 | 0.19 | 8.4 | | | | | | | | |
| SVOC | (TIC) BENZENE, (1,2-DIMETHYLPROPYL)- | 1 | 747 | 56 | 56 | | | | | | | | |
| SVOC | (TIC) BENZENE, (1-METHYL-1-BUTENYL)- | 3 | 747 | 0.57 | 5.2 | | | | | | | | |
| SVOC | (TIC) BENZENE, (1-METHYL-1-PROPENYL)-, (E)- | 3 | 747 | 0.096 | 0.54 | | | | | | | | |
| SVOC | (TIC) BENZENE, (1-METHYLETHYL)- | 6 | 747 | 0.11 | 32 | | | | | | | | |
| SVOC | (TIC) BENZENE, (1-METHYLPROPYL)- | 1 | 747 | 0.33 | 0.33 | | | | | | | | |
| SVOC | (TIC) BENZENE, (2-METHYL-1-BUTENYL)- | 3 | 747 | 0.16 | 12 | | | | | | | | |

**Table 1 FMP TIC Summary**

| Group | Analyte | Soil 0-10 ft | | | | Sediment 0-0.5 ft | | | | Surface Water All Depths | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/L) | Max. (mg/L) |
| SVOC | (TIC) BENZENE, (2-METHYL-1-PROPENYL)- | 1 | 747 | 0.33 | 0.33 | | | | | | | | |
| SVOC | (TIC) BENZENE, (2-METHYL-2-PROPENYL)- | 1 | 747 | 23 | 23 | | | | | | | | |
| SVOC | (TIC) BENZENE, (2-METHYLPROPYL)- | 1 | 747 | 1.5 | 1.5 | | | | | | | | |
| SVOC | (TIC) BENZENE, (3-METHYL-2-BUTENYL)- | 1 | 747 | 0.21 | 0.21 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1-(1,1-DIMETHYLETHYL)-3-METHYL- | 2 | 747 | 0.22 | 35 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1-(1,1-DIMETHYLETHYL)-4-ETHYL- | 1 | 747 | 0.12 | 0.12 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1-(1,1-DIMETHYLETHYL)-4-METHOXY | 1 | 747 | 21 | 21 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1,1-(1,2-CYCLOBUTANEDIYL)BIS-, | 1 | 747 | 0.097 | 0.097 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1,1-(4,4-DIMETHYL-1-BUTENE-1,4 | 1 | 747 | 0.18 | 0.18 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1,2,3,4-TETRAMETHYL- | 15 | 747 | 0.12 | 280 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1,2,3,5-TETRACHLORO- | 1 | 747 | 7.4 | 7.4 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1,2,3,5-TETRAMETHYL- | 9 | 747 | 0.59 | 52 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1,2,3-TRICHLORO- | 1 | 747 | 8.3 | 8.3 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1,2,3-TRIMETHOXY-5-METHYL- | 1 | 747 | 4 | 4 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1,2,3-TRIMETHYL- | 39 | 747 | 0.082 | 290 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1,2,4,5-TETRAMETHYL- | 35 | 747 | 0.079 | 100 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1,2-DIETHYL- | 8 | 747 | 0.18 | 34 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1,3,5-TRICHLORO- | 1 | 747 | 0.29 | 0.29 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1,3,5-TRIETHYL- | 1 | 747 | 1.4 | 1.4 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1,3,5-TRIMETHYL- | 15 | 747 | 0.089 | 35 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1,3,5-TRIMETHYL-2-PROPYL- | 2 | 747 | 0.34 | 0.43 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1,3-DIETHYL- | 44 | 747 | 0.096 | 140 | 1 | 17 | 1.2 | 1.2 | | | | |
| SVOC | (TIC) BENZENE, 1,3-DIETHYL-5-METHYL- | 14 | 747 | 0.098 | 82 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1,3-DIMETHOXY-5-[(1E)-2-PHENYLE | 3 | 747 | 0.84 | 9.3 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1,3-DIMETHYL- | 1 | 747 | 0.17 | 0.17 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1,3-DIMETHYL-5-(1-METHYLETHYL)- | 15 | 747 | 0.12 | 34 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1,4-DIETHYL- | 4 | 747 | 0.61 | 13 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1,4-DIETHYL-2-METHYL- | 11 | 747 | 0.11 | 34 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1,4-DIMETHYL-2-(1-METHYLETHYL)- | 5 | 747 | 0.18 | 10 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1,4-DIMETHYL-2-(2-METHYLPROPYL) | 10 | 747 | 0.1 | 17 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1-ETHENYL-4-ETHYL- | 1 | 747 | 0.4 | 0.4 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1-ETHYL-2,3-DIMETHYL- | 26 | 747 | 0.11 | 120 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1-ETHYL-2,4,5-TRIMETHYL- | 4 | 747 | 0.64 | 140 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1-ETHYL-2,4-DIMETHYL- | 26 | 747 | 0.11 | 70 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1-ETHYL-2-METHYL- | 13 | 747 | 0.12 | 130 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1-ETHYL-3,5-DIMETHYL- | 29 | 747 | 0.095 | 77 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1-ETHYL-3-METHYL- | 6 | 747 | 0.2 | 4.3 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1-ETHYL-4-(1-METHYLETHYL)- | 13 | 747 | 0.1 | 57 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1-ETHYL-4-(2-METHYLPROPYL)- | 5 | 747 | 0.23 | 2.2 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1-ETHYL-4-METHYL- | 1 | 747 | 11 | 11 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1-METHOXY-4-METHYL-2-(1-METHYLE | 1 | 747 | 14 | 14 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1-METHYL-2-(1-METHYLETHYL)- | 33 | 747 | 0.098 | 230 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1-METHYL-2-(2-PROPENYL)- | 1 | 747 | 1.2 | 1.2 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1-METHYL-2-PROPYL- | 2 | 747 | 1.6 | 16 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1-METHYL-3-(1-METHYLETHYL)- | 26 | 747 | 0.092 | 450 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1-METHYL-3-PROPYL- | 9 | 747 | 0.12 | 65 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1-METHYL-4-(1,2,2-TRIMETHYLCYCL | 1 | 747 | 0.8 | 0.8 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1-METHYL-4-(1-METHYL-2-PROPENYL | 1 | 747 | 0.62 | 0.62 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1-METHYL-4-(1-METHYLETHYL)- | 18 | 747 | 0.13 | 170 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1-METHYL-4-(1-METHYLPROPYL)- | 49 | 747 | 0.086 | 37 | | | | | | | | |
| SVOC | (TIC) BENZENE, 1-METHYL-4-PROPYL- | 5 | 747 | 3.5 | 29 | | | | | | | | |
| SVOC | (TIC) BENZENE, 2,4-DIETHYL-1-METHYL- | 9 | 747 | 0.34 | 42 | | | | | | | | |
| SVOC | (TIC) BENZENE, 2,4-DIMETHYL-1-(1-METHYLETHYL)- | 15 | 747 | 0.3 | 70 | | | | | | | | |
| SVOC | (TIC) BENZENE, 2,4-DIMETHYL-1-(1-METHYLPROPYL) | 1 | 747 | 18 | 18 | | | | | | | | |
| SVOC | (TIC) BENZENE, 2-BUTENYL- | 4 | 747 | 0.11 | 0.69 | | | | | | | | |
| SVOC | (TIC) BENZENE, 2-ETHYL-1,3-DIMETHYL- | 9 | 747 | 0.12 | 97 | | | | | | | | |
| SVOC | (TIC) BENZENE, 2-ETHYL-1,4-DIMETHYL- | 16 | 747 | 0.11 | 200 | | | | | | | | |
| SVOC | (TIC) BENZENE, 3-CYCLOHEXEN-1-YL- | 1 | 747 | 0.43 | 0.43 | | | | | | | | |
| SVOC | (TIC) BENZENE, 4-ETHYL-1,2-DIMETHYL- | 26 | 747 | 0.11 | 86 | | | | | | | | |
| SVOC | (TIC) BENZENE, BUTYL- | 2 | 747 | 0.2 | 0.22 | | | | | | | | |
| SVOC | (TIC) BENZENE, ISOCYANATO- | 2 | 747 | 0.38 | 0.45 | | | | | | | | |
| SVOC | (TIC) BENZENE, PENTAMETHYL- | 13 | 747 | 0.11 | 25 | | | | | | | | |
| SVOC | (TIC) BENZENE, PROPYL- | 15 | 747 | 0.083 | 33 | | | | | | | | |
| SVOC | (TIC) BENZENE, TERT-BUTYL- | 1 | 747 | 0.095 | 0.095 | | | | | | | | |
| SVOC | (TIC) BENZENE,1,3-DIETHYL- | 1 | 747 | 33 | 33 | | | | | | | | |
| SVOC | (TIC) BENZENEACETALDEHYDE, .ALPHA.-METHYL- | 2 | 747 | 6.3 | 31 | | | | | | | | |
| SVOC | (TIC) BENZENEACETICACID | 2 | 747 | 0.12 | 1 | | | | | | | | |
| SVOC | (TIC) BENZENECARBOXYLIC ACID | 1 | 747 | 0.18 | 0.18 | | | | | | | | |
| SVOC | (TIC) BENZENEETHANOL, 4-HYDROXY- | 1 | 747 | 0.15 | 0.15 | | | | | | | | |
| SVOC | (TIC) BENZENESULFONAMIDE,N,4-DIMETHYL- | 2 | 747 | 2.1 | 6.4 | | | | | | | | |
| SVOC | (TIC) BENZENESULFONAMIDE,N,4-DIMETHYL-N-NITRO | 1 | 747 | 1.9 | 1.9 | | | | | | | | |
| SVOC | (TIC) BENZIDINE | 1 | 747 | 0.0019 | 0.0019 | | | | | | | | |
| SVOC | (TIC) BENZO(A)ACRIDINE | 1 | 747 | 1 | 1 | | | | | | | | |
| SVOC | (TIC) BENZO(B)CARBAZOLE | 1 | 747 | 10 | 10 | | | | | | | | |
| SVOC | (TIC) BENZO(B)NAPHTHO(1,2-D)FURAN | 1 | 747 | 0.19 | 0.19 | | | | | | | | |
| SVOC | (TIC) BENZO(B)NAPHTHOFURANISOMER | 2 | 747 | 0.56 | 1.4 | | | | | | | | |
| SVOC | (TIC) BENZO(B)NAPHTHOTHIOPHENEISOMER | 13 | 747 | 0.18 | 3.1 | | | | | | | | |
| SVOC | (TIC) BENZO(B)NAPHTHOTHIOPHENEISOMER/UNKNOWN | 1 | 747 | 1.2 | 1.2 | | | | | | | | |
| SVOC | (TIC) BENZO(C)CARBAZOLE | | | | | 1 | 17 | 0.82 | 0.82 | | | | |
| SVOC | (TIC) BENZO(K)FLUORANTHENE | | | | | 1 | 17 | 0.57 | 0.57 | | | | |
| SVOC | (TIC) BENZO[1,2-B:4,3-B]BISBENZOFURAN | 1 | 747 | 2.2 | 2.2 | | | | | | | | |
| SVOC | (TIC) BENZO[1,2-B:4,3-B]DITHIOPHENE, 1-PHENYL | 1 | 747 | 0.079 | 0.079 | | | | | | | | |
| SVOC | (TIC) BENZO[1,2-B:5,4-B]BISBENZOFURAN | 1 | 747 | 0.35 | 0.35 | | | | | | | | |
| SVOC | (TIC) BENZO[B]NAPHTHO[1,2-D]THIOPHENE | 1 | 747 | 0.28 | 0.28 | 2 | 17 | 0.34 | 1.1 | | | | |
| SVOC | (TIC) BENZO[B]NAPHTHO[2,1-D]THI | | | | | 2 | 17 | 1.4 | 3 | | | | |
| SVOC | (TIC) BENZO[B]NAPHTHO[2,1-D]THIOPH | 2 | 747 | 0.24 | 0.26 | | | | | | | | |

**Table 1 FMP TIC Summary**

| Group | Analyte | Soil 0-10 ft | | | | Sediment 0-0.5 ft | | | | Surface Water All Depths | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/L) | Max. (mg/L) |
| SVOC | (TIC) BENZO[B]NAPHTHO[2,1-D]THIOPHENE | 45 | 747 | 0.073 | 12 | 4 | 17 | 0.45 | 3.6 | | | | |
| SVOC | (TIC) BENZO[B]NAPHTHO[2,3-D]FURAN | 19 | 747 | 0.083 | 5.6 | 1 | 17 | 0.88 | 0.88 | | | | |
| SVOC | (TIC) BENZO[B]NAPHTHO[2,3-D]THIOPHENE | 13 | 747 | 0.084 | 5.7 | 1 | 17 | 1.5 | 1.5 | | | | |
| SVOC | (TIC) BENZO[B]NAPHTHO[2,3-D]THIOPHENE, 6-METHY | 2 | 747 | 0.43 | 0.51 | | | | | | | | |
| SVOC | (TIC) BENZO[B]TRIPHENYLENE | 11 | 747 | 0.094 | 6.2 | | | | | | | | |
| SVOC | (TIC) BENZO[C]PHENANTHRENE | 14 | 747 | 0.1 | 3 | 2 | 17 | 1 | 2.7 | | | | |
| SVOC | (TIC) BENZO[E]PYRENE | 100 | 747 | 0.084 | 52 | 10 | 17 | 0.86 | 10 | | | | |
| SVOC | (TIC) BENZO[GHI]FLUORANTHENE | 15 | 747 | 0.089 | 10 | 1 | 17 | 2 | 2 | | | | |
| SVOC | (TIC) BENZO[GHI]PERYLENE | | | | | 2 | 17 | 2.4 | 3 | | | | |
| SVOC | (TIC) BENZO[J]FLUORANTHENE | 17 | 747 | 0.071 | 12 | 2 | 17 | 0.45 | 1.1 | | | | |
| SVOC | (TIC) BENZOIC ACID | 5 | 747 | 0.081 | 1.2 | | | | | | | | |
| SVOC | (TIC) BENZOIC ACID, 2,4-DIMETHYL- | 1 | 747 | 0.14 | 0.14 | | | | | | | | |
| SVOC | (TIC) BENZOIC ACID, 2,5-DIMETHYL- | 2 | 747 | 0.29 | 0.33 | | | | | | | | |
| SVOC | (TIC) BENZOIC ACID, 2,6-DIMETHYL- | 1 | 747 | 0.11 | 0.11 | | | | | | | | |
| SVOC | (TIC) BENZOIC ACID, 4-[(TRIMETHYLSILYL)OXY]-, | 1 | 747 | 0.39 | 0.39 | | | | | | | | |
| SVOC | (TIC) BENZOIC ACID, 4-FORMYL-, 4-NITROPHENYL(E | 1 | 747 | 0.2 | 0.2 | | | | | | | | |
| SVOC | (TIC) BENZOIC ACID, 4-NITROSO-, ETHYL ESTER | 1 | 747 | 0.82 | 0.82 | | | | | | | | |
| SVOC | (TIC) BENZONITRILE, 4-ISOTHIOCYANATO- | 1 | 747 | 1.4 | 1.4 | | | | | | | | |
| SVOC | (TIC) BENZYL .BETA.-D-GLUCOSIDE | 1 | 747 | 0.087 | 0.087 | | | | | | | | |
| SVOC | (TIC) BICYCLO[2.2.1]HEPTAN-2-OL, 1,3,3-TRIMETH | 1 | 747 | 0.71 | 0.71 | | | | | | | | |
| SVOC | (TIC) BICYCLO[2.2.1]HEPTAN-2-OL, 1,7,7-TRIMETH | 1 | 747 | 1.4 | 1.4 | | | | | | | | |
| SVOC | (TIC) BICYCLO[2.2.1]HEPTAN-2-ONE, 1,7,7-TRIMET | 2 | 747 | 0.72 | 1.1 | | | | | | | | |
| SVOC | (TIC) BICYCLO[2.2.1]HEPTANE, 2,2,3-TRIMETHYL-, | 2 | 747 | 0.35 | 0.6 | | | | | | | | |
| SVOC | (TIC) BICYCLO[2.2.1]HEPTANE, 7,7-DIMETHYL-2-ME | 1 | 747 | 2.6 | 2.6 | | | | | | | | |
| SVOC | (TIC) BICYCLO[2.2.2]OCT-5-EN-2-ONE | 1 | 747 | 1.7 | 1.7 | | | | | | | | |
| SVOC | (TIC) BICYCLO[3.1.1]HEPT-2-ENE-2-CARBOXALDEHYD | 1 | 747 | 0.58 | 0.58 | | | | | | | | |
| SVOC | (TIC) BICYCLO[3.1.1]HEPTANE, 2,6,6-TRIMETHYL- | 1 | 747 | 8.7 | 8.7 | | | | | | | | |
| SVOC | (TIC) BICYCLO[3.1.1]HEPTANE, 6,6-DIMETHYL-2-ME | 1 | 747 | 9.5 | 9.5 | | | | | | | | |
| SVOC | (TIC) BICYCLO[7.2.0]UNDEC-4-ENE, 4,11,11-TRIME | 2 | 747 | 0.26 | 0.34 | | | | | | | | |
| SVOC | (TIC) BINAPHTHYL SULFONE | 5 | 747 | 0.12 | 0.97 | | | | | | | | |
| SVOC | (TIC) BIPHENYL | 1 | 747 | 0.23 | 0.23 | | | | | | | | |
| SVOC | (TIC) BIS(2-ETHYLHEXYL) PHTHALATE | 6 | 747 | 0.1 | 2.3 | | | | | | | | |
| SVOC | (TIC) BORNYL CINNAMATE 2 | 3 | 747 | 0.22 | 0.39 | | | | | | | | |
| SVOC | (TIC) BUTANE, 2-METHOXY-2-METHYL- | 37 | 747 | 0.087 | 32 | 1 | 17 | 1.4 | 1.4 | | | | |
| SVOC | (TIC) BUTANOIC ACID, 3,3-DIMETHYL- | 2 | 747 | 0.1 | 0.14 | | | | | | | | |
| SVOC | (TIC) BUTANOIC ACID, BUTYL ESTER | 2 | 747 | 0.12 | 0.15 | | | | | | | | |
| SVOC | (TIC) BUTYL ESTER OCTADECANOIC ACI | 3 | 747 | 0.21 | 1 | | | | | | | | |
| SVOC | (TIC) BUTYROLACTONE | 1 | 747 | 0.095 | 0.095 | | | | | | | | |
| SVOC | (TIC) C10H14AROMATIC | 2 | 747 | 0.67 | 7.4 | | | | | 1 | 8 | 0.0029 | 0.0029 |
| SVOC | (TIC) C10H20CYCLOALKANE | 7 | 747 | 0.44 | 69 | | | | | | | | |
| SVOC | (TIC) C10H22-1 | 1 | 747 | 0.08 | 0.08 | | | | | | | | |
| SVOC | (TIC) C10H22ALKANE | 5 | 747 | 0.56 | 44 | | | | | | | | |
| SVOC | (TIC) C11H16AROMATIC | 1 | 747 | 4.2 | 4.2 | | | | | | | | |
| SVOC | (TIC) C11H24-1 | 1 | 747 | 0.06 | 0.06 | | | | | | | | |
| SVOC | (TIC) C11H24ALKANE | 1 | 747 | 1.3 | 1.3 | | | | | | | | |
| SVOC | (TIC) C12H24CYCLOALKANE | 3 | 747 | 0.25 | 12 | | | | | | | | |
| SVOC | (TIC) C13H28-1 | 1 | 747 | 0.05 | 0.05 | | | | | | | | |
| SVOC | (TIC) C14H30-1 | 1 | 747 | 0.05 | 0.05 | | | | | | | | |
| SVOC | (TIC) C15H10/C15H12PAHS | 2 | 747 | 0.61 | 1.8 | | | | | | | | |
| SVOC | (TIC) C15H10/C15H12PAHS/UNKNOWN | 1 | 747 | 0.35 | 0.35 | | | | | | | | |
| SVOC | (TIC) C15H10PAH | 12 | 747 | 0.11 | 4.7 | | | | | | | | |
| SVOC | (TIC) C15H12PAH | 5 | 747 | 0.16 | 2.2 | | | | | | | | |
| SVOC | (TIC) C15H12PAH/UNKNOWN | 1 | 747 | 0.82 | 0.82 | | | | | | | | |
| SVOC | (TIC) C16H10PAH | 1 | 747 | 1.4 | 1.4 | | | | | | | | |
| SVOC | (TIC) C16H14PAH | 3 | 747 | 0.12 | 0.38 | | | | | | | | |
| SVOC | (TIC) C17H10OKETONE | 10 | 747 | 0.1 | 2.1 | | | | | | | | |
| SVOC | (TIC) C17H10OKETONE/UNKNOWN | 2 | 747 | 1.1 | 2.1 | | | | | | | | |
| SVOC | (TIC) C17H12PAH | 18 | 747 | 0.17 | 4.1 | | | | | | | | |
| SVOC | (TIC) C17H12PAH/UNKNOWN | 3 | 747 | 1.1 | 1.8 | | | | | | | | |
| SVOC | (TIC) C17H36ALKANE | 1 | 747 | 1 | 1 | | | | | | | | |
| SVOC | (TIC) C18H10/C18H12PAHS | 1 | 747 | 2.1 | 2.1 | | | | | | | | |
| SVOC | (TIC) C18H10PAH | 7 | 747 | 0.16 | 2.1 | | | | | | | | |
| SVOC | (TIC) C18H10PAH/UNKNOWN | 3 | 747 | 0.81 | 3 | | | | | | | | |
| SVOC | (TIC) C18H12PAH | 2 | 747 | 0.45 | 3.5 | | | | | | | | |
| SVOC | (TIC) C18H12PAH/UNKNOWN | 2 | 747 | 0.79 | 2 | | | | | | | | |
| SVOC | (TIC) C19H14PAH | 4 | 747 | 0.12 | 2.3 | | | | | | | | |
| SVOC | (TIC) C19H14PAH/UNKNOWN | 4 | 747 | 0.85 | 2 | | | | | | | | |
| SVOC | (TIC) C19H40ALKANE | 1 | 747 | 0.41 | 0.41 | | | | | | | | |
| SVOC | (TIC) C20H12PAH | 31 | 747 | 0.14 | 14 | | | | | | | | |
| SVOC | (TIC) C20H12PAH/UNKNOWN | 6 | 747 | 0.088 | 9.6 | | | | | | | | |
| SVOC | (TIC) C20H42ALKANE | 5 | 747 | 0.15 | 4.4 | | | | | | | | |
| SVOC | (TIC) C22H12PAH | 1 | 747 | 0.22 | 0.22 | | | | | | | | |
| SVOC | (TIC) C2BENZ1 | 2 | 747 | 0.4 | 2 | | | | | | | | |
| SVOC | (TIC) C2BENZ2 | 2 | 747 | 2 | 3 | | | | | | | | |
| SVOC | (TIC) C2BENZ3 | 1 | 747 | 2 | 2 | | | | | | | | |
| SVOC | (TIC) C2BENZENE1 | | | | | 1 | 17 | 0.2 | 0.2 | | | | |
| SVOC | (TIC) C3BENZ1 | 1 | 747 | 0.05 | 0.05 | | | | | | | | |
| SVOC | (TIC) C3BENZ2 | 3 | 747 | 0.4 | 0.9 | | | | | | | | |
| SVOC | (TIC) C3BENZ3 | 3 | 747 | 0.4 | 0.7 | | | | | | | | |
| SVOC | (TIC) C3BENZ4 | 3 | 747 | 0.2 | 1 | | | | | | | | |
| SVOC | (TIC) C3BENZE1 | 3 | 747 | 0.4 | 0.6 | | | | | | | | |
| SVOC | (TIC) C4BENZ1 | 2 | 747 | 0.2 | 0.6 | | | | | | | | |
| SVOC | (TIC) C4BENZ2 | 1 | 747 | 0.2 | 0.2 | | | | | | | | |
| SVOC | (TIC) C4BENZ3 | 1 | 747 | 0.1 | 0.1 | | | | | | | | |
| SVOC | (TIC) C9H18CYCLOALKANE | 3 | 747 | 1.6 | 47 | | | | | | | | |
| SVOC | (TIC) CAMPESTEROL | 15 | 747 | 0.1 | 1.1 | | | | | | | | |

**Table 1 FMP TIC Summary**

| Group | Analyte | Soil 0-10 ft | | | | Sediment 0-0.5 ft | | | | Surface Water All Depths | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/L) | Max. (mg/L) |
| SVOC | (TIC) CAMPHENE | 4 | 747 | 0.13 | 11 | | | | | | | | |
| SVOC | (TIC) CAMPHOR | 1 | 747 | 0.46 | 0.46 | | | | | | | | |
| SVOC | (TIC) CARBAMIC ACID, N-[1,1-BIS(TRIFLUOROMETHY | 2 | 747 | 0.15 | 0.53 | | | | | | | | |
| SVOC | (TIC) CARBAZOLE | 5 | 747 | 0.31 | 2.5 | 2 | 17 | 2.1 | 3 | | | | |
| SVOC | (TIC) CARBONIC ACID, EICOSYL VINYL ESTER | 4 | 747 | 0.13 | 0.74 | | | | | | | | |
| SVOC | (TIC) CARBONIC ACID, HEXYL ISOBUTYL ESTER | 2 | 747 | 0.18 | 3.1 | | | | | | | | |
| SVOC | (TIC) CARBONIC ACID, ISOBUTYL ISOHEXYL ESTER | 1 | 747 | 0.94 | 0.94 | | | | | | | | |
| SVOC | (TIC) CARBONIC ACID, ISOBUTYL NONYL ESTER | 1 | 747 | 4 | 4 | | | | | | | | |
| SVOC | (TIC) CARBONIC ACID, ISOBUTYL TETRADECYL ESTER | 1 | 747 | 9.9 | 9.9 | | | | | | | | |
| SVOC | (TIC) CARBONIC ACID, ISOBUTYL TRIDECYL ESTER | 1 | 747 | 0.42 | 0.42 | | | | | | | | |
| SVOC | (TIC) CARBONIC ACID, OCTADECYL PROP-1-EN-2-YL | 1 | 747 | 0.21 | 0.21 | | | | | | | | |
| SVOC | (TIC) CARYOPHYLLENE | 12 | 747 | 0.18 | 13 | | | | | | | | |
| SVOC | (TIC) CEDROL | 2 | 747 | 0.15 | 0.49 | | | | | | | | |
| SVOC | (TIC) CHLORDANE | 1 | 747 | 0.31 | 0.31 | | | | | | | | |
| SVOC | (TIC) CHLOROACETIC ACID, 2-ETHYLHEXYL ESTER | 1 | 747 | 0.6 | 0.6 | | | | | | | | |
| SVOC | (TIC) CHOLEST-5-EN-3-OL (3.BETA.)- | 5 | 747 | 0.16 | 1.3 | | | | | | | | |
| SVOC | (TIC) CHOLEST-5-ENE, 3-ETHOXY-, (3.BETA.)- | 2 | 747 | 0.55 | 3.7 | | | | | | | | |
| SVOC | (TIC) CHOLEST-8(14)-EN-3-OL, 4-METHYL-, (3.BET | 1 | 747 | 0.12 | 0.12 | | | | | | | | |
| SVOC | (TIC) CHOLESTA-22,24-DIEN-5-OL, 4,4-DIMETHYL- | 2 | 747 | 0.23 | 0.55 | | | | | | | | |
| SVOC | (TIC) CHOLESTAN-3-OL | 2 | 747 | 0.17 | 0.4 | | | | | | | | |
| SVOC | (TIC) CHOLESTAN-3-OL, (3.BETA.,5.BETA.)- | 1 | 747 | 0.43 | 0.43 | | | | | | | | |
| SVOC | (TIC) CHOLESTAN-3-ONE | 2 | 747 | 0.16 | 0.46 | | | | | | | | |
| SVOC | (TIC) CHOLESTAN-3-ONE, (5.BETA.)- | 4 | 747 | 0.22 | 0.92 | | | | | | | | |
| SVOC | (TIC) CHOLESTAN-3-ONE, 4,4-DIMETHYL-, (5.ALPHA | 3 | 747 | 0.21 | 0.68 | | | | | | | | |
| SVOC | (TIC) CHOLESTANE | 2 | 747 | 0.56 | 1.1 | | | | | | | | |
| SVOC | (TIC) CHOLESTANOL | 4 | 747 | 0.22 | 4.2 | | | | | | | | |
| SVOC | (TIC) CHOLESTEROL | 1 | 747 | 0.8 | 0.8 | 1 | 17 | 0.51 | 0.51 | | | | |
| SVOC | (TIC) CHONDRILLASTEROL | 1 | 747 | 0.38 | 0.38 | | | | | | | | |
| SVOC | (TIC) CHRYSENE, 1-METHYL- | 3 | 747 | 0.38 | 1.5 | | | | | | | | |
| SVOC | (TIC) CHRYSENE, 3-METHYL- | 3 | 747 | 0.23 | 2.3 | | | | | | | | |
| SVOC | (TIC) CHRYSENE, 6-METHYL- | 3 | 747 | 1.1 | 7 | | | | | | | | |
| SVOC | (TIC) CHRYSENE-D12 | | | | | 1 | 17 | 4.4 | 4.4 | | | | |
| SVOC | (TIC) CINNAMYL CINNAMATE | 22 | 747 | 0.1 | 34 | | | | | | | | |
| SVOC | (TIC) CIS-(-)-2,4A,5,6,9A-HEXAHYDRO-3,5,5,9-TE | 1 | 747 | 0.29 | 0.29 | | | | | | | | |
| SVOC | (TIC) CIS, CIS-3-ETHYLBICYCLO[4.4.0]DECANE | 1 | 747 | 0.72 | 0.72 | | | | | | | | |
| SVOC | (TIC) CIS-1,4-DIMETHYL-2-METHYLENECYCLOHEXANE | 1 | 747 | 1.6 | 1.6 | | | | | | | | |
| SVOC | (TIC) CIS-1-CHLORO-9-OCTADECENE | 1 | 747 | 0.2 | 0.2 | | | | | | | | |
| SVOC | (TIC) CIS-2-METHYL-2-BUTENEDIOIC ACID, DIMETHY | 1 | 747 | 0.11 | 0.11 | | | | | | | | |
| SVOC | (TIC) CIS-9,10-EPOXYOCTADECANAMIDE | 2 | 747 | 0.092 | 0.17 | | | | | | | | |
| SVOC | (TIC) CIS-9-HEXADECENOIC ACID | 3 | 747 | 0.39 | 0.44 | | | | | | | | |
| SVOC | (TIC) CIS-BICYCLO[3.3.0]OCTANE-3,7-DIONE | 1 | 747 | 0.086 | 0.086 | | | | | | | | |
| SVOC | (TIC) CIS-DECALIN, 2-SYN-METHYL- | 6 | 747 | 2.4 | 82 | | | | | | | | |
| SVOC | (TIC) CIS-STILBENE | 1 | 747 | 0.14 | 0.14 | | | | | | | | |
| SVOC | (TIC) COPAENE | 8 | 747 | 0.24 | 2.3 | | | | | | | | |
| SVOC | (TIC) COPROSTANE | 2 | 747 | 0.26 | 0.79 | | | | | | | | |
| SVOC | (TIC) CORONENE | 3 | 747 | 0.22 | 1.3 | | | | | | | | |
| SVOC | (TIC) CORONENE, 1,2-DIHYDRO- | 1 | 747 | 0.32 | 0.32 | | | | | | | | |
| SVOC | (TIC) CYCLIC OCTAATOMIC SULFUR | 111 | 747 | 0.082 | 41 | | | | | | | | |
| SVOC | (TIC) CYCLODECANE | 2 | 747 | 0.14 | 0.43 | | | | | | | | |
| SVOC | (TIC) CYCLODODECANE | 2 | 747 | 0.08 | 0.14 | | | | | | | | |
| SVOC | (TIC) CYCLOHEXANE, 1,1,2,3-TETRAMETHYL- | 1 | 747 | 2.1 | 2.1 | | | | | | | | |
| SVOC | (TIC) CYCLOHEXANE, 1-METHYL-2-PROPYL- | 1 | 747 | 12 | 12 | | | | | | | | |
| SVOC | (TIC) CYCLOHEXANE, 1-METHYL-3-PROPYL- | 1 | 747 | 6.5 | 6.5 | | | | | | | | |
| SVOC | (TIC) CYCLOHEXANE, 1-PROPENYL- | 1 | 747 | 0.34 | 0.34 | | | | | | | | |
| SVOC | (TIC) CYCLOHEXANE, BUTYL- | 4 | 747 | 0.13 | 11 | | | | | | | | |
| SVOC | (TIC) CYCLOHEXANE, PENTYL- | 1 | 747 | 5.8 | 5.8 | | | | | | | | |
| SVOC | (TIC) CYCLOHEXANE, PROPYL- | 1 | 747 | 5.3 | 5.3 | | | | | | | | |
| SVOC | (TIC) CYCLOHEXANE,PENTYL- | 1 | 747 | 34 | 34 | | | | | | | | |
| SVOC | (TIC) CYCLOHEXANECARBOXYLIC ACID, 4-PROPYL-, 4 | 1 | 747 | 0.16 | 0.16 | | | | | | | | |
| SVOC | (TIC) CYCLOHEXANEMETHANOL, .ALPHA.,.ALPHA.,4-T | 1 | 747 | 0.3 | 0.3 | | | | | | | | |
| SVOC | (TIC) CYCLOHEXANOL, 5-METHYL-2- | | | | | 1 | 17 | 0.88 | 0.88 | | | | |
| SVOC | (TIC) CYCLOHEXANOL, 5-METHYL-2-(1-METHYLETHYL) | 2 | 747 | 1.3 | 18 | | | | | | | | |
| SVOC | (TIC) CYCLOHEXANONE, 2,3-DIMETHYL- | 2 | 747 | 97 | 130 | | | | | | | | |
| SVOC | (TIC) CYCLOHEXANONE, 3,5-DIMETHYL- | 1 | 747 | 0.71 | 0.71 | | | | | | | | |
| SVOC | (TIC) CYCLOHEXANONE, 4-ETHYL-3,4-DIMETHYL- | 1 | 747 | 0.71 | 0.71 | | | | | | | | |
| SVOC | (TIC) CYCLOHEXANONE, 5-METHYL-2 | | | | | 1 | 17 | 6.7 | 6.7 | | | | |
| SVOC | (TIC) CYCLOHEXANONE, 5-METHYL-2-(1-METHYLETHEN | 1 | 747 | 0.17 | 0.17 | | | | | | | | |
| SVOC | (TIC) CYCLOHEXANONE, 5-METHYL-2-(1-METHYLETHYL | 1 | 747 | 0.32 | 0.32 | | | | | | | | |
| SVOC | (TIC) CYCLOHEXENE | 1 | 747 | 10 | 10 | | | | | | | | |
| SVOC | (TIC) CYCLOHEXENE, 1-METHYL-4-(1-METHYLETHENYL | 1 | 747 | 1.7 | 1.7 | | | | | | | | |
| SVOC | (TIC) CYCLOHEXENE, 3-(1-METHYLETHYL)- | 1 | 747 | 0.42 | 0.42 | | | | | | | | |
| SVOC | (TIC) CYCLOOCTANE, 1,2-DIMETHYL- | 2 | 747 | 0.11 | 0.18 | | | | | | | | |
| SVOC | (TIC) CYCLOPENTA(CD)PYRENE, 3,4-DIHYDRO- | 10 | 747 | 0.13 | 8.9 | 1 | 17 | 0.39 | 0.39 | | | | |
| SVOC | (TIC) CYCLOPENTA(DEF)PHANANTHRENON | 1 | 747 | 0.64 | 0.64 | | | | | | | | |
| SVOC | (TIC) CYCLOPENTA(DEF)PHENANTHRENON | 2 | 747 | 0.49 | 0.69 | | | | | | | | |
| SVOC | (TIC) CYCLOPENTA(DEF)PHENANTHRENONE | 16 | 747 | 0.078 | 4 | 1 | 17 | 1.9 | 1.9 | | | | |
| SVOC | (TIC) CYCLOPENTA[CD]PYRENE | 8 | 747 | 0.15 | 10 | 1 | 17 | 1.9 | 1.9 | | | | |
| SVOC | (TIC) CYCLOPENTANE, 1,1,3-TRIMETHYL-3-(2-METHY | 1 | 747 | 0.79 | 0.79 | | | | | | | | |
| SVOC | (TIC) CYCLOPENTANECARBOXYLIC ACID, 1-CYCLOPENT | 1 | 747 | 0.51 | 0.51 | | | | | | | | |
| SVOC | (TIC) CYCLOPENTANECARBOXYLIC ACID, HEXADECYL E | 1 | 747 | 0.41 | 0.41 | | | | | | | | |
| SVOC | (TIC) CYCLOPENTANECARBOXYLIC ACID, PENTADECYL | 1 | 747 | 0.2 | 0.2 | | | | | | | | |
| SVOC | (TIC) CYCLOPENTANONE, 2-METHYL- | | | | | 2 | 17 | 0.82 | 1.1 | | | | |
| SVOC | (TIC) CYCLOPENTASILOXANE, DECAMETHYL- | 18 | 747 | 0.074 | 0.16 | | | | | | | | |
| SVOC | (TIC) CYCLOPROPANE, 1,1,2-TRIMETHYL-3-(2-METHY | 1 | 747 | 0.55 | 0.55 | | | | | | | | |
| SVOC | (TIC) CYCLOTETRACOSANE | 3 | 747 | 0.15 | 1.5 | | | | | | | | |
| SVOC | (TIC) D:A-FRIEDOOLEAN-6-ENE | 8 | 747 | 0.28 | 1.4 | | | | | | | | |

**Table 1 FMP TIC Summary**

| Group | Analyte | Soil 0-10 ft | | | | Sediment 0-0.5 ft | | | | Surface Water All Depths | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/L) | Max. (mg/L) |
| SVOC | (TIC) D:A-FRIEDOOLEANAN-3-OL, (3.ALPHA.)- | 6 | 747 | 0.43 | 3.5 | | | | | | | | |
| SVOC | (TIC) D:A-FRIEDOURSAN-3-ONE | 1 | 747 | 0.42 | 0.42 | | | | | | | | |
| SVOC | (TIC) D:C-FRIEDOOLEAN-8-EN-3-ONE | 1 | 747 | 1.5 | 1.5 | | | | | | | | |
| SVOC | (TIC) DECAHYDRO1 | | | | | 1 | 17 | 0.2 | 0.2 | | | | |
| SVOC | (TIC) DECAHYDRO-4,4,8,9,10-PENTAMETHYLNAPHTHAL | 2 | 747 | 0.67 | 0.8 | | | | | | | | |
| SVOC | (TIC) DECAHYDRODIMETHYLNAPHTHALENEISOMER | 2 | 747 | 1.8 | 5.6 | | | | | | | | |
| SVOC | (TIC) DECAHYDROMETHYLNAPHTHALENEISOMER | 24 | 747 | 0.22 | 100 | | | | | | | | |
| SVOC | (TIC) DECAHYDRONAPHTHALENEISOMER | 15 | 747 | 0.3 | 140 | | | | | | | | |
| SVOC | (TIC) DECANAMIDE- | 7 | 747 | 0.11 | 0.45 | | | | | | | | |
| SVOC | (TIC) DECANE | 22 | 747 | 0.12 | 130 | | | | | | | | |
| SVOC | (TIC) DECANE, 1,1-OXYBIS- | 1 | 747 | 3.5 | 3.5 | | | | | | | | |
| SVOC | (TIC) DECANE, 2,2,3-TRIMETHYL- | 2 | 747 | 0.18 | 0.46 | | | | | | | | |
| SVOC | (TIC) DECANE, 2,2,4-TRIMETHYL- | 1 | 747 | 2.4 | 2.4 | | | | | | | | |
| SVOC | (TIC) DECANE, 2,2,5-TRIMETHYL- | 2 | 747 | 0.16 | 0.76 | | | | | | | | |
| SVOC | (TIC) DECANE, 2,2,6-TRIMETHYL- | 1 | 747 | 0.17 | 0.17 | | | | | | | | |
| SVOC | (TIC) DECANE, 2,2,7-TRIMETHYL- | 4 | 747 | 0.27 | 9.4 | | | | | | | | |
| SVOC | (TIC) DECANE, 2,2,8-TRIMETHYL- | 1 | 747 | 82 | 82 | | | | | | | | |
| SVOC | (TIC) DECANE, 2,2,9-TRIMETHYL- | 2 | 747 | 0.46 | 1.6 | | | | | | | | |
| SVOC | (TIC) DECANE, 2,2-DIMETHYL- | 3 | 747 | 0.24 | 77 | | | | | | | | |
| SVOC | (TIC) DECANE, 2,3,4-TRIMETHYL- | 3 | 747 | 0.4 | 6.5 | | | | | | | | |
| SVOC | (TIC) DECANE, 2,3,5-TRIMETHYL- | 2 | 747 | 0.12 | 0.12 | | | | | | | | |
| SVOC | (TIC) DECANE, 2,3,6-TRIMETHYL- | 1 | 747 | 1.3 | 1.3 | | | | | | | | |
| SVOC | (TIC) DECANE, 2,3,7-TRIMETHYL- | 2 | 747 | 0.32 | 2.3 | | | | | | | | |
| SVOC | (TIC) DECANE, 2,3,8-TRIMETHYL- | 6 | 747 | 0.19 | 160 | | | | | | | | |
| SVOC | (TIC) DECANE, 2,4,6-TRIMETHYL- | 1 | 747 | 1 | 1 | | | | | | | | |
| SVOC | (TIC) DECANE, 2,4-DIMETHYL- | 1 | 747 | 0.37 | 0.37 | | | | | | | | |
| SVOC | (TIC) DECANE, 2,5,6-TRIMETHYL- | 12 | 747 | 0.099 | 60 | | | | | | | | |
| SVOC | (TIC) DECANE, 2,5,9-TRIMETHYL- | 2 | 747 | 0.2 | 0.56 | | | | | | | | |
| SVOC | (TIC) DECANE, 2,6,6-TRIMETHYL- | 5 | 747 | 0.15 | 29 | | | | | | | | |
| SVOC | (TIC) DECANE, 2,6,7-TRIMETHYL- | 1 | 747 | 0.34 | 0.34 | | | | | | | | |
| SVOC | (TIC) DECANE, 2,6,8-TRIMETHYL- | 3 | 747 | 1.5 | 56 | | | | | | | | |
| SVOC | (TIC) DECANE, 2,8,8-TRIMETHYL- | 1 | 747 | 0.77 | 0.77 | | | | | | | | |
| SVOC | (TIC) DECANE, 2-METHYL- | 14 | 747 | 0.15 | 92 | | | | | | | | |
| SVOC | (TIC) DECANE, 3,3,4-TRIMETHYL- | 3 | 747 | 0.42 | 0.88 | | | | | | | | |
| SVOC | (TIC) DECANE, 3,3,6-TRIMETHYL- | 3 | 747 | 0.095 | 28 | | | | | | | | |
| SVOC | (TIC) DECANE, 3,3,8-TRIMETHYL- | 1 | 747 | 0.8 | 0.8 | | | | | | | | |
| SVOC | (TIC) DECANE, 3,6-DIMETHYL- | 1 | 747 | 2.5 | 2.5 | | | | | | | | |
| SVOC | (TIC) DECANE, 3,7-DIMETHYL- | 36 | 747 | 0.11 | 52 | | | | | | | | |
| SVOC | (TIC) DECANE, 3,8-DIMETHYL- | 5 | 747 | 0.2 | 16 | | | | | | | | |
| SVOC | (TIC) DECANE, 3-ETHYL-3-METHYL- | 1 | 747 | 0.084 | 0.084 | | | | | | | | |
| SVOC | (TIC) DECANE, 3-METHYL- | 21 | 747 | 0.094 | 86 | | | | | | | | |
| SVOC | (TIC) DECANE, 4-ETHYL- | 8 | 747 | 0.29 | 21 | | | | | | | | |
| SVOC | (TIC) DECANE, 4-METHYL- | 65 | 747 | 0.093 | 170 | | | | | | | | |
| SVOC | (TIC) DECANE, 5-ETHYL-5-METHYL- | 3 | 747 | 0.18 | 25 | | | | | | | | |
| SVOC | (TIC) DECANE, 5-METHYL- | 13 | 747 | 0.12 | 250 | | | | | | | | |
| SVOC | (TIC) DECANE, 5-PROPYL- | 3 | 747 | 0.12 | 6 | | | | | | | | |
| SVOC | (TIC) DEHYDROABIETIC ACID | 2 | 747 | 0.12 | 0.5 | | | | | | | | |
| SVOC | (TIC) D-FRIEDOOLEAN-14-EN-3-ONE | 9 | 747 | 0.086 | 8.4 | | | | | | | | |
| SVOC | (TIC) D-FRIEDOOLEAN-14-ENE, 3-METHOXY-, (3.BET | 7 | 747 | 0.25 | 2.5 | | | | | | | | |
| SVOC | (TIC) D-HOMOANDROSTANE, (5.ALPHA.,13.ALPHA.)- | 3 | 747 | 0.15 | 0.44 | | | | | | | | |
| SVOC | (TIC) DIBENZ(A,E)ACEANTHRYLENE | 3 | 747 | 0.32 | 0.45 | 1 | 17 | 0.42 | 0.42 | | | | |
| SVOC | (TIC) DIBENZO(A,C)FLUOREN-13-ONE | 1 | 747 | 2.1 | 2.1 | | | | | | | | |
| SVOC | (TIC) DIBENZO[B,E][1,4]DIOXIN, OCTACHLORO- | 3 | 747 | 0.38 | 0.88 | | | | | | | | |
| SVOC | (TIC) DIBENZO[DEF,MNO]CHRYSENE | 7 | 747 | 0.29 | 6.9 | 1 | 17 | 0.39 | 0.39 | | | | |
| SVOC | (TIC) DIBENZO[FG,OP]NAPHTHACENE | 2 | 747 | 0.37 | 1.2 | | | | | | | | |
| SVOC | (TIC) DIBENZOFURAN | 1 | 747 | 0.94 | 0.94 | | | | | | | | |
| SVOC | (TIC) DIBENZOFURAN, 4-METHYL- | 5 | 747 | 0.11 | 0.8 | 1 | 17 | 0.17 | 0.17 | | | | |
| SVOC | (TIC) DIBENZOTHIOPHENE | 15 | 747 | 0.086 | 13 | 3 | 17 | 0.2 | 2 | | | | |
| SVOC | (TIC) DIBENZOTHIOPHENE, 3-METHYL- | 2 | 747 | 0.78 | 1.6 | | | | | | | | |
| SVOC | (TIC) DIBENZOTHIOPHENE, 4-METHYL- | 2 | 747 | 0.4 | 2.1 | | | | | | | | |
| SVOC | (TIC) DIBUTYLPHTHALATE | 1 | 747 | 15 | 15 | | | | | | | | |
| SVOC | (TIC) DICHLOROACETIC ACID, 1-CYCLOPENTYLETHYL | 1 | 747 | 0.15 | 0.15 | | | | | | | | |
| SVOC | (TIC) DIELDRIN | 1 | 747 | 0.2 | 0.2 | | | | | | | | |
| SVOC | (TIC) DIETHYLBENZENEISOMER | 2 | 747 | 0.59 | 0.85 | | | | | | | | |
| SVOC | (TIC) DIETHYLTOLUAMIDE | 4 | 747 | 0.56 | 4.1 | | | | | | | | |
| SVOC | (TIC) DIHYDRO-CIS-.ALPHA.-COPAENE-8-OL | 1 | 747 | 0.53 | 0.53 | | | | | | | | |
| SVOC | (TIC) DIISOPROPYLAMINOACETONITRILE | 1 | 747 | 0.58 | 0.58 | | | | | | | | |
| SVOC | (TIC) DIME1 | 1 | 747 | 0.5 | 0.5 | | | | | | | | |
| SVOC | (TIC) DIMETHYLNAPHTHALENEISOMER | 1 | 747 | 0.11 | 0.11 | | | | | | | | |
| SVOC | (TIC) DIMETHYLPROPYLBENZENEISOMER | 1 | 747 | 5.7 | 5.7 | | | | | | | | |
| SVOC | (TIC) DINAPHTHO[1,2-B:1,2-D]FURAN | 7 | 747 | 0.2 | 3.9 | | | | | | | | |
| SVOC | (TIC) DINAPHTHO[2,1-B:1,2-D]FURAN | 3 | 747 | 0.11 | 0.3 | | | | | | | | |
| SVOC | (TIC) DIPHENYL ETHER | 19 | 747 | 0.097 | 79 | | | | | | | | |
| SVOC | (TIC) DIPHENYLFURAZAN N-OXIDE | 1 | 747 | 0.35 | 0.35 | | | | | | | | |
| SVOC | (TIC) DI-P-TOLYLACETYLENE | 7 | 747 | 0.1 | 7.8 | | | | | | | | |
| SVOC | (TIC) D-LIMONENE | 6 | 747 | 0.35 | 27 | | | | | | | | |
| SVOC | (TIC) D-NORANDROSTANE (5.ALPHA.,14.ALPHA.) | 1 | 747 | 0.12 | 0.12 | | | | | | | | |
| SVOC | (TIC) DOCOSANE | 7 | 747 | 0.082 | 0.66 | | | | | | | | |
| SVOC | (TIC) DOCOSANE, 11-BUTYL- | 2 | 747 | 0.47 | 0.69 | | | | | | | | |
| SVOC | (TIC) DOCOSANOIC ACID | 5 | 747 | 0.12 | 0.77 | | | | | | | | |
| SVOC | (TIC) DODECANAMIDE | 10 | 747 | 0.083 | 0.46 | | | | | | | | |
| SVOC | (TIC) DODECANE | 26 | 747 | 0.092 | 70 | | | | | | | | |
| SVOC | (TIC) DODECANE, 2,2,11,11-TETRAMETHYL- | 6 | 747 | 0.075 | 0.74 | | | | | | | | |
| SVOC | (TIC) DODECANE, 2,5-DIMETHYL- | 5 | 747 | 0.11 | 34 | | | | | | | | |
| SVOC | (TIC) DODECANE, 2,6,10-TRIMETHYL- | 24 | 747 | 0.07 | 50 | | | | | | | | |
| SVOC | (TIC) DODECANE, 2,6,11-TRIMETHYL- | 9 | 747 | 0.1 | 29 | | | | | | | | |

**Table 1 FMP TIC Summary**

| Group | Analyte | Soil 0-10 ft | | | | Sediment 0-0.5 ft | | | | Surface Water All Depths | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/L) | Max. (mg/L) |
| SVOC | (TIC) DODECANE, 2,7,10-TRIMETHYL- | 9 | 747 | 0.17 | 50 | | | | | | | | |
| SVOC | (TIC) DODECANE, 2-METHYL- | 4 | 747 | 0.17 | 1.2 | | | | | | | | |
| SVOC | (TIC) DODECANE, 2-METHYL-6-PROPYL- | 1 | 747 | 0.24 | 0.24 | | | | | | | | |
| SVOC | (TIC) DODECANE, 3-METHYL- | 1 | 747 | 3.7 | 3.7 | | | | | | | | |
| SVOC | (TIC) DODECANE, 4,6-DIMETHYL- | 1 | 747 | 2.4 | 2.4 | | | | | | | | |
| SVOC | (TIC) DODECANE, 4-METHYL- | 5 | 747 | 0.096 | 47 | | | | | | | | |
| SVOC | (TIC) DODECANE, 5-METHYL- | 1 | 747 | 14 | 14 | | | | | | | | |
| SVOC | (TIC) DODECANE, 6-METHYL- | 2 | 747 | 3 | 5.7 | | | | | | | | |
| SVOC | (TIC) DODECANOIC ACID | 46 | 747 | 0.08 | 0.53 | | | | | | | | |
| SVOC | (TIC) DODECANOIC ACID, METHYL ESTER | 3 | 747 | 0.089 | 0.21 | | | | | | | | |
| SVOC | (TIC) DODECYL ACRYLATE | 68 | 747 | 0.071 | 1.8 | | | | | | | | |
| SVOC | (TIC) DROMETRIZOLE | 1 | 747 | 0.12 | 0.12 | | | | | | | | |
| SVOC | (TIC) E-15-HEPTADECENAL | 1 | 747 | 1.1 | 1.1 | | | | | | | | |
| SVOC | (TIC) EICOSANE | 29 | 747 | 0.083 | 8.5 | | | | | | | | |
| SVOC | (TIC) EICOSANE, 10-METHYL- | 1 | 747 | 0.74 | 0.74 | | | | | | | | |
| SVOC | (TIC) EICOSANE, 2,6,10,14,18-PENTAMETHYL- | 1 | 747 | 0.29 | 0.29 | | | | | | | | |
| SVOC | (TIC) EICOSANE, 2-CYCLOHEXYL- | 1 | 747 | 0.45 | 0.45 | | | | | | | | |
| SVOC | (TIC) EICOSANE, 7-HEXYL- | 1 | 747 | 0.33 | 0.33 | | | | | | | | |
| SVOC | (TIC) EICOSANE, 9-OCTYL- | 2 | 747 | 0.1 | 0.5 | | | | | | | | |
| SVOC | (TIC) EPICHOLESTANOL | 2 | 747 | 0.26 | 1.2 | | | | | | | | |
| SVOC | (TIC) ERGOST-25-ENE-3,5,6,12-TETROL, (3.BETA., | 1 | 747 | 0.29 | 0.29 | | | | | | | | |
| SVOC | (TIC) ERGOST-25-ENE-3,5,6-TRIOL, (3.BETA.,5.AL | 1 | 747 | 0.2 | 0.2 | | | | | | | | |
| SVOC | (TIC) ERGOST-5-EN-3-OL, (3.BETA.)- | 3 | 747 | 0.22 | 0.84 | | | | | | | | |
| SVOC | (TIC) ERGOST-7-EN-3-OL, (3.BETA.)- | 2 | 747 | 0.19 | 0.52 | | | | | | | | |
| SVOC | (TIC) ERGOSTA-5,22-DIEN-3-OL, (3.BETA.,22E,24S | 4 | 747 | 0.14 | 1.4 | | | | | | | | |
| SVOC | (TIC) ERGOSTA-7,22-DIEN-3-OL, (3.BETA.,22E)- | 1 | 747 | 0.094 | 0.094 | | | | | | | | |
| SVOC | (TIC) ERGOSTANOL | 3 | 747 | 0.58 | 4.6 | | | | | | | | |
| SVOC | (TIC) ERGOSTEROL | 1 | 747 | 0.13 | 0.13 | | | | | | | | |
| SVOC | (TIC) ETHANOL, 2-(2-ETHOXYETHOXY)- | 1 | 747 | 0.11 | 0.11 | | | | | | | | |
| SVOC | (TIC) ETHANOL, 2-(9-OCTADECENYLOXY)-, (Z)- | 1 | 747 | 0.27 | 0.27 | | | | | | | | |
| SVOC | (TIC) ETHANOL, 2-(DODECYLOXY)- | 2 | 747 | 0.12 | 0.54 | | | | | | | | |
| SVOC | (TIC) ETHANOL, 2-(HEXADECYLOXY)- | 1 | 747 | 0.084 | 0.084 | | | | | | | | |
| SVOC | (TIC) ETHANOL, 2-[2-[2-[4-(1,1,3,3-TETRAMETHYL | 4 | 747 | 0.09 | 0.65 | | | | | | | | |
| SVOC | (TIC) ETHANOL, 2-[2-[4-(1,1,3,3-TETRAMETHYLBUT | 4 | 747 | 0.11 | 1.3 | | | | | | | | |
| SVOC | (TIC) ETHANOL, 2-[4-(1,1-DIMETHYLETHYL)PHENOXY | 1 | 747 | 2.7 | 2.7 | | | | | | | | |
| SVOC | (TIC) ETHANOL, 2-BUTOXY- | 1 | 747 | 71 | 71 | | | | | | | | |
| SVOC | (TIC) ETHANOL, 2-METHOXY-, ACETATE | 1 | 747 | 0.14 | 0.14 | | | | | | | | |
| SVOC | (TIC) ETHANONE, 1-(1-METHYLCYCLOHEXYL)- | 2 | 747 | 0.21 | 54 | | | | | | | | |
| SVOC | (TIC) ETHANONE, 1-(2,5-DIMETHYLPHENYL)- | 1 | 747 | 0.1 | 0.1 | | | | | | | | |
| SVOC | (TIC) ETHANONE, 1-(3-ETHYLOXIRANYL)- | 6 | 747 | 0.14 | 0.95 | | | | | | | | |
| SVOC | (TIC) ETHANONE, 1,1-(6-HYDROXY-2,5-BENZOFURAN | 1 | 747 | 0.27 | 0.27 | | | | | | | | |
| SVOC | (TIC) ETHANONE, 1-CYCLOHEXYL- | 1 | 747 | 1.7 | 1.7 | | | | | | | | |
| SVOC | (TIC) ETHANONE, 1-CYCLOPROPYL- | 1 | 747 | 3.4 | 3.4 | | | | | | | | |
| SVOC | (TIC) ETHYLBENZENE | 1 | 747 | 13 | 13 | | | | | | | | |
| SVOC | (TIC) ETHYLDIMETHYLBENZENEISOMER | 6 | 747 | 0.24 | 40 | | | | | 1 | 8 | 0.0021 | 0.0021 |
| SVOC | (TIC) ETHYLDIMETHYLPHENOLISOMER | 3 | 747 | 0.58 | 7.3 | | | | | | | | |
| SVOC | (TIC) FENCHONE | 1 | 747 | 6.4 | 6.4 | | | | | | | | |
| SVOC | (TIC) FLUORANTHENE, 2-METHYL- | 19 | 747 | 0.11 | 10 | | | | | | | | |
| SVOC | (TIC) FRIEDELAN-3-ONE | 44 | 747 | 0.13 | 6.7 | | | | | | | | |
| SVOC | (TIC) FURAN, 2-METHOXY- | 1 | 747 | 0.14 | 0.14 | | | | | | | | |
| SVOC | (TIC) FURAZAN-3-CARBOXAMIDE, 4-AMINO-N-(2-TETR | 1 | 747 | 0.64 | 0.64 | | | | | | | | |
| SVOC | (TIC) GERMACRENE D | 2 | 747 | 0.34 | 5.8 | | | | | | | | |
| SVOC | (TIC) HENEICOSANE | 14 | 747 | 0.098 | 0.69 | | | | | | | | |
| SVOC | (TIC) HENEICOSANE, 11-(1-ETHYLPROPYL)- | 2 | 747 | 0.12 | 0.13 | | | | | | | | |
| SVOC | (TIC) HENTRIACONTANE | 2 | 747 | 0.49 | 1.7 | | | | | | | | |
| SVOC | (TIC) HEPTACOSANE | 21 | 747 | 0.074 | 25 | | | | | | | | |
| SVOC | (TIC) HEPTACOSANE, 1-CHLORO- | 4 | 747 | 0.097 | 1.4 | | | | | | | | |
| SVOC | (TIC) HEPTACOSYL ACETATE | 1 | 747 | 2.3 | 2.3 | | | | | | | | |
| SVOC | (TIC) HEPTADECANE | 35 | 747 | 0.073 | 24 | | | | | | | | |
| SVOC | (TIC) HEPTADECANE, 2,6,10,15-TETRAMETHYL- | 6 | 747 | 0.092 | 170 | | | | | | | | |
| SVOC | (TIC) HEPTADECANE, 2,6-DIMETHYL- | 4 | 747 | 0.079 | 21 | | | | | | | | |
| SVOC | (TIC) HEPTADECANE, 3-METHYL- | 1 | 747 | 0.43 | 0.43 | | | | | | | | |
| SVOC | (TIC) HEPTADECANE, 4-METHYL- | 1 | 747 | 0.88 | 0.88 | | | | | | | | |
| SVOC | (TIC) HEPTADECANE, 8-METHYL- | 2 | 747 | 0.13 | 0.31 | | | | | | | | |
| SVOC | (TIC) HEPTADECYL HEPTAFLUOROBUTYRATE | 2 | 747 | 0.084 | 0.089 | | | | | | | | |
| SVOC | (TIC) HEPTAETHYLENE GLYCOL | 1 | 747 | 0.49 | 0.49 | | | | | | | | |
| SVOC | (TIC) HEPTAFLUOROBUTANOIC ACID, 1-ADAMANTYLMET | 1 | 747 | 45 | 45 | | | | | | | | |
| SVOC | (TIC) HEPTAFLUOROBUTYRIC ACID, HEXADECYL ESTER | 1 | 747 | 0.41 | 0.41 | | | | | | | | |
| SVOC | (TIC) HEPTANE, 2,5-DIMETHYL- | 2 | 747 | 0.075 | 0.09 | | | | | | | | |
| SVOC | (TIC) HEPTANE, 3,5-DIMETHYL- | 2 | 747 | 0.091 | 56 | | | | | | | | |
| SVOC | (TIC) HEXA1 | 2 | 747 | 4 | 20 | | | | | | | | |
| SVOC | (TIC) HEXACOSANE | 2 | 747 | 0.16 | 0.76 | | | | | | | | |
| SVOC | (TIC) HEXAD1 | 4 | 747 | 0.3 | 1 | | | | | | | | |
| SVOC | (TIC) HEXADECA-2,6,10,14-TETRAEN-1-OL, 3,7,11, | 1 | 747 | 0.24 | 0.24 | | | | | | | | |
| SVOC | (TIC) HEXADECANAMIDE | 98 | 747 | 0.1 | 0.57 | | | | | | | | |
| SVOC | (TIC) HEXADECANE | 30 | 747 | 0.077 | 3.3 | | | | | | | | |
| SVOC | (TIC) HEXADECANE, 1-IODO- | 2 | 747 | 0.21 | 0.35 | | | | | | | | |
| SVOC | (TIC) HEXADECANE, 2,6,10,14-TETRAMETHYL- | 7 | 747 | 0.2 | 13 | | | | | | | | |
| SVOC | (TIC) HEXADECANE, 2,6,11,15-TETRAMETHYL- | 3 | 747 | 0.13 | 23 | | | | | | | | |
| SVOC | (TIC) HEXADECANE, 5-BUTYL- | 1 | 747 | 0.44 | 0.44 | | | | | | | | |
| SVOC | (TIC) HEXADECANENITRILE | 1 | 747 | 0.075 | 0.075 | | | | | | | | |
| SVOC | (TIC) HEXADECANOIC ACID | 15 | 747 | 0.09 | 1.9 | | | | | | | | |
| SVOC | (TIC) HEXADECANOIC ACID, 2-(ACETYLOXY)-1-[(ACE | 1 | 747 | 0.089 | 0.089 | | | | | | | | |
| SVOC | (TIC) HEXADECANOIC ACID, 2,3-BIS(ACETYLOXY)PRO | 3 | 747 | 0.083 | 0.16 | | | | | | | | |
| SVOC | (TIC) HEXADECANOIC ACID, METHYL ESTER | 11 | 747 | 0.1 | 0.41 | | | | | | | | |
| SVOC | (TIC) HEXADECENOIC ACID, Z-11- | 9 | 747 | 0.074 | 1.9 | | | | | | | | |

**Table 1 FMP TIC Summary**

| Group | Analyte | Soil 0-10 ft | | | | Sediment 0-0.5 ft | | | | Surface Water All Depths | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/L) | Max. (mg/L) |
| SVOC | (TIC) HEXAMETHYL | | | | | | | | | 1 | 8 | 0.004 | 0.004 |
| SVOC | (TIC) HEXAN1 | 1 | 747 | 5 | 5 | | | | | | | | |
| SVOC | (TIC) HEXANE, 3,3-DIMETHYL- | 1 | 747 | 0.24 | 0.24 | | | | | | | | |
| SVOC | (TIC) HEXANEDIOIC ACID, BIS(2-ETHYLHEXYL) ESTE | 6 | 747 | 0.086 | 0.65 | | | | | | | | |
| SVOC | (TIC) HEXANOIC ACID | 2 | 747 | 0.07 | 0.14 | | | | | | | | |
| SVOC | (TIC) HEXATHIEPANE | 2 | 747 | 0.36 | 0.67 | | | | | | | | |
| SVOC | (TIC) HEXATRIACONTANE | 3 | 747 | 0.093 | 0.39 | | | | | | | | |
| SVOC | (TIC) HEXPHOSPH1 | | | | | | | | | 2 | 8 | 0.005 | 0.009 |
| SVOC | (TIC) HEXYLENE GLYCOL | 84 | 747 | 0.097 | 5.1 | | | | | | | | |
| SVOC | (TIC) HOP-22(29)-EN-3.BETA.-OL | 9 | 747 | 0.17 | 1.3 | | | | | | | | |
| SVOC | (TIC) HYDAROMAT1 | | | | | 1 | 17 | 0.9 | 0.9 | | | | |
| SVOC | (TIC) HYDR1 | 1 | 747 | 10 | 10 | | | | | | | | |
| SVOC | (TIC) HYDR2 | 1 | 747 | 20 | 20 | | | | | | | | |
| SVOC | (TIC) HYDRO2 | 1 | 747 | 20 | 20 | | | | | | | | |
| SVOC | (TIC) HYDROAROM1 | | | | | 1 | 17 | 0.8 | 0.8 | | | | |
| SVOC | (TIC) HYDROC1 | 1 | 747 | 20 | 20 | | | | | | | | |
| SVOC | (TIC) HYDROC10H1 | | | | | 1 | 17 | 0.2 | 0.2 | | | | |
| SVOC | (TIC) HYDROC11H1 | | | | | 1 | 17 | 0.3 | 0.3 | | | | |
| SVOC | (TIC) HYDROCARBO | 1 | 747 | 20 | 20 | | | | | | | | |
| SVOC | (TIC) HYDROQUINONE, TETRACHLORO- | 1 | 747 | 0.47 | 0.47 | | | | | | | | |
| SVOC | (TIC) INDAN, 1-METHYL- | 1 | 747 | 1 | 1 | | | | | | | | |
| SVOC | (TIC) INDANE | 9 | 747 | 0.12 | 4.7 | | | | | | | | |
| SVOC | (TIC) INDENO[1,2,3-CD]FLUORANTHENE | 5 | 747 | 0.095 | 0.45 | 1 | 17 | 0.45 | 0.45 | | | | |
| SVOC | (TIC) INDENO[1,2,3-CD]PYRENE | 2 | 747 | 0.27 | 0.91 | | | | | | | | |
| SVOC | (TIC) INDENO[1,2,3-FG]NAPHTHACENE | 2 | 747 | 0.08 | 2.1 | | | | | | | | |
| SVOC | (TIC) ISOBORNEOL | 2 | 747 | 0.35 | 0.49 | | | | | | | | |
| SVOC | (TIC) ISOCARYOPHYLLENE | 2 | 747 | 0.11 | 0.12 | | | | | | | | |
| SVOC | (TIC) ISOCIL | 1 | 747 | 5.7 | 5.7 | | | | | | | | |
| SVOC | (TIC) JUNENOL | 2 | 747 | 0.17 | 0.2 | | | | | | | | |
| SVOC | (TIC) KETONE, 2,2-DIMETHYLCYCLOHEXYL METHYL | 1 | 747 | 42 | 42 | | | | | | | | |
| SVOC | (TIC) KETONE1 | 4 | 747 | 2 | 10 | | | | | | | | |
| SVOC | (TIC) LENTHIONINE | 1 | 747 | 0.37 | 0.37 | | | | | | | | |
| SVOC | (TIC) LIMONENE | 1 | 747 | 0.21 | 0.21 | | | | | | | | |
| SVOC | (TIC) LINALYL PROPANOATE | 1 | 747 | 0.31 | 0.31 | | | | | | | | |
| SVOC | (TIC) LONGIFOLENALDEHYDE | 1 | 747 | 0.47 | 0.47 | 1 | 17 | 6.9 | 6.9 | | | | |
| SVOC | (TIC) LONGIFOLENE | 1 | 747 | 0.52 | 0.52 | | | | | | | | |
| SVOC | (TIC) LUP-20(29)-EN-3-ONE | 12 | 747 | 0.23 | 1.8 | 1 | 17 | 0.66 | 0.66 | | | | |
| SVOC | (TIC) LUPEOL | 20 | 747 | 0.28 | 5.7 | | | | | | | | |
| SVOC | (TIC) M-(3,4-DICHLOROPHENOXY)BENZALDEHYDE | 1 | 747 | 2.1 | 2.1 | | | | | | | | |
| SVOC | (TIC) MBENZ1 | 1 | 747 | 0.2 | 0.2 | | | | | | | | |
| SVOC | (TIC) MESITYLENE | 3 | 747 | 0.11 | 0.35 | | | | | | | | |
| SVOC | (TIC) METHACRYLAMIDE | 1 | 747 | 0.13 | 0.13 | | | | | | | | |
| SVOC | (TIC) METHOXYACETIC ACID, 2-TETRADECYL ESTER | 1 | 747 | 0.49 | 0.49 | | | | | | | | |
| SVOC | (TIC) METHOXYNITROANILINE | 1 | 747 | 1.6 | 1.6 | | | | | | | | |
| SVOC | (TIC) METHOXYNITROANILINEISOMER | 1 | 747 | 0.99 | 0.99 | | | | | | | | |
| SVOC | (TIC) METHYL 13-METHYLTETRADECANOATE | 1 | 747 | 0.14 | 0.14 | | | | | | | | |
| SVOC | (TIC) METHYL DEHYDROABIETATE | 2 | 747 | 0.19 | 0.54 | | | | | | | | |
| SVOC | (TIC) METHYL STEARATE | 2 | 747 | 0.088 | 0.19 | | | | | | | | |
| SVOC | (TIC) METHYL TETRADECANOATE | 1 | 747 | 0.16 | 0.16 | | | | | | | | |
| SVOC | (TIC) METHYL1 | 2 | 747 | 0.3 | 0.6 | | | | | | | | |
| SVOC | (TIC) METHYLTESTOSTERONE | 1 | 747 | 2.4 | 2.4 | | | | | | | | |
| SVOC | (TIC) M-MENTHANE, (1S,3R)-(+)- | 4 | 747 | 0.15 | 1.7 | | | | | | | | |
| SVOC | (TIC) MYRISTIN, 1,3-DIACETO-2- | 8 | 747 | 0.083 | 0.16 | | | | | | | | |
| SVOC | (TIC) MYRISTIN, 2,3-DIACETO-1- | 3 | 747 | 0.096 | 0.24 | | | | | | | | |
| SVOC | (TIC) N,N-BIS(PENTAMETHYLENE)THIURAMTETRASULF | 1 | 747 | 0.46 | 0.46 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 1-(PHENYLMETHYL)- | 1 | 747 | 0.91 | 0.91 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 1,2,3,4,4A,5,6,8A-OCTAHYDRO | 4 | 747 | 0.1 | 1.7 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 1,2,3,4-TETRACHLORO- | 1 | 747 | 0.43 | 0.43 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 1,2,3,4-TETRAHYDRO-1,1,6-TR | 1 | 747 | 0.19 | 0.19 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 1,2,3,4-TETRAHYDRO-1,1-DIME | 1 | 747 | 9.2 | 9.2 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 1,2,3,4-TETRAHYDRO-1,4-DIME | 1 | 747 | 0.84 | 0.84 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 1,2,3,4-TETRAHYDRO-1,6-DIME | 3 | 747 | 0.13 | 1.3 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 1,2,3,4-TETRAHYDRO-1,8-DIME | 3 | 747 | 1.5 | 6.5 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 1,2,3,4-TETRAHYDRO-1-METHYL | 2 | 747 | 0.54 | 1.1 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 1,2,3,4-TETRAHYDRO-2,7-DIME | 1 | 747 | 0.55 | 0.55 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 1,2,3,4-TETRAHYDRO-6,7-DIME | 1 | 747 | 0.18 | 0.18 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 1,2,3,5,6,7,8,8A-OCTAHYDRO- | 2 | 747 | 0.17 | 0.4 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 1,2,3,5,6,8A-HEXAHYDRO-4,7- | 4 | 747 | 0.21 | 1.1 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 1,2,4A,5,6,8A-HEXAHYDRO-4,7 | 1 | 747 | 0.76 | 0.76 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 1,3-DIMETHYL- | 7 | 747 | 0.28 | 9.9 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 1,4,5-TRIMETHYL- | 2 | 747 | 2.2 | 7 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 1,4,6-TRIMETHYL- | 4 | 747 | 0.39 | 3.4 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 1,4-DIMETHYL- | 1 | 747 | 1.8 | 1.8 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 1,5-DIMETHYL- | 2 | 747 | 1 | 15 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 1,6,7-TRIMETHYL- | 6 | 747 | 0.097 | 9.4 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 1,6-DIMETHYL- | 8 | 747 | 0.098 | 11 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 1,7-DIMETHYL- | 4 | 747 | 0.099 | 7.1 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 1-ETHYL- | 2 | 747 | 4.3 | 13 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 1-METHYL- | 32 | 747 | 0.088 | 27 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 1-METHYL-7-(1-METHYLETHYL)- | 1 | 747 | 0.88 | 0.88 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 1-PHENYL- | 1 | 747 | 0.44 | 0.44 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 2-(1-METHYLETHYL)- | 2 | 747 | 0.17 | 1.5 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 2,3,6-TRIMETHYL- | 5 | 747 | 0.35 | 3.7 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 2,3-DIMETHYL- | 6 | 747 | 0.49 | 23 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 2,6-DIMETHYL | | | | | 1 | 17 | 0.12 | 0.12 | | | | |
| SVOC | (TIC) NAPHTHALENE, 2,6-DIMETHYL- | 1 | 747 | 0.54 | 0.54 | | | | | | | | |

**Table 1 FMP TIC Summary**

| Group | Analyte | Soil 0-10 ft | | | | Sediment 0-0.5 ft | | | | Surface Water All Depths | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/L) | Max. (mg/L) |
| SVOC | (TIC) NAPHTHALENE, 2,7-DIMETHYL- | 5 | 747 | 0.13 | 2.1 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 2-ETHYL- | 1 | 747 | 9.3 | 9.3 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, 2-PHENYL- | 17 | 747 | 0.089 | 14 | 2 | 17 | 0.15 | 0.81 | | | | |
| SVOC | (TIC) NAPHTHALENE, DECAHYDRO- | 14 | 747 | 0.08 | 110 | 3 | 17 | 1.8 | 3.8 | | | | |
| SVOC | (TIC) NAPHTHALENE, DECAHYDRO-, | | | | | 2 | 17 | 3.6 | 8.6 | | | | |
| SVOC | (TIC) NAPHTHALENE, DECAHYDRO-, TRANS- | 73 | 747 | 0.075 | 800 | | | | | | | | |
| SVOC | (TIC) NAPHTHALENE, DECAHYDRO-2- | | | | | 2 | 17 | 2.5 | 3.5 | | | | |
| SVOC | (TIC) NAPHTHALENE, DECAHYDRO-2-METHYL- | 68 | 747 | 0.085 | 160 | 2 | 17 | 2.9 | 6 | | | | |
| SVOC | (TIC) NAPHTHALENE,DECAHYDRO-,TRANS- | 2 | 747 | 1.1 | 71 | | | | | | | | |
| SVOC | (TIC) NAPHTHO[1,2,3,4-DEF]CHRYSENE | 2 | 747 | 0.66 | 1.5 | 1 | 17 | 1.3 | 1.3 | | | | |
| SVOC | (TIC) NAPHTHO[2,1,8,7-KLMN]XANTHENE | 8 | 747 | 0.076 | 4.5 | | | | | | | | |
| SVOC | (TIC) NAPHTHO[2,1-B]THIOPHENE | 3 | 747 | 0.18 | 2.2 | | | | | | | | |
| SVOC | (TIC) NAPHTHO[2,3-B]NORBORNADIENE | 1 | 747 | 4.7 | 4.7 | | | | | | | | |
| SVOC | (TIC) NAPHTHO[2,3-B]THIOPHENE | 2 | 747 | 2.1 | 5.9 | | | | | | | | |
| SVOC | (TIC) N-BUTYL ETHER | 1 | 747 | 0.083 | 0.083 | | | | | | | | |
| SVOC | (TIC) N-HEXADECANOIC ACID | 103 | 747 | 0.076 | 5.3 | | | | | | | | |
| SVOC | (TIC) N-HEXADECANOICACID | 2 | 747 | 0.16 | 27 | | | | | | | | |
| SVOC | (TIC) N-NONADECANOL-1 | 2 | 747 | 0.18 | 0.46 | | | | | | | | |
| SVOC | (TIC) NONACOSANE | 6 | 747 | 0.12 | 5.9 | | | | | | | | |
| SVOC | (TIC) NONADECANE | 23 | 747 | 0.077 | 1.1 | | | | | | | | |
| SVOC | (TIC) NONADECANE, 1-CHLORO- | 1 | 747 | 0.81 | 0.81 | | | | | | | | |
| SVOC | (TIC) NONADECANE, 9-METHYL- | 1 | 747 | 0.087 | 0.087 | | | | | | | | |
| SVOC | (TIC) NONAHEXACONTANOIC ACID | 1 | 747 | 0.096 | 0.096 | | | | | | | | |
| SVOC | (TIC) NONANAL | 2 | 747 | 0.1 | 0.11 | | | | | | | | |
| SVOC | (TIC) NONANE, 2-METHYL-5-PROPYL- | 1 | 747 | 98 | 98 | | | | | | | | |
| SVOC | (TIC) NONANE, 3,7-DIMETHYL- | 2 | 747 | 0.22 | 8.8 | | | | | | | | |
| SVOC | (TIC) NONANOIC ACID | 3 | 747 | 0.088 | 0.14 | | | | | | | | |
| SVOC | (TIC) N-TETRACOSANOL-1 | 2 | 747 | 0.13 | 0.37 | | | | | | | | |
| SVOC | (TIC) OCT-5-EN-2-OL, 8-(1,4,4A,5,6,7,8,8A-OCTA | 1 | 747 | 0.34 | 0.34 | | | | | | | | |
| SVOC | (TIC) OCTACOSANE | 26 | 747 | 0.078 | 4.6 | | | | | | | | |
| SVOC | (TIC) OCTACOSANOL | 4 | 747 | 0.55 | 1.6 | | | | | | | | |
| SVOC | (TIC) OCTACOSYL ACETATE | 1 | 747 | 0.84 | 0.84 | | | | | | | | |
| SVOC | (TIC) OCTACOSYL HEPTAFLUOROBUTYRATE | 1 | 747 | 0.099 | 0.099 | | | | | | | | |
| SVOC | (TIC) OCTACOSYL TRIFLUOROACETATE | 2 | 747 | 0.14 | 0.21 | | | | | | | | |
| SVOC | (TIC) OCTADEC-9-ENOIC ACID | 1 | 747 | 2.5 | 2.5 | | | | | | | | |
| SVOC | (TIC) OCTADECANAL | 6 | 747 | 0.26 | 10 | | | | | | | | |
| SVOC | (TIC) OCTADECANAMIDE | 29 | 747 | 0.084 | 0.22 | | | | | | | | |
| SVOC | (TIC) OCTADECANE | 22 | 747 | 0.081 | 2.4 | | | | | | | | |
| SVOC | (TIC) OCTADECANE, 1-CHLORO- | 1 | 747 | 0.75 | 0.75 | | | | | | | | |
| SVOC | (TIC) OCTADECANE, 1-IODO- | 1 | 747 | 0.52 | 0.52 | | | | | | | | |
| SVOC | (TIC) OCTADECANE, 2,6-DIMETHYL- | 1 | 747 | 1.8 | 1.8 | | | | | | | | |
| SVOC | (TIC) OCTADECANE, 2-METHYL- | 1 | 747 | 0.35 | 0.35 | | | | | | | | |
| SVOC | (TIC) OCTADECANOIC ACID | 23 | 747 | 0.12 | 6.5 | | | | | | | | |
| SVOC | (TIC) OCTADECANOIC ACID, 2-OXO-, METHYL ESTER | 1 | 747 | 0.4 | 0.4 | | | | | | | | |
| SVOC | (TIC) OCTADECANOIC ACID,BUTYL ESTR | 1 | 747 | 0.84 | 0.84 | | | | | | | | |
| SVOC | (TIC) OCTADECANOICACID | 1 | 747 | 1.4 | 1.4 | | | | | | | | |
| SVOC | (TIC) OCTAHYDROMETHYLNAPHTHALENEISOMER | 1 | 747 | 2.2 | 2.2 | | | | | | | | |
| SVOC | (TIC) OCTANE, 1,1-OXYBIS- | 1 | 747 | 0.23 | 0.23 | | | | | | | | |
| SVOC | (TIC) OCTANE, 2,5,6-TRIMETHYL- | 1 | 747 | 1.9 | 1.9 | | | | | | | | |
| SVOC | (TIC) OCTANE, 2,6-DIMETHYL- | 2 | 747 | 0.28 | 0.46 | | | | | | | | |
| SVOC | (TIC) OCTANOIC ACID | 2 | 747 | 0.084 | 0.091 | | | | | | | | |
| SVOC | (TIC) OCTATRIACONTYL PENTAFLUOROPROPIONATE | 4 | 747 | 0.17 | 0.61 | | | | | | | | |
| SVOC | (TIC) OCTICIZER | 1 | 747 | 0.14 | 0.14 | | | | | | | | |
| SVOC | (TIC) OCTYL THIOGLYCOLATE | 1 | 747 | 3.8 | 3.8 | | | | | | | | |
| SVOC | (TIC) OCTYLPHENOLISOMER | 1 | 747 | 0.56 | 0.56 | | | | | | | | |
| SVOC | (TIC) O-CYMENE | 5 | 747 | 0.088 | 4.6 | | | | | | | | |
| SVOC | (TIC) O-HYDROXYBIPHENYL | 12 | 747 | 0.096 | 94 | | | | | | | | |
| SVOC | (TIC) OLEAN-12-ENE | 1 | 747 | 0.95 | 0.95 | | | | | | | | |
| SVOC | (TIC) OLEAN-12-ENE, 3-METHOXY-, (3.BETA.)- | 2 | 747 | 0.7 | 4.6 | | | | | | | | |
| SVOC | (TIC) OLEIC ACID | 11 | 747 | 0.16 | 2.7 | | | | | | | | |
| SVOC | (TIC) O-TERPHENYL | 5 | 747 | 0.56 | 1.7 | 2 | 17 | 1.1 | 2.8 | | | | |
| SVOC | (TIC) O-TOLYLACETIC ACID | 2 | 747 | 0.087 | 110 | | | | | | | | |
| SVOC | (TIC) OXALIC ACID, 2-ETHYLHEXYL PENTYL ESTER | 1 | 747 | 0.83 | 0.83 | | | | | | | | |
| SVOC | (TIC) OXALIC ACID, CYCLOBUTYL HEPTADECYL ESTER | 2 | 747 | 0.08 | 0.098 | | | | | | | | |
| SVOC | (TIC) OXALIC ACID, CYCLOHEXYLMETHYL ETHYL ESTE | 1 | 747 | 1.2 | 1.2 | | | | | | | | |
| SVOC | (TIC) OXALIC ACID, CYCLOHEXYLMETHYL ISOHEXYL E | 2 | 747 | 0.38 | 1.6 | | | | | | | | |
| SVOC | (TIC) OXALIC ACID, CYCLOHEXYLMETHYL NONYL ESTE | 1 | 747 | 0.71 | 0.71 | | | | | | | | |
| SVOC | (TIC) OXALIC ACID, CYCLOHEXYLMETHYL PROPYL EST | 2 | 747 | 0.44 | 61 | | | | | | | | |
| SVOC | (TIC) OXALIC ACID, DI(CYCLOHEXYLMETHYL) ESTER | 1 | 747 | 26 | 26 | | | | | | | | |
| SVOC | (TIC) OXALIC ACID, ISOBUTYL HEXADECYL ESTER | 1 | 747 | 0.12 | 0.12 | | | | | | | | |
| SVOC | (TIC) OXALIC ACID, ISOBUTYL NONYL ESTER | 1 | 747 | 4 | 4 | | | | | | | | |
| SVOC | (TIC) OXALIC ACID, ISOBUTYL PENTADECYL ESTER | 1 | 747 | 0.68 | 0.68 | | | | | | | | |
| SVOC | (TIC) OXETANE, 2,2,4-TRIMETHYL- | 1 | 747 | 0.37 | 0.37 | | | | | | | | |
| SVOC | (TIC) OXIRANE, [(DODECYLOXY)METHYL]- | 1 | 747 | 0.79 | 0.79 | | | | | | | | |
| SVOC | (TIC) OXIRANE, 2,2-DIMETHYL-3-PROPYL- | 3 | 747 | 0.14 | 0.51 | | | | | | | | |
| SVOC | (TIC) OXIRANE, HEPTADECYL- | 1 | 747 | 0.16 | 0.16 | | | | | | | | |
| SVOC | (TIC) OXIRANE, HEXADECYL- | 4 | 747 | 0.21 | 9.5 | | | | | | | | |
| SVOC | (TIC) OXIRANE, TETRAMETHYL- | 1 | 747 | 3.5 | 3.5 | | | | | | | | |
| SVOC | (TIC) OXIRANE, TRIDECYL- | 1 | 747 | 0.074 | 0.074 | | | | | | | | |
| SVOC | (TIC) P,P-DDE | 1 | 747 | 0.094 | 0.094 | | | | | | | | |
| SVOC | (TIC) PARACHLOROPHENOL | 2 | 747 | 0.29 | 1.1 | | | | | | | | |
| SVOC | (TIC) P-BENZOQUINONE, 2-METHYL- | 1 | 747 | 0.54 | 0.54 | | | | | | | | |
| SVOC | (TIC) PENTACENE | 2 | 747 | 0.47 | 0.51 | | | | | | | | |
| SVOC | (TIC) PENTACOSANE, 13-UNDECYL- | 1 | 747 | 0.24 | 0.24 | | | | | | | | |
| SVOC | (TIC) PENTADECAFLUOROOCTANOIC ACID, OCTADECYL | 1 | 747 | 1.5 | 1.5 | | | | | | | | |
| SVOC | (TIC) PENTADECANE | 14 | 747 | 0.096 | 7.4 | | | | | | | | |

**Table 1 FMP TIC Summary**

| Group | Analyte | Soil 0-10 ft | | | | Sediment 0-0.5 ft | | | | Surface Water All Depths | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/L) | Max. (mg/L) |
| SVOC | (TIC) PENTADECANE, 2,6,10,14-TETRAMETHYL- | 20 | 747 | 0.091 | 12 | | | | | | | | |
| SVOC | (TIC) PENTADECANE, 2,6,10-TRIMETHYL- | 6 | 747 | 0.12 | 0.67 | | | | | | | | |
| SVOC | (TIC) PENTADECANE, 7-METHYL- | 3 | 747 | 0.5 | 46 | | | | | | | | |
| SVOC | (TIC) PENTADECANE, 8-HEXYL- | 1 | 747 | 1.9 | 1.9 | | | | | | | | |
| SVOC | (TIC) PENTADECANOIC ACID, 14-METHYL-, METHYL E | 1 | 747 | 0.3 | 0.3 | | | | | | | | |
| SVOC | (TIC) PENTAETHYLENE GLYCOL | 2 | 747 | 0.47 | 1.2 | | | | | | | | |
| SVOC | (TIC) PENTALENE, OCTAHYDRO-1-METHYL- | 2 | 747 | 27 | 67 | | | | | | | | |
| SVOC | (TIC) PENTALENE, OCTAHYDRO-2-METHYL- | 2 | 747 | 0.16 | 2.9 | | | | | | | | |
| SVOC | (TIC) PENTANE, 1,1-OXYBIS- | 1 | 747 | 59 | 59 | | | | | | | | |
| SVOC | (TIC) PENTANE, 2,3,3-TRIMETHYL- | 1 | 747 | 0.088 | 0.088 | | | | | | | | |
| SVOC | (TIC) PERYLENE | 55 | 747 | 0.084 | 27 | 5 | 17 | 0.66 | 3.2 | | | | |
| SVOC | (TIC) PERYLENE, 3-METHYL- | 1 | 747 | 0.39 | 0.39 | | | | | | | | |
| SVOC | (TIC) PHENAN1 | 1 | 747 | 0.2 | 0.2 | | | | | | | | |
| SVOC | (TIC) PHENANTHRENE, 1,7-DIMETHYL- | 3 | 747 | 0.085 | 6.9 | | | | | | | | |
| SVOC | (TIC) PHENANTHRENE, 1-METHYL- | 23 | 747 | 0.08 | 19 | 1 | 17 | 0.32 | 0.32 | | | | |
| SVOC | (TIC) PHENANTHRENE, 1-METHYL-7-(1-METHYLETHYL) | 33 | 747 | 0.096 | 7.5 | | | | | | | | |
| SVOC | (TIC) PHENANTHRENE, 2,3,5-TRIMETHYL- | 2 | 747 | 0.45 | 0.75 | | | | | | | | |
| SVOC | (TIC) PHENANTHRENE, 2,3-DIMETHYL- | 4 | 747 | 0.36 | 4.3 | | | | | | | | |
| SVOC | (TIC) PHENANTHRENE, 2,4,5,7-TETRAMETHYL- | 1 | 747 | 0.53 | 0.53 | | | | | | | | |
| SVOC | (TIC) PHENANTHRENE, 2,5-DIMETHYL- | 15 | 747 | 0.081 | 5.3 | | | | | | | | |
| SVOC | (TIC) PHENANTHRENE, 2,7-DIMETHYL- | 1 | 747 | 0.085 | 0.085 | | | | | | | | |
| SVOC | (TIC) PHENANTHRENE, 2-METHYL- | 44 | 747 | 0.08 | 31 | 3 | 17 | 0.28 | 1 | | | | |
| SVOC | (TIC) PHENANTHRENE, 3,4,5,6-TETRAMETHYL- | 1 | 747 | 0.27 | 0.27 | | | | | | | | |
| SVOC | (TIC) PHENANTHRENE, 3,6-DIMETHYL- | 10 | 747 | 0.084 | 9.7 | | | | | | | | |
| SVOC | (TIC) PHENANTHRENE, 3-METHYL- | 10 | 747 | 0.069 | 0.9 | 1 | 17 | 0.35 | 0.35 | | | | |
| SVOC | (TIC) PHENANTHRENE, 4,5-DIMETHYL- | 3 | 747 | 0.08 | 5.5 | | | | | | | | |
| SVOC | (TIC) PHENANTHRENE, 4-METHYL- | 6 | 747 | 0.11 | 3.5 | | | | | | | | |
| SVOC | (TIC) PHENANTHRENE, 9,10-DIHYDRO-1-METHYL- | 1 | 747 | 4.9 | 4.9 | | | | | | | | |
| SVOC | (TIC) PHENANTHRENE, 9-METHYL- | 1 | 747 | 8.4 | 8.4 | | | | | | | | |
| SVOC | (TIC) PHENANTHRENE,1-METHYL-7-(1-METHYLETHYL) | 1 | 747 | 0.94 | 0.94 | | | | | | | | |
| SVOC | (TIC) PHENOL, 2,3,4,5-TETRACHLORO- | 1 | 747 | 0.11 | 0.11 | | | | | | | | |
| SVOC | (TIC) PHENOL, 2,3,5,6-TETRACHLORO- | 1 | 747 | 0.35 | 0.35 | | | | | | | | |
| SVOC | (TIC) PHENOL, 2,6-DIMETHOXY-4-(2-PROPENYL)- | 1 | 747 | 0.63 | 0.63 | | | | | | | | |
| SVOC | (TIC) PHENOL, 3-(2-PHENYLETHENYL)-, (E)- | 1 | 747 | 6.2 | 6.2 | | | | | | | | |
| SVOC | (TIC) PHENOL, 3,4,5-TRICHLORO- | 6 | 747 | 0.095 | 12 | | | | | | | | |
| SVOC | (TIC) PHENOL, 3,4-DICHLORO- | 3 | 747 | 0.2 | 0.98 | | | | | | | | |
| SVOC | (TIC) PHENOL, 3,5-DICHLORO- | 3 | 747 | 0.55 | 15 | | | | | | | | |
| SVOC | (TIC) PHENOL, 3-CHLORO- | 3 | 747 | 0.12 | 8.7 | | | | | | | | |
| SVOC | (TIC) PHENOL, 4-(1,1,3,3-TETRAMETHYLBUTYL)- | 20 | 747 | 0.099 | 12 | | | | | | | | |
| SVOC | (TIC) PHENOL, 4-(1,1-DIMETHYLPROPYL)- | 2 | 747 | 0.19 | 0.51 | | | | | | | | |
| SVOC | (TIC) PHENOL, 4-(2,2,3,3-TETRAMETHYLBUTYL)- | 1 | 747 | 0.54 | 0.54 | | | | | | | | |
| SVOC | (TIC) PHENOL, 4,4-(1,2-DIETHYL-1,2-ETHANEDIYL | 1 | 747 | 0.15 | 0.15 | | | | | | | | |
| SVOC | (TIC) PHENOL, 4,4-(1-METHYLETHYLIDENE)BIS- | 1 | 747 | 0.1 | 0.1 | | | | | | | | |
| SVOC | (TIC) PHENOL, 4-CHLORO- | 1 | 747 | 0.11 | 0.11 | | | | | | | | |
| SVOC | (TIC) PHENOL, PENTACHLORO- | 7 | 747 | 0.21 | 3.7 | | | | | | | | |
| SVOC | (TIC) PHENOL, P-TERT-BUTYL- | 2 | 747 | 0.15 | 0.81 | | | | | | | | |
| SVOC | (TIC) PHENOL,2,6-DIMETHOXY-4-(2-PROPENYL)- | 1 | 747 | 0.14 | 0.14 | | | | | | | | |
| SVOC | (TIC) PHENOL,4-(1,1,3,3-TETRAMETHYLBUTYL)- | 1 | 747 | 3.8 | 3.8 | | | | | | | | |
| SVOC | (TIC) PHENOL,PENTACHLORO- | 1 | 747 | 290 | 290 | | | | | | | | |
| SVOC | (TIC) PHENOL,P-TERT-BUTYL- | 1 | 747 | 8.5 | 8.5 | | | | | | | | |
| SVOC | (TIC) PHOSPHINEOXIDE,TRIPHENYL- | 1 | 747 | 1.9 | 1.9 | | | | | | | | |
| SVOC | (TIC) PHOSPHORIC ACID TRIBUTYL ESTER | 1 | 747 | 0.083 | 0.083 | | | | | | | | |
| SVOC | (TIC) PHTHALIC ACID, 3,5-DIFLUOROPHENYL METHYL | 1 | 747 | 0.22 | 0.22 | | | | | | | | |
| SVOC | (TIC) PHTHALIC ACID, 3,5-DIMETHYLPHENYL 4-ISOP | 1 | 747 | 0.45 | 0.45 | | | | | | | | |
| SVOC | (TIC) PHYTOL | 3 | 747 | 0.79 | 1.3 | | | | | | | | |
| SVOC | (TIC) PIMARIC ACID | 1 | 747 | 0.11 | 0.11 | | | | | | | | |
| SVOC | (TIC) PODOCARP-12-EN-14-OL | 1 | 747 | 0.11 | 0.11 | | | | | | | | |
| SVOC | (TIC) PRENOL | 2 | 747 | 0.077 | 0.13 | | | | | | | | |
| SVOC | (TIC) PROP1 | 3 | 747 | 0.08 | 0.2 | | | | | | | | |
| SVOC | (TIC) PROPANE, 1,1-[METHYLENEBIS(OXY)]BIS[2-M | 1 | 747 | 0.3 | 0.3 | | | | | | | | |
| SVOC | (TIC) PROPANE, 2,2-DIMETHOXY- | 2 | 747 | 0.48 | 1 | | | | | | | | |
| SVOC | (TIC) PROPANEDINITRILE, CYCLOHEXYL(2-METHYLCYC | 1 | 747 | 4.3 | 4.3 | | | | | | | | |
| SVOC | (TIC) PROPANOIC ACID, 2,2-DIMETHYL-, METHYL ES | 1 | 747 | 0.12 | 0.12 | | | | | | | | |
| SVOC | (TIC) PROPANOIC ACID, 2-METHYL-, 1-(1,1-DIMETH | 1 | 747 | 0.12 | 0.12 | | | | | | | | |
| SVOC | (TIC) PROPYLIDENCYCLOHEXANE | 1 | 747 | 0.73 | 0.73 | | | | | | | | |
| SVOC | (TIC) P-TERPHENYL | 1 | 747 | 0.56 | 0.56 | | | | | | | | |
| SVOC | (TIC) PULEGONE | 4 | 747 | 0.093 | 1.8 | 1 | 17 | 2.8 | 2.8 | | | | |
| SVOC | (TIC) PYRENE, 1,3-DIMETHYL- | 2 | 747 | 0.64 | 0.95 | | | | | | | | |
| SVOC | (TIC) PYRENE, 1-METHYL- | 41 | 747 | 0.072 | 18 | 3 | 17 | 0.59 | 1.8 | | | | |
| SVOC | (TIC) PYRENE, 2-METHYL- | 17 | 747 | 0.073 | 0.6 | 1 | 17 | 0.82 | 0.82 | | | | |
| SVOC | (TIC) PYRENE, 4-METHYL- | 10 | 747 | 0.11 | 2.2 | | | | | | | | |
| SVOC | (TIC) PYRIDINE N-OXIDE, 2-AMINO-3,5-DIBROMO- | 1 | 747 | 0.87 | 0.87 | | | | | | | | |
| SVOC | (TIC) PYRIDINE, 2,4,6-TRIMETHYL- | 1 | 747 | 1 | 1 | | | | | | | | |
| SVOC | (TIC) PYRIDINE-3-CARBOXAMIDE, OXIME, N-(2-TRIF | 1 | 747 | 0.36 | 0.36 | | | | | | | | |
| SVOC | (TIC) PYRROLO[1,2-A]PYRIMIDINE-7,8-DICARBONITR | 1 | 747 | 0.52 | 0.52 | | | | | | | | |
| SVOC | (TIC) QUINOLINE, 6-METHYL-, 1-OXIDE | 1 | 747 | 0.095 | 0.095 | | | | | | | | |
| SVOC | (TIC) RETENE | 2 | 747 | 1 | 2.5 | | | | | | | | |
| SVOC | (TIC) SB1 | 3 | 747 | 9 | 40 | | | | | | | | |
| SVOC | (TIC) SB2 | 2 | 747 | 20 | 30 | | | | | | | | |
| SVOC | (TIC) SB3 | 2 | 747 | 10 | 20 | | | | | | | | |
| SVOC | (TIC) SB4 | 1 | 747 | 30 | 30 | | | | | | | | |
| SVOC | (TIC) SB5 | 1 | 747 | 20 | 20 | | | | | | | | |
| SVOC | (TIC) SBC11 | 2 | 747 | 30 | 40 | | | | | | | | |
| SVOC | (TIC) SCC1 | 2 | 747 | 30 | 40 | | | | | | | | |
| SVOC | (TIC) SEMUSTINE | 3 | 747 | 0.37 | 34 | | | | | | | | |
| SVOC | (TIC) SILANE, TRICHLORODOCOSYL- | 1 | 747 | 3.7 | 3.7 | | | | | | | | |

**Table 1 FMP TIC Summary**

| Group | Analyte | Soil 0-10 ft | | | | Sediment 0-0.5 ft | | | | Surface Water All Depths | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/L) | Max. (mg/L) |
| SVOC | (TIC) SILANE, TRICHLOROOCTADECYL- | 2 | 747 | 0.49 | 0.76 | | | | | | | | |
| SVOC | (TIC) SILANE, TRIMETHYLPHENYL- | 1 | 747 | 0.43 | 0.43 | | | | | | | | |
| SVOC | (TIC) SLSVOCTICS | 6 | 747 | 6 | 1120 | | | | | | | | |
| SVOC | (TIC) SPIRO[4.5]DEC-7-ENE, 1,8-DIMETHYL-4-(1-M | 1 | 747 | 0.14 | 0.14 | | | | | | | | |
| SVOC | (TIC) SQUALENE | 12 | 747 | 0.082 | 5 | | | | | | | | |
| SVOC | (TIC) STIGMAST-4-EN-3-ONE | 64 | 747 | 0.13 | 5.3 | 1 | 17 | 1 | 1 | | | | |
| SVOC | (TIC) STIGMASTA-3,5-DIEN-7-ONE | 1 | 747 | 0.37 | 0.37 | | | | | | | | |
| SVOC | (TIC) STIGMASTAN-3,5-DIENE | 2 | 747 | 0.16 | 0.32 | | | | | | | | |
| SVOC | (TIC) STIGMASTAN-7-ONE | 2 | 747 | 0.37 | 0.99 | | | | | | | | |
| SVOC | (TIC) STIGMASTANE | 6 | 747 | 0.19 | 1.8 | | | | | | | | |
| SVOC | (TIC) STIGMASTANOL | 10 | 747 | 0.2 | 2.2 | | | | | | | | |
| SVOC | (TIC) STIGMASTEROL | 16 | 747 | 0.32 | 2.4 | 1 | 17 | 0.5 | 0.5 | | | | |
| SVOC | (TIC) STIGMASTEROL, 22,23-DIHYDRO- | 7 | 747 | 0.26 | 3.2 | | | | | | | | |
| SVOC | (TIC) SUBBENZEN1 | | | | | 2 | 17 | 0.2 | 2 | | | | |
| SVOC | (TIC) SUBDECANA1 | | | | | 1 | 17 | 0.4 | 0.4 | | | | |
| SVOC | (TIC) SUBENZ1 | 6 | 747 | 0.2 | 0.3 | | | | | | | | |
| SVOC | (TIC) SUBOCTADE1 | | | | | 1 | 17 | 1 | 1 | | | | |
| SVOC | (TIC) SUBPHOSPH1 | | | | | 1 | 17 | 3 | 3 | | | | |
| SVOC | (TIC) SUBSTC | 1 | 747 | 20 | 20 | | | | | | | | |
| SVOC | (TIC) SUC1 | 3 | 747 | 20 | 50 | | | | | | | | |
| SVOC | (TIC) SULFUR | 7 | 747 | 0.23 | 1.7 | | | | | | | | |
| SVOC | (TIC) SULFUR, MOL. (S8) | 8 | 747 | 0.11 | 8.5 | | | | | | | | |
| SVOC | (TIC) SULFUROUS ACID, 2-ETHYLHEXYL NONYL ESTER | 1 | 747 | 1.1 | 1.1 | | | | | | | | |
| SVOC | (TIC) SULFUROUS ACID, 2-PENTYL UNDECYL ESTER | 1 | 747 | 4.7 | 4.7 | | | | | | | | |
| SVOC | (TIC) SULFUROUS ACID, 2-PROPYL TETRADECYL ESTE | 1 | 747 | 0.11 | 0.11 | | | | | | | | |
| SVOC | (TIC) SULFUROUS ACID, 2-PROPYL TRIDECYL ESTER | 1 | 747 | 2.2 | 2.2 | | | | | | | | |
| SVOC | (TIC) SULFUROUS ACID, BUTYL DECYL ESTER | 1 | 747 | 0.64 | 0.64 | | | | | | | | |
| SVOC | (TIC) SULFUROUS ACID, BUTYL HEPTADECYL ESTER | 1 | 747 | 0.18 | 0.18 | | | | | | | | |
| SVOC | (TIC) SULFUROUS ACID, BUTYL ISOHEXYL ESTER | 1 | 747 | 2.3 | 2.3 | | | | | | | | |
| SVOC | (TIC) SULFUROUS ACID, BUTYL TETRADECYL ESTER | 1 | 747 | 0.17 | 0.17 | | | | | | | | |
| SVOC | (TIC) SULFUROUS ACID, BUTYL UNDECYL ESTER | 1 | 747 | 0.21 | 0.21 | | | | | | | | |
| SVOC | (TIC) SULFUROUS ACID, CYCLOHEXYLMETHYL UNDECYL | 1 | 747 | 0.87 | 0.87 | | | | | | | | |
| SVOC | (TIC) SULFUROUS ACID, DECYL 2-PENTYL ESTER | 1 | 747 | 0.66 | 0.66 | | | | | | | | |
| SVOC | (TIC) SULFUROUS ACID, DECYL PENTYL ESTER | 1 | 747 | 0.8 | 0.8 | | | | | | | | |
| SVOC | (TIC) SULFUROUS ACID, DODECYL 2-PENTYL ESTER | 1 | 747 | 4.2 | 4.2 | | | | | | | | |
| SVOC | (TIC) SULFUROUS ACID, DODECYL 2-PROPYL ESTER | 2 | 747 | 6 | 19 | | | | | | | | |
| SVOC | (TIC) SULFUROUS ACID, HEXYL 2-PENTYL ESTER | 1 | 747 | 1.1 | 1.1 | | | | | | | | |
| SVOC | (TIC) SULFUROUS ACID, HEXYL PENTYL ESTER | 2 | 747 | 0.19 | 1.8 | | | | | | | | |
| SVOC | (TIC) SULFUROUS ACID, ISOHEXYL 2-PENTYL ESTER | 1 | 747 | 0.15 | 0.15 | | | | | | | | |
| SVOC | (TIC) SULFUROUS ACID, NONYL 2-PENTYL ESTER | 2 | 747 | 0.12 | 0.76 | | | | | | | | |
| SVOC | (TIC) SULFUROUS ACID, NONYL PENTYL ESTER | 1 | 747 | 0.59 | 0.59 | | | | | | | | |
| SVOC | (TIC) SUSPECTED ALDOL COND PRODUCT | 13 | 747 | 6.8 | 15 | | | | | | | | |
| SVOC | (TIC) SUSPECTED ALDOL COND.PRODUCT | 3 | 747 | 6 | 7.2 | | | | | | | | |
| SVOC | (TIC) TARAXASTEROL | 2 | 747 | 0.84 | 0.85 | | | | | | | | |
| SVOC | (TIC) TARAXEROL | 8 | 747 | 0.17 | 1.2 | 1 | 17 | 0.6 | 0.6 | | | | |
| SVOC | (TIC) TARAXEROLMETHYLETHER | 2 | 747 | 1.2 | 3.2 | | | | | | | | |
| SVOC | (TIC) TESTOSTERONE | 2 | 747 | 0.81 | 1.5 | | | | | | | | |
| SVOC | (TIC) TETRACHLOROPHENOLISOMER | 1 | 747 | 31 | 31 | | | | | | | | |
| SVOC | (TIC) TETRACONTANE, 3,5,24-TRIMETHYL- | 1 | 747 | 0.58 | 0.58 | | | | | | | | |
| SVOC | (TIC) TETRACOSANE | 17 | 747 | 0.094 | 15 | | | | | | | | |
| SVOC | (TIC) TETRACOSANOIC ACID | 6 | 747 | 0.094 | 0.72 | | | | | | | | |
| SVOC | (TIC) TETRADECANAL | 1 | 747 | 0.86 | 0.86 | | | | | | | | |
| SVOC | (TIC) TETRADECANAMIDE | 60 | 747 | 0.074 | 0.19 | | | | | | | | |
| SVOC | (TIC) TETRADECANE | 8 | 747 | 0.1 | 0.75 | | | | | | | | |
| SVOC | (TIC) TETRADECANE, 2,2-DIMETHYL- | 2 | 747 | 0.25 | 1 | | | | | | | | |
| SVOC | (TIC) TETRADECANE, 2,6,10-TRIMETHYL- | 2 | 747 | 0.57 | 0.68 | | | | | | | | |
| SVOC | (TIC) TETRADECANE, 2-METHYL- | 1 | 747 | 0.68 | 0.68 | | | | | | | | |
| SVOC | (TIC) TETRADECANE, 3-METHYL- | 1 | 747 | 0.66 | 0.66 | | | | | | | | |
| SVOC | (TIC) TETRADECANE, 4,11-DIMETHYL- | 1 | 747 | 0.44 | 0.44 | | | | | | | | |
| SVOC | (TIC) TETRADECANE, 4-METHYL- | 1 | 747 | 0.55 | 0.55 | | | | | | | | |
| SVOC | (TIC) TETRADECANE, 5-METHYL- | 1 | 747 | 1 | 1 | | | | | | | | |
| SVOC | (TIC) TETRADECANOIC ACID | 4 | 747 | 0.1 | 0.21 | | | | | | | | |
| SVOC | (TIC) TETRAETHYLENE GLYCOL | 1 | 747 | 0.63 | 0.63 | | | | | | | | |
| SVOC | (TIC) TETRAHYDROABIETIC ACID | 4 | 747 | 0.18 | 1.3 | | | | | | | | |
| SVOC | (TIC) TETRAHYDRODIMETHYLNAPHTHALENEISOMER | 1 | 747 | 3.4 | 3.4 | | | | | | | | |
| SVOC | (TIC) TETRAHYDROMETHYLNAPHTHALENEISOMER | 1 | 747 | 57 | 57 | | | | | | | | |
| SVOC | (TIC) TETRAMETHYLBENZENEISOMER | 4 | 747 | 0.16 | 45 | | | | | | | | |
| SVOC | (TIC) TETRAPENTACONTANE | 1 | 747 | 0.24 | 0.24 | | | | | | | | |
| SVOC | (TIC) TETRATETRACONTANE | 13 | 747 | 0.093 | 16 | | | | | | | | |
| SVOC | (TIC) TETRATRIACONTANE | 4 | 747 | 0.087 | 7 | | | | | | | | |
| SVOC | (TIC) TETRATRIACONTYL HEPTAFLUOROBUTYRATE | 1 | 747 | 0.13 | 0.13 | | | | | | | | |
| SVOC | (TIC) TETRATRIACONTYL PENTAFLUOROPROPIONATE | 1 | 747 | 0.11 | 0.11 | | | | | | | | |
| SVOC | (TIC) THIOPHENE, 2,2-(1,2-ETHENEDIYL)BIS-, (E | 1 | 747 | 0.08 | 0.08 | | | | | | | | |
| SVOC | (TIC) THIOPHENE, 2-BUTYL- | 1 | 747 | 8.2 | 8.2 | | | | | | | | |
| SVOC | (TIC) THIOXANTHENE | 1 | 747 | 2.7 | 2.7 | | | | | | | | |
| SVOC | (TIC) TOTAL ALKANES | 197 | 747 | 0.074 | 1200 | | | | | | | | |
| SVOC | (TIC) TOTAL ALKANES)10.57 | 1 | 747 | 8.6 | 8.6 | | | | | | | | |
| SVOC | (TIC) TOTAROL | 9 | 747 | 0.17 | 21 | | | | | | | | |
| SVOC | (TIC) TRANS-1,2-BIS(METHYLDICHLOROSILYL)ETHYLE | 2 | 747 | 0.1 | 0.22 | | | | | | | | |
| SVOC | (TIC) TRANS-1,3-DIETHYLCYCLOPENTANE | 1 | 747 | 0.27 | 0.27 | | | | | | | | |
| SVOC | (TIC) TRANS-1,4-DIETHYLCYCLOHEXANE | 1 | 747 | 57 | 57 | | | | | | | | |
| SVOC | (TIC) TRANS-3-PENTEN-2-OL | 1 | 747 | 0.33 | 0.33 | | | | | | | | |
| SVOC | (TIC) TRANS-4A-METHYL-DECAHYDRONAPHTHALENE | 3 | 747 | 0.19 | 39 | | | | | | | | |
| SVOC | (TIC) TRANS-CALAMENENE | 1 | 747 | 0.27 | 0.27 | | | | | | | | |
| SVOC | (TIC) TRANS-DECALIN, 2-METHYL- | 20 | 747 | 0.1 | 75 | | | | | | | | |
| SVOC | (TIC) TRIACONTYL ACETATE | 1 | 747 | 2.5 | 2.5 | | | | | | | | |

**Table 1 FMP TIC Summary**

| Group | Analyte | Soil 0-10 ft | | | | Sediment 0-0.5 ft | | | | Surface Water All Depths | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/L) | Max. (mg/L) |
| SVOC | (TIC) TRICHLOROACETIC ACID, 1-CYCLOPENTYLETHYL | 1 | 747 | 34 | 34 | | | | | | | | |
| SVOC | (TIC) TRICHLOROACETIC ACID, HEXADECYL ESTER | 2 | 747 | 0.15 | 0.19 | | | | | | | | |
| SVOC | (TIC) TRICHLOROACETIC ACID, PENTADECYL ESTER | 1 | 747 | 0.2 | 0.2 | | | | | | | | |
| SVOC | (TIC) TRICHLOROACETIC ACID,TETRADY | 1 | 747 | 0.42 | 0.42 | | | | | | | | |
| SVOC | (TIC) TRICHLOROANILINEISOMR | 1 | 747 | 0.8 | 0.8 | | | | | | | | |
| SVOC | (TIC) TRICOSANE | 5 | 747 | 0.26 | 1.4 | | | | | | | | |
| SVOC | (TIC) TRICOSANE, 2-METHYL- | 2 | 747 | 0.35 | 0.57 | | | | | | | | |
| SVOC | (TIC) TRICOSANOIC ACID | 1 | 747 | 0.11 | 0.11 | | | | | | | | |
| SVOC | (TIC) TRICYCLO[3.3.1.1(3,7)]DECANE, 1-NITRO- | 1 | 747 | 0.097 | 0.097 | | | | | | | | |
| SVOC | (TIC) TRIDECANE | 22 | 747 | 0.086 | 19 | | | | | | | | |
| SVOC | (TIC) TRIDECANE, 1-IODO- | 2 | 747 | 0.089 | 0.14 | | | | | | | | |
| SVOC | (TIC) TRIDECANE, 2-METHYL- | 3 | 747 | 0.095 | 1.4 | | | | | | | | |
| SVOC | (TIC) TRIDECANE, 3-METHYL- | 1 | 747 | 17 | 17 | | | | | | | | |
| SVOC | (TIC) TRIDECANE, 4-METHYL- | 3 | 747 | 0.1 | 41 | | | | | | | | |
| SVOC | (TIC) TRIDECANE, 5-METHYL- | 1 | 747 | 1.3 | 1.3 | | | | | | | | |
| SVOC | (TIC) TRIDECANE, 5-PROPYL- | 5 | 747 | 0.2 | 4.4 | | | | | | | | |
| SVOC | (TIC) TRIDECANE, 6-METHYL- | 7 | 747 | 0.11 | 350 | | | | | | | | |
| SVOC | (TIC) TRIDECANE, 6-PROPYL- | 1 | 747 | 0.54 | 0.54 | | | | | | | | |
| SVOC | (TIC) TRIDECANE, 7-HEXYL- | 4 | 747 | 0.17 | 2.1 | | | | | | | | |
| SVOC | (TIC) TRIDECANE, 7-METHYL- | 23 | 747 | 0.14 | 8.6 | | | | | | | | |
| SVOC | (TIC) TRIETHYLENE GLYCOL | 1 | 747 | 0.91 | 0.91 | | | | | | | | |
| SVOC | (TIC) TRIFLUOROACETOXY HEXADECANE | 1 | 747 | 0.2 | 0.2 | | | | | | | | |
| SVOC | (TIC) TRIMETHYLBENZENEISOMER | 2 | 747 | 0.67 | 25 | | | | | | | | |
| SVOC | (TIC) TRIMETHYLNAPHTHALENEISOMER | 1 | 747 | 0.099 | 0.099 | | | | | | | | |
| SVOC | (TIC) TRIPHENYLENE | 1 | 747 | 0.32 | 0.32 | | | | | | | | |
| SVOC | (TIC) TRIPHENYLENE, 2-METHYL- | 15 | 747 | 0.15 | 9.8 | | | | | | | | |
| SVOC | (TIC) TRITETRACONTANE | 6 | 747 | 0.22 | 49 | | | | | | | | |
| SVOC | (TIC) UH1 | 3 | 747 | 20 | 30 | | | | | | | | |
| SVOC | (TIC) UH2 | 3 | 747 | 8 | 80 | | | | | | | | |
| SVOC | (TIC) UH3 | 3 | 747 | 20 | 40 | | | | | | | | |
| SVOC | (TIC) UH4 | 3 | 747 | 4 | 60 | | | | | | | | |
| SVOC | (TIC) UH5 | 2 | 747 | 7 | 20 | | | | | | | | |
| SVOC | (TIC) UH6 | 1 | 747 | 40 | 40 | | | | | | | | |
| SVOC | (TIC) UH7 | 1 | 747 | 8 | 8 | | | | | | | | |
| SVOC | (TIC) UHY1 | 1 | 747 | 40 | 40 | | | | | | | | |
| SVOC | (TIC) UK1 | 3 | 747 | 4 | 30 | | | | | | | | |
| SVOC | (TIC) UNDECANE | 26 | 747 | 0.11 | 79 | | | | | | | | |
| SVOC | (TIC) UNDECANE, 2,3-DIMETHYL- | 2 | 747 | 0.21 | 0.22 | | | | | | | | |
| SVOC | (TIC) UNDECANE, 2,4-DIMETHYL- | 5 | 747 | 0.13 | 36 | | | | | | | | |
| SVOC | (TIC) UNDECANE, 2,5-DIMETHYL- | 5 | 747 | 0.2 | 22 | | | | | | | | |
| SVOC | (TIC) UNDECANE, 2,6-DIMETHYL- | 60 | 747 | 0.092 | 84 | | | | | | | | |
| SVOC | (TIC) UNDECANE, 2,8-DIMETHYL- | 3 | 747 | 0.11 | 20 | | | | | | | | |
| SVOC | (TIC) UNDECANE, 2,9-DIMETHYL- | 3 | 747 | 3.5 | 13 | | | | | | | | |
| SVOC | (TIC) UNDECANE, 2-METHYL- | 7 | 747 | 0.12 | 32 | | | | | | | | |
| SVOC | (TIC) UNDECANE, 3,3-DIMETHYL- | 2 | 747 | 0.31 | 1.8 | | | | | | | | |
| SVOC | (TIC) UNDECANE, 3,4-DIMETHYL- | 1 | 747 | 0.25 | 0.25 | | | | | | | | |
| SVOC | (TIC) UNDECANE, 3,6-DIMETHYL- | 9 | 747 | 0.14 | 32 | | | | | | | | |
| SVOC | (TIC) UNDECANE, 3,7-DIMETHYL- | 2 | 747 | 0.78 | 2 | | | | | | | | |
| SVOC | (TIC) UNDECANE, 3,8-DIMETHYL- | 5 | 747 | 0.18 | 32 | | | | | | | | |
| SVOC | (TIC) UNDECANE, 3,9-DIMETHYL- | 1 | 747 | 0.3 | 0.3 | | | | | | | | |
| SVOC | (TIC) UNDECANE, 3-METHYL- | 15 | 747 | 0.1 | 46 | | | | | | | | |
| SVOC | (TIC) UNDECANE, 4,5-DIMETHYL- | 2 | 747 | 0.09 | 24 | | | | | | | | |
| SVOC | (TIC) UNDECANE, 4,6-DIMETHYL- | 4 | 747 | 0.08 | 5.1 | | | | | | | | |
| SVOC | (TIC) UNDECANE, 4,8-DIMETHYL- | 2 | 747 | 0.37 | 1.3 | | | | | | | | |
| SVOC | (TIC) UNDECANE, 4-METHYL- | 20 | 747 | 0.11 | 49 | | | | | | | | |
| SVOC | (TIC) UNDECANE, 5,5-DIMETHYL- | 1 | 747 | 0.3 | 0.3 | | | | | | | | |
| SVOC | (TIC) UNDECANE, 5,6-DIMETHYL- | 13 | 747 | 0.11 | 300 | | | | | | | | |
| SVOC | (TIC) UNDECANE, 5,7-DIMETHYL- | 1 | 747 | 0.15 | 0.15 | | | | | | | | |
| SVOC | (TIC) UNDECANE, 5-ETHYL- | 2 | 747 | 0.16 | 26 | | | | | | | | |
| SVOC | (TIC) UNDECANE, 5-METHYL- | 4 | 747 | 0.55 | 89 | | | | | | | | |
| SVOC | (TIC) UNDECANE, 6-METHYL- | 12 | 747 | 0.14 | 50 | | | | | | | | |
| SVOC | (TIC) UNHYD1 | 1 | 747 | 7 | 7 | | | | | | | | |
| SVOC | (TIC) UNKC1 | 1 | 747 | 20 | 20 | | | | | | | | |
| SVOC | (TIC) UNKHYDRO1 | 5 | 747 | 0.05 | 10 | | | | | | | | |
| SVOC | (TIC) UNKHYDRO2 | 4 | 747 | 0.06 | 0.3 | | | | | | | | |
| SVOC | (TIC) UNKHYDRO3 | 3 | 747 | 0.04 | 0.3 | | | | | | | | |
| SVOC | (TIC) UNKHYDRO4 | 1 | 747 | 0.06 | 0.06 | | | | | | | | |
| SVOC | (TIC) UNKHYDRO5 | 1 | 747 | 0.06 | 0.06 | | | | | | | | |
| SVOC | (TIC) UNKHYDROC1 | | | | | 3 | 17 | 0.5 | 1 | | | | |
| SVOC | (TIC) UNKHYDROC2 | | | | | 3 | 17 | 0.9 | 7 | | | | |
| SVOC | (TIC) UNKHYDROC3 | | | | | 3 | 17 | 0.8 | 2 | | | | |
| SVOC | (TIC) UNKHYDROC4 | | | | | 2 | 17 | 0.3 | 3 | | | | |
| SVOC | (TIC) UNKHYDROC5 | | | | | 1 | 17 | 2 | 2 | | | | |
| SVOC | (TIC) UNKNOWN | 630 | 747 | 0.078 | 310 | 17 | 17 | 0.16 | 12 | 6 | 8 | 0.005 | 0.01 |
| SVOC | (TIC) UNKNOWN (+)-DIETHYL L-TARTRATE | 1 | 747 | 0.1 | 0.1 | | | | | | | | |
| SVOC | (TIC) UNKNOWN (7-ISOPROPYLIDENEBICYCLO[2.2.1]H | 1 | 747 | 0.12 | 0.12 | | | | | | | | |
| SVOC | (TIC) UNKNOWN [2.2]PARACYCLOPHANE | 1 | 747 | 0.52 | 0.52 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1-(10-METHYL-9,10-DIHYDROANTHRAC | 1 | 747 | 0.48 | 0.48 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1(2H)-NAPHTHALENONE, 3,4-DIHYDRO | 2 | 747 | 0.081 | 0.69 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1-(M-METHOXYPHENYL)-4-OXOCYCLOHE | 1 | 747 | 0.09 | 0.09 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1,1,2,2,3,3-HEXAMETHYLINDANE | 2 | 747 | 0.53 | 0.58 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1,1-DICYCLOHEXYLPENTANE | 1 | 747 | 0.19 | 0.19 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1,2,3,4-TETRAHYDROPENTALENE, 1,1 | 2 | 747 | 0.08 | 0.16 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1,2,3-PROPANETRIOL, 1-ACETATE | 21 | 747 | 0.088 | 0.25 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1,2,3-PROPANETRIOL, 1-ACETATE5.0 | 1 | 747 | 0.089 | 0.089 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1,2,3-PROPANETRIOL, 1-ACETATE5.1 | 1 | 747 | 0.14 | 0.14 | | | | | | | | |

**Table 1 FMP TIC Summary**

| Group | Analyte | Soil 0-10 ft | | | | Sediment 0-0.5 ft | | | | Surface Water All Depths | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/L) | Max. (mg/L) |
| SVOC | (TIC) UNKNOWN 1,2,3-PROPANETRIOL, 1-ACETATE5.2 | 1 | 747 | 0.17 | 0.17 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1,2,3-PROPANETRIOL, 1-ACETATE5.3 | 1 | 747 | 0.098 | 0.098 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1,2,3-PROPANETRIOL, 1-ACETATE5.4 | 1 | 747 | 0.1 | 0.1 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1,2,3-PROPANETRIOL, 1-ACETATE5.5 | 1 | 747 | 0.16 | 0.16 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1,2,4,8-TETRAMETHYLBICYCLO[6.3.0 | 3 | 747 | 0.11 | 0.26 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1,2-BENZENEDICARBOXYLIC ACID | 4 | 747 | 0.11 | 1.4 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1,2-BENZENEDICARBOXYLIC ACID, BI | 1 | 747 | 0.17 | 0.17 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1,3,2-DIOXABOROLANE, 4,4-DIMETHY | 1 | 747 | 4.7 | 4.7 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1,3-CYCLOPENTADIENE, 1,2,3,4-TET | 1 | 747 | 1 | 1 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1,4,7,10,13,16-HEXAOXACYCLOOCTAD | 1 | 747 | 0.13 | 0.13 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1,4-BENZENEDICARBOXYLIC ACID | 2 | 747 | 0.099 | 1.2 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1,4-BENZENEDICARBOXYLIC ACID, BI | 1 | 747 | 0.085 | 0.085 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1,4-DIMETHYL-8-ISOPROPYLIDENETRI | 1 | 747 | 0.48 | 0.48 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1,4-NAPHTHOQUINONE, 2,3-DIHYDRO- | 1 | 747 | 1.3 | 1.3 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 11H-BENZO[B]FLUORENE | 2 | 747 | 0.086 | 0.094 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 11-ISOPROPYLIDENETRICYCLO[4.3.1. | 2 | 747 | 0.64 | 0.79 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 16-HENTRIACONTANONE | 7 | 747 | 0.11 | 5 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 16-HEXADECANOYL HYDRAZIDE | 1 | 747 | 0.21 | 0.21 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1-ALLYL-5-BROMO-6-HYDROXYPYRIDAZ | 1 | 747 | 0.099 | 0.099 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1-DECANOL, 2-HEXYL- | 1 | 747 | 0.12 | 0.12 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1H-3A,7-METHANOAZULEN-6-OL, OCTA | 1 | 747 | 0.23 | 0.23 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1H-INDENE, 1-PHENYL- | 1 | 747 | 0.56 | 0.56 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1H-PHENALENE | 2 | 747 | 2.3 | 5.4 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1H-PYRAZOLE-1-CARBOXALDEHYDE, 4- | 1 | 747 | 0.31 | 0.31 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1H-PYRROLE-2,5-DIONE | 40 | 747 | 0.074 | 0.62 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1H-PYRROLO[1,2-C]IMIDAZOLE-1,3(2 | 1 | 747 | 0.45 | 0.45 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1-NAPHTHALENAMINE, 5,6,7,8-TETRA | 1 | 747 | 0.22 | 0.22 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1-NAPHTHALENEMETHANAMINE | 3 | 747 | 0.083 | 0.12 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1-NAPHTHALENEMETHANAMINE, .ALPHA | 17 | 747 | 0.072 | 0.25 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1-NAPHTHALENOL, 2-AMINO- | 1 | 747 | 0.11 | 0.11 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1-OCTADECANESULPHONYL CHLORIDE | 1 | 747 | 0.34 | 0.34 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1-OCTYN-3-OL, 4-ETHYL- | 1 | 747 | 0.93 | 0.93 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 1-PHENANTHRENECARBOXYLIC ACID, 7 | 1 | 747 | 0.084 | 0.084 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 2(1H)-QUINOLINONE, 1-PROPYL- | 1 | 747 | 0.31 | 0.31 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 2-(4-NITROBUTYRYL)CYCLOOCTANONE | 1 | 747 | 0.1 | 0.1 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 2,2,4-TRIMETHYL-1,3-PENTANEDIOL | 4 | 747 | 0.077 | 0.27 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 2,2-DIMETHYLHEX-4-ENYLAMINE | 1 | 747 | 0.1 | 0.1 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 2,3,4-TRIFLUOROANILINE | 1 | 747 | 0.38 | 0.38 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 2,3,4-TRIMETHYLPENTAN-2-OL TETRA | 1 | 747 | 0.13 | 0.13 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 2,3-DIAZABICYCLO[2.2.1]HEPT-2-EN | 1 | 747 | 0.11 | 0.11 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 2,4,6-TRIISOPROPYLBENZAMIDE | 1 | 747 | 0.11 | 0.11 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 2,4,6-TRIMETHOXYBENZONITRILE | 1 | 747 | 0.11 | 0.11 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 2,4,6-TRIMETHYLPROPIOPHENONE | 1 | 747 | 0.2 | 0.2 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 2,4-DIETHYL-6-METHYL-1,3,5-TRIOX | 1 | 747 | 0.12 | 0.12 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 2,5-DIFLUOROBENZOIC ACID, DECYL | 1 | 747 | 0.15 | 0.15 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 2,5-DIFLUOROBENZOIC ACID, OCT | 3 | 747 | 0.11 | 0.14 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 2,5-DIFLUOROBENZOIC ACID, OCTYL | 1 | 747 | 0.1 | 0.1 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 2,6-(ETHENO[1,4]BENZENOETHENO)NA | 1 | 747 | 0.1 | 0.1 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 2,6-BIS(4-NITRO-PHENYLTHIO)PYRID | 2 | 747 | 0.15 | 0.17 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 2,6-DECADIENOIC ACID, 3-METHYL-, | 2 | 747 | 0.083 | 0.093 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 2,6-DIPHTHALIMIDOPYRIDINE | 2 | 747 | 0.089 | 0.97 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 2,6-OCTADIENOIC ACID, 3-METHYL-, | 4 | 747 | 0.088 | 0.19 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 2-ACETONYLCYCLOHEXANONE | 1 | 747 | 0.095 | 0.095 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 2-CHLORO-5-HYDROXY-2,4,6-CYCLOHE | 9 | 747 | 0.091 | 0.17 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 2-CYCLOPROPEN-1-ONE, 2,3-DIPHENY | 1 | 747 | 3.6 | 3.6 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 2-FURANCARBOXYLIC ACID, 2-METHYL | 1 | 747 | 0.22 | 0.22 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 2-FURANMETHANOL, TETRAHYDRO-, AC | 1 | 747 | 0.12 | 0.12 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 2H-1,4-ETHANOQUINOLINE, 3,4-DIHY | 2 | 747 | 0.099 | 0.11 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 2-N-HEXYLCYCLOPENTANONE | 1 | 747 | 0.09 | 0.09 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 2-PENTANONE, 3-METHYL- | 1 | 747 | 0.14 | 0.14 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 2-THIAZOLAMINE, 4-(4-METHOXYPHEN | 1 | 747 | 0.098 | 0.098 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 2-TRIDECANONE, O-METHYLOXIME | 1 | 747 | 0.22 | 0.22 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 3-ETHYLIDENEISOBENZOFURANONE | 2 | 747 | 0.1 | 0.8 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 3H-BENZ[E]INDENE, 2-METHYL- | 1 | 747 | 6.2 | 6.2 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 3-HEPTANONE, 5-METHYL- | 1 | 747 | 0.65 | 0.65 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 3-HEXENE-2,5-DIONE | 26 | 747 | 0.077 | 0.72 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 3-METHOXY-D-HOMOESTRA-1,3,5(10), | 2 | 747 | 0.16 | 0.38 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 3-METHYL-4-(METHOXYCARBONYL)HEXA | 1 | 747 | 0.35 | 0.35 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 3-PENTENOIC ACID, METHYL ESTER | 5 | 747 | 0.077 | 0.16 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 4-(2-BENZOFURANYL)-2-CHLORO-6-(2 | 1 | 747 | 0.16 | 0.16 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 4B,8-DIMETHYL-2-ISOPROPYLPHENANT | 1 | 747 | 2.9 | 2.9 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 4-DIBENZOFURANAMINE | 1 | 747 | 0.22 | 0.22 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 4H-CYCLOPENTA[DEF]PHENANTHRENE | 8 | 747 | 0.074 | 1.5 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 4-METHOXY-3-NITROBENZYL ALCOHOL | 1 | 747 | 0.11 | 0.11 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 4-NITROPHENYL LAURATE | 1 | 747 | 0.17 | 0.17 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 4-TERT-BUTYLTOLUENE | 1 | 747 | 0.42 | 0.42 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 5(10H)-PYRIDO[3,4-B]QUINOLONE, 7 | 1 | 747 | 0.097 | 0.097 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 5-(2-CHLOROPHENYL)-3-[5-(TRIFLUO | 1 | 747 | 0.11 | 0.11 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 5,16[1,2]:8,13[1,2]-DIBENZ | 1 | 747 | 0.27 | 0.27 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 5,8-METHANO-4H-3,1-BENZOXAZINE-2 | 1 | 747 | 0.28 | 0.28 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 5-CHLORO-1,3-PHENYLENEDIAMINE | 4 | 747 | 0.092 | 0.17 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 5-METHYLISOPHTHALONITRILE | 1 | 747 | 0.086 | 0.086 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 5-NITRO-M-XYLENE-.ALPHA.,.ALPHA. | 1 | 747 | 0.14 | 0.14 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 5-OCTEN-4-ONE, 7-METHYL- | 1 | 747 | 0.13 | 0.13 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 5-PYRIMIDINOL, 2-METHYL-4-(METHY | 1 | 747 | 0.12 | 0.12 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 6-AMINO-2,4-DITHIOURACIL | 2 | 747 | 0.084 | 0.099 | | | | | | | | |

**Table 1 FMP TIC Summary**

| Group | Analyte | Soil 0-10 ft | | | | Sediment 0-0.5 ft | | | | Surface Water All Depths | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/L) | Max. (mg/L) |
| SVOC | (TIC) UNKNOWN 6-CHLORO-2,3-DIHYDROXYPYRIDINE | 1 | 747 | 0.077 | 0.077 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 6-ISOPROPYLQUINOLINE | 6 | 747 | 0.088 | 0.16 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 6-PENTADECANONE | 1 | 747 | 0.09 | 0.09 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 7,7-DIMETHYL-2,3-DIOXOBICYCLO[2. | 1 | 747 | 0.14 | 0.14 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 7-DEHYDRODIOSGENIN 3-ACETATE | 1 | 747 | 0.095 | 0.095 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 7H-BENZ[DE]ANTHRACEN-7-ONE | 1 | 747 | 0.13 | 0.13 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 7H-FURO[3,2-G][1]BENZOPYRAN-7-ON | 1 | 747 | 0.17 | 0.17 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 7-NONENAMIDE | 3 | 747 | 0.1 | 0.13 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 9H-FLUORENE, 9-(1-METHYLETHYL)- | 1 | 747 | 3.4 | 3.4 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 9H-FLUORENE, 9,9-DIMETHYL- | 1 | 747 | 4.7 | 4.7 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 9H-FLUORENE, 9-METHYLENE- | 1 | 747 | 2.3 | 2.3 | | | | | | | | |
| SVOC | (TIC) UNKNOWN 9-OCTADECENAMIDE, (Z)- | 21 | 747 | 0.082 | 0.16 | | | | | | | | |
| SVOC | (TIC) UNKNOWN ACP | 1 | 747 | 40 | 40 | | | | | | | | |
| SVOC | (TIC) UNKNOWN ADIPIC ACID, MONOCHLORIDE 2-METH | 1 | 747 | 0.14 | 0.14 | | | | | | | | |
| SVOC | (TIC) UNKNOWN ALCOHOL | 21 | 747 | 0.085 | 1.4 | 1 | 17 | 0.44 | 0.44 | | | | |
| SVOC | (TIC) UNKNOWN ALCOHOL DERIVATIVE | 1 | 747 | 0.4 | 0.4 | | | | | | | | |
| SVOC | (TIC) UNKNOWN ALDOL CONDENSATE | 12 | 747 | 0.67 | 2.5 | | | | | | | | |
| SVOC | (TIC) UNKNOWN ALIPHATIC ACID | | | | | 1 | 17 | 3.2 | 3.2 | | | | |
| SVOC | (TIC) UNKNOWN ALIPHATIC ALDEHYDE | 6 | 747 | 0.15 | 0.66 | | | | | | | | |
| SVOC | (TIC) UNKNOWN ALIPHATIC COMPOUND | 40 | 747 | 0.073 | 160 | 3 | 17 | 0.1 | 4.4 | | | | |
| SVOC | (TIC) UNKNOWN ALIPHATIC KETONE | 6 | 747 | 0.17 | 1.6 | 1 | 17 | 0.1 | 0.1 | | | | |
| SVOC | (TIC) UNKNOWN ALKANE | 241 | 747 | 0.078 | 460 | 7 | 17 | 0.15 | 5.6 | | | | |
| SVOC | (TIC) UNKNOWN ALKENE | 5 | 747 | 0.51 | 5.4 | | | | | | | | |
| SVOC | (TIC) UNKNOWN ALKYLBENZENE | 1 | 747 | 0.15 | 0.15 | | | | | | | | |
| SVOC | (TIC) UNKNOWN AMIDE | 1 | 747 | 0.39 | 0.39 | | | | | | | | |
| SVOC | (TIC) UNKNOWN AMINE | 1 | 747 | 0.26 | 0.26 | | | | | | | | |
| SVOC | (TIC) UNKNOWN ANHYDRIDE | 2 | 747 | 0.14 | 0.32 | | | | | | | | |
| SVOC | (TIC) UNKNOWN ANTHRACENE, 1-METHYL- | 1 | 747 | 0.14 | 0.14 | | | | | | | | |
| SVOC | (TIC) UNKNOWN ANTHRACENE, 2-METHYL- | 2 | 747 | 0.13 | 0.13 | | | | | | | | |
| SVOC | (TIC) UNKNOWN ANTHRACENE, 9-CYCLOHEXYLTETRADEC | 1 | 747 | 0.22 | 0.22 | | | | | | | | |
| SVOC | (TIC) UNKNOWN ANTHRACENE, 9-PHENYL- | 1 | 747 | 0.11 | 0.11 | | | | | | | | |
| SVOC | (TIC) UNKNOWN AROMATIC COMPOUND | 2 | 747 | 0.24 | 0.94 | 3 | 17 | 0.77 | 5.2 | | | | |
| SVOC | (TIC) UNKNOWN AZULENE DERIVATIVE | 1 | 747 | 0.28 | 0.28 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BACCHOTRICUNEATIN C | 1 | 747 | 0.15 | 0.15 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BENZALDEHYDE, 3,5-DICHLORO-2-HYD | 1 | 747 | 0.078 | 0.078 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BENZAMIDE, N-(4-FLUOROPHENYL)-2- | 1 | 747 | 0.22 | 0.22 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BENZAMIDE, N-(4-METHOXYPHENYL)-4 | 2 | 747 | 0.12 | 0.12 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BENZENE DERIVATIVE | 10 | 747 | 0.076 | 24 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BENZENE, [1-(2,4-CYCLOPENTADIEN- | 1 | 747 | 5.9 | 5.9 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BENZENE, 1-(1,1-DIMETHYLETHYL)-3 | 1 | 747 | 0.28 | 0.28 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BENZENE, 1,1-(1,1,10,10-TETRAME | 1 | 747 | 0.3 | 0.3 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BENZENE, 1,1-(1,2-DIETHYL-1,2-E | 1 | 747 | 0.13 | 0.13 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BENZENE, 1,1-(1-HEPTENYLIDENE)B | 1 | 747 | 0.47 | 0.47 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BENZENE, 1,2,4,5-TETRAMETHYL- | 1 | 747 | 0.56 | 0.56 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BENZENE, 1,4-BIS(1-METHYLETHYL)- | 1 | 747 | 0.36 | 0.36 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BENZENE, 1-ETHYL-3-(1-METHYLETHY | 2 | 747 | 0.22 | 1.2 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BENZENE, 1-ETHYL-3,5-DIMETHYL- | 1 | 747 | 1 | 1 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BENZENE, 1-ISOTHIOCYANATO-2-METH | 1 | 747 | 0.098 | 0.098 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BENZENE, 1-METHYL-3-(1-METHYLETH | 1 | 747 | 0.23 | 0.23 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BENZENE, 1-METHYL-4-(2-METHYLPRO | 1 | 747 | 0.58 | 0.58 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BENZENE, 2-ETHYL-1,3-DIMETHYL- | 1 | 747 | 0.51 | 0.51 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BENZENE, 4-(CHLOROMETHYL)-1,2-DI | 2 | 747 | 0.4 | 0.47 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BENZENE, PENTAMETHYL- | 1 | 747 | 0.098 | 0.098 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BENZENESULFONAMIDE, 2,4-DICHLORO | 1 | 747 | 0.1 | 0.1 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BENZO[B]BENZOFURAN-2-CARBOXALDEH | 1 | 747 | 0.13 | 0.13 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BENZO[C]THIOPHEN-1(3H)-ONE, 3-(3 | 3 | 747 | 0.18 | 0.68 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BENZOFLUORANTHENE | 15 | 747 | 0.39 | 7.5 | 2 | 17 | 0.88 | 1.1 | | | | |
| SVOC | (TIC) UNKNOWN BENZOFLUORENE | 1 | 747 | 0.39 | 0.39 | 1 | 17 | 0.31 | 0.31 | | | | |
| SVOC | (TIC) UNKNOWN BENZOXAZOLE, 2-METHYL- | 2 | 747 | 0.35 | 0.46 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BICYCLO[2.2.1]HEPTANE, 2,2,3-TRI | 1 | 747 | 0.34 | 0.34 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BICYCLO[2.2.1]HEPTANE, 2-[9-BORA | 1 | 747 | 0.18 | 0.18 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BICYCLO[2.2.2]OCTANONE, 4-METHOX | 1 | 747 | 0.1 | 0.1 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BICYCLO[3.1.1]HEPTAN-3-1,2,6 | 5 | 747 | 0.13 | 0.2 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BICYCLO[3.1.1]HEPTAN-3-ONE, 2,6, | 4 | 747 | 0.1 | 0.22 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BORONIC ACID, ETHYL-, BIS(2,2-DI | 1 | 747 | 0.15 | 0.15 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BRANCHED ALKANE | 8 | 747 | 0.23 | 1.8 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BUTANE | 1 | 747 | 0.48 | 0.48 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BUTANE DERIVATIVE | 5 | 747 | 0.35 | 4.4 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BUTANOIC ACID, 2-BUTOXY-1-METHYL | 2 | 747 | 0.15 | 7.8 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BUTANOIC ACID, 2-METHYLPROPYL ES | 1 | 747 | 0.11 | 0.11 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BUTANOIC ACID, 2-PROPENYL ESTER | 2 | 747 | 0.091 | 0.2 | | | | | | | | |
| SVOC | (TIC) UNKNOWN BUTANOIC ACID, 3-METHYL-2-METHYL | 1 | 747 | 0.13 | 0.13 | | | | | | | | |
| SVOC | (TIC) UNKNOWN C2-ALKYLPHENANTHRENE | 1 | 747 | 0.11 | 0.11 | | | | | | | | |
| SVOC | (TIC) UNKNOWN C3-ALKYLBENZENE | 1 | 747 | 29 | 29 | | | | | | | | |
| SVOC | (TIC) UNKNOWN C4-ALKYLBENZENE | 2 | 747 | 0.57 | 5.5 | 2 | 17 | 0.95 | 3 | | | | |
| SVOC | (TIC) UNKNOWN C5-ALKYLBENZENE | 1 | 747 | 0.26 | 0.26 | | | | | | | | |
| SVOC | (TIC) UNKNOWN CARBONIC ACID, ISOBUTYL ISOHEXYL | 1 | 747 | 1.4 | 1.4 | | | | | | | | |
| SVOC | (TIC) UNKNOWN CHAMAZULENE | 1 | 747 | 4.7 | 4.7 | | | | | | | | |
| SVOC | (TIC) UNKNOWN CHLORINATED COMPOUND | 2 | 747 | 0.14 | 0.14 | | | | | | | | |
| SVOC | (TIC) UNKNOWN CHLOROMETHYL 7-CHLORODECANOATE | 1 | 747 | 0.079 | 0.079 | | | | | | | | |
| SVOC | (TIC) UNKNOWN CHLOROXYLENOL | 2 | 747 | 0.09 | 0.11 | | | | | | | | |
| SVOC | (TIC) UNKNOWN CHOLESTANE DERIVATIVE | 1 | 747 | 0.19 | 0.19 | | | | | | | | |
| SVOC | (TIC) UNKNOWN CYCLOALKANE | 133 | 747 | 0.08 | 310 | 4 | 17 | 0.41 | 4 | | | | |
| SVOC | (TIC) UNKNOWN CYCLODODECANONE, 2-METHYL- | 2 | 747 | 0.086 | 0.11 | | | | | | | | |
| SVOC | (TIC) UNKNOWN CYCLOHEXANE DERIVATI | 1 | 747 | 0.51 | 0.51 | | | | | | | | |
| SVOC | (TIC) UNKNOWN CYCLOHEXANE, DECYL- | 1 | 747 | 1.4 | 1.4 | | | | | | | | |

**Table 1 FMP TIC Summary**

| Group | Analyte | Soil 0-10 ft | | | | Sediment 0-0.5 ft | | | | Surface Water All Depths | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/L) | Max. (mg/L) |
| SVOC | (TIC) UNKNOWN CYCLOHEXANE-1,2,3-TRIONE-1,3-DIO | 2 | 747 | 0.078 | 0.099 | | | | | | | | |
| SVOC | (TIC) UNKNOWN CYCLOHEXANECARBOXAMIDE | 6 | 747 | 0.079 | 0.22 | | | | | | | | |
| SVOC | (TIC) UNKNOWN CYCLOHEXANOL, 2-[2-PYRIDYL]- | 1 | 747 | 0.31 | 0.31 | | | | | | | | |
| SVOC | (TIC) UNKNOWN CYCLOHEXANOL, 2-METHYL-5-(1-METH | 1 | 747 | 0.086 | 0.086 | | | | | | | | |
| SVOC | (TIC) UNKNOWN CYCLOHEXANOL, 5-METHYL-2-(1-METH | 2 | 747 | 0.43 | 0.6 | | | | | | | | |
| SVOC | (TIC) UNKNOWN CYCLOHEXANONE, 3,3,5-TRIMETHYL-5 | 1 | 747 | 0.34 | 0.34 | | | | | | | | |
| SVOC | (TIC) UNKNOWN CYCLOPENTA(DEF)PHENANTHRENONE | 2 | 747 | 0.17 | 0.28 | | | | | | | | |
| SVOC | (TIC) UNKNOWN CYCLOPENTANECARBOXYLIC ACID, 3-I | 1 | 747 | 0.2 | 0.2 | | | | | | | | |
| SVOC | (TIC) UNKNOWN DECYL ISOBUTYL CARBONATE | 1 | 747 | 0.53 | 0.53 | | | | | | | | |
| SVOC | (TIC) UNKNOWN DIBENZOFURAN, 4-METHYL- | 1 | 747 | 0.32 | 0.32 | | | | | | | | |
| SVOC | (TIC) UNKNOWN DIBENZOTHIOPHENE, 4-METHYL- | 1 | 747 | 0.18 | 0.18 | | | | | | | | |
| SVOC | (TIC) UNKNOWN DICYCLOPENTA[A,D]BENZENE, 4,8-DI | 1 | 747 | 0.082 | 0.082 | | | | | | | | |
| SVOC | (TIC) UNKNOWN DIENE | 1 | 747 | 0.27 | 0.27 | | | | | | | | |
| SVOC | (TIC) UNKNOWN DIETHYLENE GLYCOL MONODODECYL ET | 1 | 747 | 0.38 | 0.38 | | | | | | | | |
| SVOC | (TIC) UNKNOWN DIETHYLMALONIC ACID, MONOCHLORID | 1 | 747 | 0.1 | 0.1 | | | | | | | | |
| SVOC | (TIC) UNKNOWN DIONE | 1 | 747 | 2.2 | 2.2 | | | | | | | | |
| SVOC | (TIC) UNKNOWN DIOXIN DERIVATIVE | 1 | 747 | 0.44 | 0.44 | | | | | | | | |
| SVOC | (TIC) UNKNOWN DI-P-TOLYLACETYLENE | 1 | 747 | 14 | 14 | | | | | | | | |
| SVOC | (TIC) UNKNOWN DL-MEVALONIC ACID LACTONE | 1 | 747 | 0.083 | 0.083 | | | | | | | | |
| SVOC | (TIC) UNKNOWN DODECANAMIDE | 2 | 747 | 0.09 | 0.098 | | | | | | | | |
| SVOC | (TIC) UNKNOWN DODECANOIC ACID, 2,3-DIHYDROXYPR | 2 | 747 | 0.23 | 0.24 | | | | | | | | |
| SVOC | (TIC) UNKNOWN DODECANOIC ACID, 2-HYDROXY-1-(HY | 8 | 747 | 0.1 | 0.42 | | | | | | | | |
| SVOC | (TIC) UNKNOWN DODECANOICACID, 2,3DIHYDROXYPR | 3 | 747 | 0.1 | 0.52 | | | | | | | | |
| SVOC | (TIC) UNKNOWN DODECANOICACID, 2-HYDROXY-1-1 | 1 | 747 | 0.2 | 0.2 | | | | | | | | |
| SVOC | (TIC) UNKNOWN DODECANOICACID, 2-HYDROXY-1-2 | 1 | 747 | 0.27 | 0.27 | | | | | | | | |
| SVOC | (TIC) UNKNOWN DODECANOICACID, 2-HYDROXY-1-3 | 1 | 747 | 0.32 | 0.32 | | | | | | | | |
| SVOC | (TIC) UNKNOWN DODECANOICACID, 2-HYDROXY-1-4 | 1 | 747 | 0.13 | 0.13 | | | | | | | | |
| SVOC | (TIC) UNKNOWN DODECANOICACID, 2-HYDROXY-1-6 | 1 | 747 | 0.2 | 0.2 | | | | | | | | |
| SVOC | (TIC) UNKNOWN DODECANOICACID, 2-HYDROXY-1-7 | 1 | 747 | 0.28 | 0.28 | | | | | | | | |
| SVOC | (TIC) UNKNOWN DODECANOICACID, 2-HYDROXY-1-8 | 1 | 747 | 0.31 | 0.31 | | | | | | | | |
| SVOC | (TIC) UNKNOWN DODECANOYL CHLORIDE | 1 | 747 | 0.14 | 0.14 | | | | | | | | |
| SVOC | (TIC) UNKNOWN DYLCHICINE, 3-DEMETHYL- | 2 | 747 | 0.17 | 0.17 | | | | | | | | |
| SVOC | (TIC) UNKNOWN EICOSANOIC ACID, 2-(ACETYLOXY)-1 | 4 | 747 | 0.097 | 0.13 | | | | | | | | |
| SVOC | (TIC) UNKNOWN EICOSANOIC ACID, 2-(ACETYLOXY)-2 | 1 | 747 | 0.26 | 0.26 | | | | | | | | |
| SVOC | (TIC) UNKNOWN EICOSANOIC ACID, 2,3-BIS(ACETYLO | 19 | 747 | 0.072 | 0.6 | | | | | | | | |
| SVOC | (TIC) UNKNOWN ETHANOL, 2-(2-ETHOXYETHOXY)- | 16 | 747 | 0.096 | 0.36 | | | | | | | | |
| SVOC | (TIC) UNKNOWN ETHANOL, 2-(TETRADECYLOXY)- | 1 | 747 | 0.16 | 0.16 | | | | | | | | |
| SVOC | (TIC) UNKNOWN ETHANOL, 2,2-OXYBIS- | 4 | 747 | 0.083 | 0.14 | | | | | | | | |
| SVOC | (TIC) UNKNOWN ETHANONE, 1-(2,4-DIMETHYLPHENYL) | 1 | 747 | 0.34 | 0.34 | | | | | | | | |
| SVOC | (TIC) UNKNOWN ETHANONE, 1-OXIRANYL- | 3 | 747 | 0.079 | 0.29 | | | | | | | | |
| SVOC | (TIC) UNKNOWN FATTY ACID | 1 | 747 | 0.12 | 0.12 | | | | | | | | |
| SVOC | (TIC) UNKNOWN FERIMZONE | 1 | 747 | 0.1 | 0.1 | | | | | | | | |
| SVOC | (TIC) UNKNOWN FUMARIC ACID, 2-FLUOROPHENYL HEX | 1 | 747 | 0.21 | 0.21 | | | | | | | | |
| SVOC | (TIC) UNKNOWN FUMARIC ACID, HEXYL 2-OCTYL ESTE | 1 | 747 | 0.17 | 0.17 | | | | | | | | |
| SVOC | (TIC) UNKNOWN FUMARIC ACID, NONYL TETRAHYDROFU | 1 | 747 | 0.14 | 0.14 | | | | | | | | |
| SVOC | (TIC) UNKNOWN FURAZANO[3,4-H]1,6-NAPHTHYRIDIN- | 1 | 747 | 0.24 | 0.24 | | | | | | | | |
| SVOC | (TIC) UNKNOWN HALOGENATED COMPOUND | 3 | 747 | 0.12 | 2.8 | | | | | | | | |
| SVOC | (TIC) UNKNOWN HEPTANOIC ACID | 1 | 747 | 0.094 | 0.094 | | | | | | | | |
| SVOC | (TIC) UNKNOWN HEXADECANAMIDE | 6 | 747 | 0.11 | 3.6 | | | | | | | | |
| SVOC | (TIC) UNKNOWN HEXADECANOIC ACID, 14-METHYL-, M | 1 | 747 | 0.14 | 0.14 | | | | | | | | |
| SVOC | (TIC) UNKNOWN HEXADECANOIC ACID, 2,3-BIS | 2 | 747 | 0.11 | 0.2 | | | | | | | | |
| SVOC | (TIC) UNKNOWN HEXADECANOIC ACID, 2,3-BIS(ACETY | 8 | 747 | 0.074 | 0.19 | | | | | | | | |
| SVOC | (TIC) UNKNOWN HEXADECANOIC ACID, 2-HYDROXYETHY | 1 | 747 | 0.14 | 0.14 | | | | | | | | |
| SVOC | (TIC) UNKNOWN HEXADECANOIC ACID, 4-NITROPHENYL | 1 | 747 | 0.1 | 0.1 | | | | | | | | |
| SVOC | (TIC) UNKNOWN HEXADECANOICACID, 2-(ACETYLOXY)1 | 1 | 747 | 0.091 | 0.091 | | | | | | | | |
| SVOC | (TIC) UNKNOWN HEXADECANOICACID, 2-(ACETYLOXY)2 | 1 | 747 | 0.1 | 0.1 | | | | | | | | |
| SVOC | (TIC) UNKNOWN HEXADECANOICACID, 2,3-BIS(ACE | 5 | 747 | 0.1 | 0.22 | | | | | | | | |
| SVOC | (TIC) UNKNOWN HEXADECANOICACID, 4-NITROPHYL | 1 | 747 | 0.17 | 0.17 | | | | | | | | |
| SVOC | (TIC) UNKNOWN HEXAETHYLENE GLYCOL | 1 | 747 | 0.14 | 0.14 | | | | | | | | |
| SVOC | (TIC) UNKNOWN HEXANOIC ACID, 4-OCTYL ESTER | 1 | 747 | 0.091 | 0.091 | | | | | | | | |
| SVOC | (TIC) UNKNOWN HEXYLENE GLYCOL | 8 | 747 | 0.21 | 1.2 | | | | | | | | |
| SVOC | (TIC) UNKNOWN HYDROCARBON | 8 | 747 | 0.14 | 7.8 | | | | | | | | |
| SVOC | (TIC) UNKNOWN HYDROCARBON ACID | 1 | 747 | 0.62 | 0.62 | | | | | | | | |
| SVOC | (TIC) UNKNOWN HYDROXYLAMINE, O-(3-METHYLBUTYL) | 7 | 747 | 0.086 | 0.21 | | | | | | | | |
| SVOC | (TIC) UNKNOWN INDENO[2,1-A]INDENE, 5,10-DIHYDR | 1 | 747 | 11 | 11 | | | | | | | | |
| SVOC | (TIC) UNKNOWN LAURIC ANHYDRIDE | 6 | 747 | 0.11 | 0.37 | | | | | | | | |
| SVOC | (TIC) UNKNOWN MYRISTIN, 1,3-DIACETO-2- | 15 | 747 | 0.082 | 0.27 | | | | | | | | |
| SVOC | (TIC) UNKNOWN MYRISTIN, 2,3-DIACETO-1- | 8 | 747 | 0.084 | 0.28 | | | | | | | | |
| SVOC | (TIC) UNKNOWN N-(3-METHYL-2,5-DIOXO-IMIDAZOLID | 4 | 747 | 0.093 | 0.21 | | | | | | | | |
| SVOC | (TIC) UNKNOWN N-(4-NITROBENZYLIDENE)-2-PENTYL | 4 | 747 | 0.11 | 0.17 | | | | | | | | |
| SVOC | (TIC) UNKNOWN N,N-BIS(2-HYDROXY-ALPHA-METHYLB | 1 | 747 | 0.097 | 0.097 | | | | | | | | |
| SVOC | (TIC) UNKNOWN N,N-DIMETHYLVALERAMIDE | 1 | 747 | 0.23 | 0.23 | | | | | | | | |
| SVOC | (TIC) UNKNOWN NAPHTHALENE DERIVATI | 2 | 747 | 0.78 | 1.1 | | | | | | | | |
| SVOC | (TIC) UNKNOWN NAPHTHALENE DERIVATIVE | 1 | 747 | 0.29 | 0.29 | 2 | 17 | 1.2 | 2.7 | | | | |
| SVOC | (TIC) UNKNOWN NAPHTHALENE, 1,2,3,4-TETRAMETHYL | 1 | 747 | 4 | 4 | | | | | | | | |
| SVOC | (TIC) UNKNOWN NAPHTHALENE, 2-(PHENYLMETHYL)- | 1 | 747 | 0.17 | 0.17 | | | | | | | | |
| SVOC | (TIC) UNKNOWN NAPHTHALENE, 2,3,4,4A,5,6-HEXAHY | 1 | 747 | 0.39 | 0.39 | | | | | | | | |
| SVOC | (TIC) UNKNOWN NAPHTHALENE, 2-PHENYL- | 3 | 747 | 0.11 | 0.12 | | | | | | | | |
| SVOC | (TIC) UNKNOWN NAPHTHALENE, DECAHYDRO-2-METHYL- | 1 | 747 | 0.29 | 0.29 | | | | | | | | |
| SVOC | (TIC) UNKNOWN N-METHYL-N-METHOXYCARBONYLCARBAM | 1 | 747 | 0.15 | 0.15 | | | | | | | | |
| SVOC | (TIC) UNKNOWN N-NONADECANOL-1 | 1 | 747 | 0.29 | 0.29 | | | | | | | | |
| SVOC | (TIC) UNKNOWN NONYL PHENOL | 1 | 747 | 0.76 | 0.76 | | | | | | | | |
| SVOC | (TIC) UNKNOWN NONYLPHENOL | 3 | 747 | 0.77 | 2.1 | | | | | | | | |
| SVOC | (TIC) UNKNOWN OCTADECANAMIDE | 3 | 747 | 0.11 | 0.17 | | | | | | | | |
| SVOC | (TIC) UNKNOWN OCTADECANOIC ACID, ETHENYL ESTER | 4 | 747 | 0.09 | 4 | | | | | | | | |
| SVOC | (TIC) UNKNOWN O-CYMENE | 1 | 747 | 0.89 | 0.89 | | | | | | | | |

**Table 1 FMP TIC Summary**

| Group | Analyte | Soil 0-10 ft | | | | Sediment 0-0.5 ft | | | | Surface Water All Depths | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/L) | Max. (mg/L) |
| SVOC | (TIC) UNKNOWN ORGANIC ACID | 7 | 747 | 0.16 | 1.6 | | | | | | | | |
| SVOC | (TIC) UNKNOWN OXALIC ACID, 6-ETHYLOCT-3-YL ISO | 1 | 747 | 0.34 | 0.34 | | | | | | | | |
| SVOC | (TIC) UNKNOWN OXALIC ACID, ALLYL HEXADECYL EST | 1 | 747 | 0.41 | 0.41 | | | | | | | | |
| SVOC | (TIC) UNKNOWN OXALIC ACID, CYCLOBUTYL HEXADECY | 1 | 747 | 0.27 | 0.27 | | | | | | | | |
| SVOC | (TIC) UNKNOWN OXALIC ACID, ISOBUTYL HEXADECYL | 1 | 747 | 0.12 | 0.12 | | | | | | | | |
| SVOC | (TIC) UNKNOWN OXIDE DERIVATIVE | 1 | 747 | 0.21 | 0.21 | | | | | | | | |
| SVOC | (TIC) UNKNOWN OXIRANE | 12 | 747 | 0.24 | 2.5 | | | | | | | | |
| SVOC | (TIC) UNKNOWN OXIRANE DERIVATIVE | 1 | 747 | 0.12 | 0.12 | | | | | | | | |
| SVOC | (TIC) UNKNOWN OXIRANE, 2-BUTYL-3-METHYL-, CIS- | 1 | 747 | 0.082 | 0.082 | | | | | | | | |
| SVOC | (TIC) UNKNOWN PAH | 80 | 747 | 0.086 | 18 | 8 | 17 | 0.49 | 7 | | | | |
| SVOC | (TIC) UNKNOWN PALMITIC ACID VINYL ESTER | 5 | 747 | 0.12 | 0.41 | | | | | | | | |
| SVOC | (TIC) UNKNOWN PCB | 6 | 747 | 0.18 | 1.1 | | | | | | | | |
| SVOC | (TIC) UNKNOWN PENTAETHYLENE GLYCOL | 1 | 747 | 0.17 | 0.17 | | | | | | | | |
| SVOC | (TIC) UNKNOWN PENTANOIC ACID, 2,2,4-TRIMETHYL- | 8 | 747 | 0.081 | 0.23 | | | | | | | | |
| SVOC | (TIC) UNKNOWN PHEN-1,2-DIOL, 4-FLUORO-5-AMINOA | 1 | 747 | 0.085 | 0.085 | | | | | | | | |
| SVOC | (TIC) UNKNOWN PHENANTHRENE, 1-METHYL- | 1 | 747 | 0.13 | 0.13 | | | | | | | | |
| SVOC | (TIC) UNKNOWN PHENANTHRENE, 2,5-DIMETHYL- | 1 | 747 | 2.6 | 2.6 | | | | | | | | |
| SVOC | (TIC) UNKNOWN PHENANTHRENE, 3,6-DIMETHYL- | 4 | 747 | 0.1 | 20 | | | | | | | | |
| SVOC | (TIC) UNKNOWN PHENOL | 2 | 747 | 0.38 | 0.83 | | | | | | | | |
| SVOC | (TIC) UNKNOWN PHENOL DERIVATIVE | | | | | 1 | 17 | 2.4 | 2.4 | | | | |
| SVOC | (TIC) UNKNOWN PHENOL, 3-(1,1-DIMETHYLETHYL)-4- | 1 | 747 | 0.24 | 0.24 | | | | | | | | |
| SVOC | (TIC) UNKNOWN PHENOL, 4-CHLORO-2-METHYL- | 1 | 747 | 0.081 | 0.081 | | | | | | | | |
| SVOC | (TIC) UNKNOWN PHTHALATE | 2 | 747 | 0.18 | 0.3 | 1 | 17 | 0.32 | 0.32 | | | | |
| SVOC | (TIC) UNKNOWN PHTHALIC ACID, 2-CHLOROETHYL NON | 1 | 747 | 0.089 | 0.089 | | | | | | | | |
| SVOC | (TIC) UNKNOWN PHTHALIC ACID, MONOETHYL ESTER | 1 | 747 | 0.089 | 0.089 | | | | | | | | |
| SVOC | (TIC) UNKNOWN PHTHALIC ANHYDRIDE | 38 | 747 | 0.084 | 10 | | | | | | | | |
| SVOC | (TIC) UNKNOWN PICOLINYL 8-(5-HEXYL-2-FURYL)-OC | 17 | 747 | 0.093 | 11 | | | | | | | | |
| SVOC | (TIC) UNKNOWN PNA M.W. = 252 | 1 | 747 | 0.38 | 0.38 | | | | | | | | |
| SVOC | (TIC) UNKNOWN PNA M.W.= 252 | 1 | 747 | 2.2 | 2.2 | | | | | | | | |
| SVOC | (TIC) UNKNOWN POLYCHLORINATED COMPOUND | 7 | 747 | 0.076 | 1.8 | | | | | | | | |
| SVOC | (TIC) UNKNOWN POLYCYCLIC HYDROCARBON | 8 | 747 | 0.13 | 9.7 | | | | | | | | |
| SVOC | (TIC) UNKNOWN POLYTERPENE DERIVATIVE | 93 | 747 | 0.094 | 9 | 5 | 17 | 0.26 | 5.9 | | | | |
| SVOC | (TIC) UNKNOWN PROPANOIC ACID, 2-METHYL-, 1-(1, | 6 | 747 | 0.088 | 0.68 | | | | | | | | |
| SVOC | (TIC) UNKNOWN PROPANOIC ACID, 2-METHYL-, 2,2-D | 1 | 747 | 0.092 | 0.092 | | | | | | | | |
| SVOC | (TIC) UNKNOWN PROPANOIC ACID, 2-METHYL-, 2-MET | 1 | 747 | 0.14 | 0.14 | | | | | | | | |
| SVOC | (TIC) UNKNOWN PROPANOIC ACID, 2-METHYL-, 2-PRO | 1 | 747 | 0.2 | 0.2 | | | | | | | | |
| SVOC | (TIC) UNKNOWN PROPANOIC ACID, 2-METHYL-, 3-HYD | 1 | 747 | 0.11 | 0.11 | | | | | | | | |
| SVOC | (TIC) UNKNOWN PROPIONITRILE, 3-[(ISOCHROMAN-1- | 1 | 747 | 0.26 | 0.26 | | | | | | | | |
| SVOC | (TIC) UNKNOWN PYRAZOLO[1,5-A]PYRIMIDINE-7-CARB | 1 | 747 | 0.087 | 0.087 | | | | | | | | |
| SVOC | (TIC) UNKNOWN PYRENE, 1-METHYL- | 5 | 747 | 0.086 | 0.15 | | | | | | | | |
| SVOC | (TIC) UNKNOWN PYRIDINE, 1,2,3,6-TETRAHYDRO-4-P | 3 | 747 | 0.13 | 0.32 | | | | | | | | |
| SVOC | (TIC) UNKNOWN PYROLLIDINE, 2,5-BIS(IMINO)- | 1 | 747 | 0.097 | 0.097 | | | | | | | | |
| SVOC | (TIC) UNKNOWN QUINOLINE DERIVATIVE | 1 | 747 | 0.83 | 0.83 | | | | | | | | |
| SVOC | (TIC) UNKNOWN QUINOLINE, 5-METHYL- | 1 | 747 | 0.12 | 0.12 | | | | | | | | |
| SVOC | (TIC) UNKNOWN QUINOLINE, 8-PROPYL- | 4 | 747 | 0.091 | 0.22 | | | | | | | | |
| SVOC | (TIC) UNKNOWN SILANE, TRIMETHYL(2-NAPHTHALENYL | 2 | 747 | 0.24 | 0.62 | | | | | | | | |
| SVOC | (TIC) UNKNOWN S-INDACEN-1(2H)-ONE, 3,5,6,7-TET | 1 | 747 | 2.9 | 2.9 | | | | | | | | |
| SVOC | (TIC) UNKNOWN SITOSTEROL ISOMER | 6 | 747 | 1.5 | 5.7 | | | | | | | | |
| SVOC | (TIC) UNKNOWN STERANE DERIVATIVE | | | | | 1 | 17 | 1.9 | 1.9 | | | | |
| SVOC | (TIC) UNKNOWN STIGMASTEROL DERIVAT | 2 | 747 | 0.36 | 0.6 | | | | | | | | |
| SVOC | (TIC) UNKNOWN STRAIGHT CHAIN ALKANE | 28 | 747 | 0.13 | 2.9 | | | | | | | | |
| SVOC | (TIC) UNKNOWN SUBSTITUTED BENZENE | 2 | 747 | 0.17 | 0.21 | | | | | | | | |
| SVOC | (TIC) UNKNOWN SUBSTITUTED INDENE | 1 | 747 | 0.095 | 0.095 | | | | | | | | |
| SVOC | (TIC) UNKNOWN SUBSTITUTED NAPTHALENE | 6 | 747 | 0.1 | 3.1 | | | | | | | | |
| SVOC | (TIC) UNKNOWN SUBSTITUTED PHENOL | 1 | 747 | 1.9 | 1.9 | | | | | | | | |
| SVOC | (TIC) UNKNOWN SUBSTITUTED PROPENE | 1 | 747 | 0.33 | 0.33 | | | | | | | | |
| SVOC | (TIC) UNKNOWN SULFUR | 5 | 747 | 0.11 | 2.4 | | | | | | | | |
| SVOC | (TIC) UNKNOWN SULFUROUS ACID, DECYL 2-ETHYLHEX | 1 | 747 | 0.17 | 0.17 | | | | | | | | |
| SVOC | (TIC) UNKNOWN TERT-BUTYL PHENYL CARBONATE | 1 | 747 | 0.12 | 0.12 | | | | | | | | |
| SVOC | (TIC) UNKNOWN TETRADECANAMIDE | 4 | 747 | 0.092 | 0.14 | | | | | | | | |
| SVOC | (TIC) UNKNOWN THIOINDIGO | 1 | 747 | 0.12 | 0.12 | | | | | | | | |
| SVOC | (TIC) UNKNOWN THIOPHENE | 24 | 747 | 0.081 | 2.9 | | | | | | | | |
| SVOC | (TIC) UNKNOWN THIOPHENE DERIVATIVE | 1 | 747 | 0.25 | 0.25 | | | | | | | | |
| SVOC | (TIC) UNKNOWN TRANS, TRANS-2-ETHYLBICYCLO[4.4. | 1 | 747 | 0.24 | 0.24 | | | | | | | | |
| SVOC | (TIC) UNKNOWN TRANS,TRANS-3-ETHYLBICYCLO[4.4.0 | 1 | 747 | 0.28 | 0.28 | | | | | | | | |
| SVOC | (TIC) UNKNOWN TRANS-1,2-BIS(METHYLDICHLOROSILY | 1 | 747 | 0.091 | 0.091 | | | | | | | | |
| SVOC | (TIC) UNKNOWN TRANS-1,3-BIS(ACETAMIDOMETHYL)CY | 1 | 747 | 0.1 | 0.1 | | | | | | | | |
| SVOC | (TIC) UNKNOWN TRANS-1,4-BIS(ACETAMIDOMETHYL)CY | 1 | 747 | 0.15 | 0.15 | | | | | | | | |
| SVOC | (TIC) UNKNOWN TRANS-2,3-EPOXYDECANE | 1 | 747 | 0.1 | 0.1 | | | | | | | | |
| SVOC | (TIC) UNKNOWN TRICYCLO[8.2.2.2(4,7)]HEXADECA-2 | 1 | 747 | 0.2 | 0.2 | | | | | | | | |
| SVOC | (TIC) UNKNOWN VALINE, N-THIOCARBOPHENYLAMINO- | 1 | 747 | 0.31 | 0.31 | | | | | | | | |
| SVOC | (TIC) UNKNOWN VANADIUM, CYCLOHEPTATRIENYL-(PEN | 1 | 747 | 0.31 | 0.31 | | | | | | | | |
| SVOC | (TIC) UNKNOWNALDEHYDE | 1 | 747 | 0.43 | 0.43 | | | | | | | | |
| SVOC | (TIC) UNKNOWNALDOLCONDENSATE | 64 | 747 | 1.1 | 86 | | | | | | | | |
| SVOC | (TIC) UNKNOWNALKANE | 63 | 747 | 0.11 | 75 | | | | | | | | |
| SVOC | (TIC) UNKNOWNALKANE/UNKNOWN | 7 | 747 | 0.27 | 2.7 | | | | | | | | |
| SVOC | (TIC) UNKNOWNALKENE | 1 | 747 | 0.32 | 0.32 | | | | | | | | |
| SVOC | (TIC) UNKNOWNAROMATIC | 1 | 747 | 73 | 73 | | | | | | | | |
| SVOC | (TIC) UNKNOWNCYCLOALKANE | 27 | 747 | 0.18 | 120 | | | | | | | | |
| SVOC | (TIC) UNKNOWNPHTHALATE | 1 | 747 | 0.99 | 0.99 | | | | | | | | |
| SVOC | (TIC) UNKNOWNPHTHALATEESTER | 1 | 747 | 0.28 | 0.28 | | | | | | | | |
| SVOC | (TIC) UNKNOWNSILOXANE | 4 | 747 | 0.26 | 1.3 | | | | | | | | |
| SVOC | (TIC) UNKNOWNSTEROL | 44 | 747 | 0.58 | 20 | | | | | | | | |
| SVOC | (TIC) UNKNWON ACID | 1 | 747 | 0.34 | 0.34 | | | | | | | | |
| SVOC | (TIC) UNKP | 1 | 747 | 0.1 | 0.1 | | | | | | | | |
| SVOC | (TIC) URS-12-EN-24-OIC ACID, 3-OXO-, METHYL ES | 2 | 747 | 0.17 | 0.67 | | | | | | | | |

**Table 1 FMP TIC Summary**

| Group | Analyte | Soil 0-10 ft | | | | Sediment 0-0.5 ft | | | | Surface Water All Depths | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/L) | Max. (mg/L) |
| SVOC | (TIC) URS-12-ENE | 1 | 747 | 7.4 | 7.4 | | | | | | | | |
| SVOC | (TIC) URS-12-ENE, 3-METHOXY-, (3.BETA.)- | 1 | 747 | 0.31 | 0.31 | | | | | | | | |
| SVOC | (TIC) URS-20-EN-16-OL, (16.BETA.,18.ALPHA.,19. | 1 | 747 | 0.11 | 0.11 | | | | | | | | |
| SVOC | (TIC) VINYLCYCLOHEXYL ETHER | 3 | 747 | 2.3 | 100 | | | | | | | | |
| SVOC | (TIC) VITAMIN E | 1 | 747 | 1.7 | 1.7 | | | | | | | | |
| SVOC | (TIC) VITAMINE | 3 | 747 | 0.97 | 2.5 | | | | | | | | |
| SVOC | (TIC) Z-11-TETRADECENOIC ACID | 1 | 747 | 0.88 | 0.88 | | | | | | | | |
| SVOC | (TIC) Z-1-METHOXY-2-HEXENE | 1 | 747 | 0.65 | 0.65 | | | | | | | | |
| SVOC | (TIC) Z-9-PENTADECENOL | 1 | 747 | 3.1 | 3.1 | | | | | | | | |
| VOC | (TIC) (1-METHYLBUTA-1,3-DIENYL)BENZENE | 1 | 432 | 4.2 | 4.2 | | | | | | | | |
| VOC | (TIC) (1R)-2,6,6-TRIMETHYLBICYCLO[3.1.1]HEPT-2 | 1 | 432 | 0.0087 | 0.0087 | | | | | | | | |
| VOC | (TIC) .BETA.-PINENE | 3 | 432 | 0.007 | 0.02 | | | | | | | | |
| VOC | (TIC) 1,2,3-TRIMETHYLINDENE | 1 | 432 | 0.41 | 0.41 | | | | | | | | |
| VOC | (TIC) 1,2,4-TRIMETHYLBENZENE | 23 | 432 | 0.0061 | 480 | | | | | | | | |
| VOC | (TIC) 1,3-CYCLOPENTADIENE, 1,2,3,4-TETRAMETHYL | 5 | 432 | 0.64 | 120 | | | | | | | | |
| VOC | (TIC) 1-BUTANOL | 1 | 432 | 0.0052 | 0.0052 | | | | | | | | |
| VOC | (TIC) 1-DODECANOL, 3,7,11-TRIMETHYL- | 1 | 432 | 0.39 | 0.39 | | | | | | | | |
| VOC | (TIC) 1H-3A,7-METHANOAZULENE, 2,3,4,7,8,8A-HEX | 1 | 432 | 0.01 | 0.01 | | | | | | | | |
| VOC | (TIC) 1-HEPTENE | 5 | 432 | 0.8 | 84 | | | | | | | | |
| VOC | (TIC) 1-HEXENE, 3,3,5-TRIMETHYL- | 1 | 432 | 25 | 25 | | | | | | | | |
| VOC | (TIC) 1H-INDENE, 1,1,3-TRIMETHYL- | 1 | 432 | 0.31 | 0.31 | | | | | | | | |
| VOC | (TIC) 1H-INDENE, 1,1-DIMETHYL- | 1 | 432 | 2.7 | 2.7 | | | | | | | | |
| VOC | (TIC) 1H-INDENE, 1,3-DIMETHYL- | 1 | 432 | 3.2 | 3.2 | | | | | | | | |
| VOC | (TIC) 1H-INDENE, 1-ETHENYL-2,3-DIHYDRO- | 1 | 432 | 1.6 | 1.6 | | | | | | | | |
| VOC | (TIC) 1H-INDENE, 2,3-DIHYDRO-1,1-DIMETHYL- | 10 | 432 | 0.0059 | 16 | | | | | | | | |
| VOC | (TIC) 1H-INDENE, 2,3-DIHYDRO-1,2-DIMETHYL- | 1 | 432 | 1.9 | 1.9 | | | | | | | | |
| VOC | (TIC) 1H-INDENE, 2,3-DIHYDRO-1,3-DIMETHYL- | 1 | 432 | 1.1 | 1.1 | | | | | | | | |
| VOC | (TIC) 1H-INDENE, 2,3-DIHYDRO-1,4,7-TRIMETHYL- | 1 | 432 | 0.0093 | 0.0093 | | | | | | | | |
| VOC | (TIC) 1H-INDENE, 2,3-DIHYDRO-4,7-DIMETHYL- | 4 | 432 | 0.65 | 6.8 | | | | | | | | |
| VOC | (TIC) 1H-INDENE, OCTAHYDRO-, CIS- | 7 | 432 | 0.0084 | 120 | | | | | | | | |
| VOC | (TIC) 1H-INDENE,2,3-DIHYDRO-1,3-DIMETHYL- | 1 | 432 | 30 | 30 | | | | | | | | |
| VOC | (TIC) 1H-INDENE,2,3-DIHYDRO-2,2-DIMETHYL- | 1 | 432 | 1.3 | 1.3 | | | | | | | | |
| VOC | (TIC) 1-METHYLDECAHYDRONAPHTHALENE | 16 | 432 | 0.0071 | 260 | | | | | | | | |
| VOC | (TIC) 1-PHENYL-1-BUTENE | 4 | 432 | 0.33 | 1 | | | | | | | | |
| VOC | (TIC) 1R-.ALPHA.-PINENE | 4 | 432 | 0.012 | 0.16 | | | | | | | | |
| VOC | (TIC) 1S-.ALPHA.-PINENE | 2 | 432 | 0.0079 | 0.081 | | | | | | | | |
| VOC | (TIC) 1-TRIDECENE | 1 | 432 | 0.31 | 0.31 | | | | | | | | |
| VOC | (TIC) 2,3-DIHYDRO-METHYL-1H-INDENEISOMER | 1 | 432 | 1.2 | 1.2 | | | | | | | | |
| VOC | (TIC) 2,4A,8,8-TETRAMETHYLDECAHYDROCYCLOPROPA[ | 1 | 432 | 0.011 | 0.011 | | | | | | | | |
| VOC | (TIC) 2,4-DIMETHYLSTYRENE | 1 | 432 | 0.025 | 0.025 | | | | | | | | |
| VOC | (TIC) 251 C3-ALKENYLBENZENE | | | | | | | | | 1 | 5 | 0.003 | 0.003 |
| VOC | (TIC) 252 C3-ALKYLBENZENE | | | | | | | | | 1 | 5 | 0.001 | 0.001 |
| VOC | (TIC) 253 C4-ALKYLBENZENE | | | | | | | | | 1 | 5 | 0.001 | 0.001 |
| VOC | (TIC) 254 C4-ALKYLBENZENE | | | | | | | | | 1 | 5 | 0.001 | 0.001 |
| VOC | (TIC) 255 CYCLOALKANE | | | | | | | | | 1 | 5 | 0.001 | 0.001 |
| VOC | (TIC) 278 1-HEXACOSANOL | 1 | 432 | 40 | 40 | | | | | | | | |
| VOC | (TIC) 280 BENZENE, 1-METHYL-2-(1-METHYLE | 1 | 432 | 50 | 50 | | | | | | | | |
| VOC | (TIC) 281 BENZENE, 1-METHYL-4-(2-METHYLP | 1 | 432 | 60 | 60 | | | | | | | | |
| VOC | (TIC) 282 BENZENE, 4-ETHYL-1,2-DIMETHYL- | 1 | 432 | 50 | 50 | | | | | | | | |
| VOC | (TIC) 283 BENZENE, 4-ETHYL-1,2-DIMETHYL- | 1 | 432 | 60 | 60 | | | | | | | | |
| VOC | (TIC) 284 CYCLOHEXANE, (2-METHYLPROPYL)- | 1 | 432 | 100 | 100 | | | | | | | | |
| VOC | (TIC) 285 CYCLOHEXANE, 1-METHYL-2-PROPYL | 1 | 432 | 80 | 80 | | | | | | | | |
| VOC | (TIC) 286 CYCLOPENTANE, 1-METHYL-3-(1-ME | 1 | 432 | 40 | 40 | | | | | | | | |
| VOC | (TIC) 287 DECANE, 4-METHYL- | 1 | 432 | 50 | 50 | | | | | | | | |
| VOC | (TIC) 288 NAPHTHALENE, DECAHYDRO-, TRANS | 1 | 432 | 70 | 70 | | | | | | | | |
| VOC | (TIC) 2-METHYLADAMANTANE | 5 | 432 | 0.014 | 34 | | | | | | | | |
| VOC | (TIC) 2-METHYLDECALIN(PROBABLYTRANS) | 3 | 432 | 1.1 | 120 | | | | | | | | |
| VOC | (TIC) 2-NONENE, (E)- | 1 | 432 | 0.73 | 0.73 | | | | | | | | |
| VOC | (TIC) 3,4-DIMETHYLCUMENE | 1 | 432 | 0.024 | 0.024 | | | | | | | | |
| VOC | (TIC) 3,5-DIMETHYL-3-HEPTENE | 1 | 432 | 0.029 | 0.029 | | | | | | | | |
| VOC | (TIC) 306 C3-ALKYLBENZENE | 1 | 432 | 300 | 300 | | | | | | | | |
| VOC | (TIC) 307 C3-ALKYLBENZENE | 1 | 432 | 400 | 400 | | | | | | | | |
| VOC | (TIC) 308 C3-ALKYLBENZENE | 1 | 432 | 400 | 400 | | | | | | | | |
| VOC | (TIC) 309 C4-ALKYLBENZENE | 1 | 432 | 300 | 300 | | | | | | | | |
| VOC | (TIC) 319 BENZENE, 1-METHYL-2-(1-METHYLE | 1 | 432 | 100 | 100 | | | | | | | | |
| VOC | (TIC) 320 CYCLOHEXANE, (2-METHYLPROPYL)- | 1 | 432 | 100 | 100 | | | | | | | | |
| VOC | (TIC) 321 CYCLOHEXANE, 1,3-DIMETHYL-, TR | 1 | 432 | 90 | 90 | | | | | | | | |
| VOC | (TIC) 322 CYCLOHEXANONE, 2,3-DIMETHYL- | 1 | 432 | 200 | 200 | | | | | | | | |
| VOC | (TIC) 323 DECANE, 4-METHYL- | 1 | 432 | 100 | 100 | | | | | | | | |
| VOC | (TIC) 324 NAPHTHALENE, DECAHYDRO-, TRANS | 1 | 432 | 100 | 100 | | | | | | | | |
| VOC | (TIC) 325 NONANE, 3-METHYL- | 1 | 432 | 100 | 100 | | | | | | | | |
| VOC | (TIC) 326 1-ETHYL-3-METHYLCYCLOHEXANE (C | 1 | 432 | 300 | 300 | | | | | | | | |
| VOC | (TIC) 328 BENZENE, 1-METHYL-3-(1-METHYLE | 1 | 432 | 400 | 400 | | | | | | | | |
| VOC | (TIC) 329 CYCLOHEXANE, (1-METHYLPROPYL)- | 1 | 432 | 300 | 300 | | | | | | | | |
| VOC | (TIC) 330 CYCLOHEXANE, 1,1,3-TRIMETHYL- | 1 | 432 | 300 | 300 | | | | | | | | |
| VOC | (TIC) 331 CYCLOHEXANE, 1-ETHYL-2-METHYL- | 1 | 432 | 200 | 200 | | | | | | | | |
| VOC | (TIC) 332 CYCLOHEXANE, PROPYL- | 1 | 432 | 400 | 400 | | | | | | | | |
| VOC | (TIC) 333 HEPTANE, 2-METHYL- | 1 | 432 | 400 | 400 | | | | | | | | |
| VOC | (TIC) 334 NAPHTHALENE, DECAHYDRO-, TRANS | 1 | 432 | 300 | 300 | | | | | | | | |
| VOC | (TIC) 335 NONANE, 3-METHYL- | 1 | 432 | 300 | 300 | | | | | | | | |
| VOC | (TIC) 336 OCTANE, 3-METHYL- | 1 | 432 | 300 | 300 | | | | | | | | |
| VOC | (TIC) 338 4-TERT-BUTYLCYCLOHEXYL ACETATE | 1 | 432 | 200 | 200 | | | | | | | | |
| VOC | (TIC) 340 BENZENE, 1-ETHYL-2-METHYL- | 1 | 432 | 200 | 200 | | | | | | | | |
| VOC | (TIC) 341 BENZENE, 1-METHYL-3-(1-METHYLE | 1 | 432 | 200 | 200 | | | | | | | | |
| VOC | (TIC) 342 CYCLOHEXANE, 1,1,3-TRIMETHYL- | 1 | 432 | 200 | 200 | | | | | | | | |
| VOC | (TIC) 343 CYCLOHEXANE, ETHYL- | 1 | 432 | 200 | 200 | | | | | | | | |

**Table 1 FMP TIC Summary**

| Group | Analyte | Soil 0-10 ft | | | | Sediment 0-0.5 ft | | | | Surface Water All Depths | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/L) | Max. (mg/L) |
| VOC | (TIC) 344 CYCLOHEXANE, PROPYL- | 1 | 432 | 300 | 300 | | | | | | | | |
| VOC | (TIC) 345 HEPTANE, 2,3-DIMETHYL- | 1 | 432 | 200 | 200 | | | | | | | | |
| VOC | (TIC) 346 HEPTANE, 2-METHYL- | 1 | 432 | 400 | 400 | | | | | | | | |
| VOC | (TIC) 347 NONANE | 1 | 432 | 300 | 300 | | | | | | | | |
| VOC | (TIC) 348 OCTANE | 1 | 432 | 300 | 300 | | | | | | | | |
| VOC | (TIC) 372 ALKANE | 1 | 432 | 500 | 500 | | | | | | | | |
| VOC | (TIC) 373 ALKANE | 1 | 432 | 700 | 700 | | | | | | | | |
| VOC | (TIC) 374 C3-ALKYLBENZENE | 1 | 432 | 100 | 100 | | | | | | | | |
| VOC | (TIC) 375 C3-ALKYLBENZENE | 1 | 432 | 300 | 300 | | | | | | | | |
| VOC | (TIC) 376 C3-ALKYLBENZENE | 1 | 432 | 300 | 300 | | | | | | | | |
| VOC | (TIC) 377 C4-ALKYLBENZENE | 1 | 432 | 100 | 100 | | | | | | | | |
| VOC | (TIC) 378 CYCLOALKANE | 1 | 432 | 100 | 100 | | | | | | | | |
| VOC | (TIC) 379 CYCLOALKANE | 1 | 432 | 1000 | 1000 | | | | | | | | |
| VOC | (TIC) 382 ALKANE | 1 | 432 | 1 | 1 | | | | | | | | |
| VOC | (TIC) 383 ALKANE | 1 | 432 | 2 | 2 | | | | | | | | |
| VOC | (TIC) 384 ALKANE | 1 | 432 | 3 | 3 | | | | | | | | |
| VOC | (TIC) 385 ALKANE | 1 | 432 | 4 | 4 | | | | | | | | |
| VOC | (TIC) 386 ALKANE | 1 | 432 | 8 | 8 | | | | | | | | |
| VOC | (TIC) 387 C3-ALKYLBENZENE | 1 | 432 | 2 | 2 | | | | | | | | |
| VOC | (TIC) 388 C3-ALKYLBENZENE | 1 | 432 | 3 | 3 | | | | | | | | |
| VOC | (TIC) 389 CYCLOALKANE | 1 | 432 | 2 | 2 | | | | | | | | |
| VOC | (TIC) 390 CYCLOALKANE | 1 | 432 | 3 | 3 | | | | | | | | |
| VOC | (TIC) 3A,7-METHANO-3AH-CYCLOPENTACYCLOOCTENE, | 1 | 432 | 0.0085 | 0.0085 | | | | | | | | |
| VOC | (TIC) 3METHYLPC6 | | | | | | | | | 3 | 5 | 0.008 | 0.01 |
| VOC | (TIC) 3-OCTANONE | 1 | 432 | 0.012 | 0.012 | | | | | | | | |
| VOC | (TIC) 413 C3-ALKYLBENZENE | 1 | 432 | 200 | 200 | | | | | | | | |
| VOC | (TIC) 414 C3-ALKYLBENZENE | 1 | 432 | 300 | 300 | | | | | | | | |
| VOC | (TIC) 415 C4-ALKYLBENZENE | 1 | 432 | 200 | 200 | | | | | | | | |
| VOC | (TIC) 416 CYCLOALKANE | 1 | 432 | 100 | 100 | | | | | | | | |
| VOC | (TIC) 423 ALKANE | 1 | 432 | 500 | 500 | | | | | | | | |
| VOC | (TIC) 424 C3-ALKYLBENZENE | 1 | 432 | 400 | 400 | | | | | | | | |
| VOC | (TIC) 425 C4-ALKYLBENZENE | 1 | 432 | 400 | 400 | | | | | | | | |
| VOC | (TIC) 426 CYCLOALKANE | 1 | 432 | 300 | 300 | | | | | | | | |
| VOC | (TIC) 427 CYCLOALKANE | 1 | 432 | 300 | 300 | | | | | | | | |
| VOC | (TIC) 428 CYCLOALKANE | 1 | 432 | 300 | 300 | | | | | | | | |
| VOC | (TIC) 429 CYCLOALKANE | 1 | 432 | 400 | 400 | | | | | | | | |
| VOC | (TIC) 5-DECENE, (E)- | 1 | 432 | 0.092 | 0.092 | | | | | | | | |
| VOC | (TIC) ACETIC ACID, 2-ETHYLHEXYL ESTER | 3 | 432 | 0.0056 | 0.016 | | | | | | | | |
| VOC | (TIC) ADAMANTANE | 7 | 432 | 0.02 | 0.73 | | | | | | | | |
| VOC | (TIC) ADAMANTANE, 1,3-DIMETHYL- | 5 | 432 | 0.0061 | 0.42 | | | | | | | | |
| VOC | (TIC) ALKYL1 | 3 | 432 | 0.5 | 100 | | | | | | | | |
| VOC | (TIC) ALKYL2 | 3 | 432 | 0.6 | 200 | | | | | | | | |
| VOC | (TIC) ALPHA-PINENE,(-)- | 1 | 432 | 3.2 | 3.2 | | | | | | | | |
| VOC | (TIC) AROMHYDRO1 | 1 | 432 | 0.4 | 0.4 | | | | | | | | |
| VOC | (TIC) AZULENE | 2 | 432 | 6 | 8.2 | | | | | | | | |
| VOC | (TIC) BENZ1 | 3 | 432 | 60 | 300 | | | | | | | | |
| VOC | (TIC) BENZ2 | 2 | 432 | 70 | 200 | | | | | | | | |
| VOC | (TIC) BENZ3 | 1 | 432 | 300 | 300 | | | | | | | | |
| VOC | (TIC) BENZACID1 | 4 | 432 | 0.2 | 0.2 | | | | | | | | |
| VOC | (TIC) BENZENE, (1-METHYL-1-PROPENYL)-, (Z)- | 1 | 432 | 0.0065 | 0.0065 | | | | | | | | |
| VOC | (TIC) BENZENE, (1-METHYLPROPYL)- | 1 | 432 | 0.018 | 0.018 | | | | | | | | |
| VOC | (TIC) BENZENE, (3-METHYL-2-BUTENYL)- | 1 | 432 | 9.5 | 9.5 | | | | | | | | |
| VOC | (TIC) BENZENE, 1-(1-METHYLETHENYL)-3-(1-METHYL | 1 | 432 | 0.57 | 0.57 | | | | | | | | |
| VOC | (TIC) BENZENE, 1,2,3,4-TETRAMETHYL- | 6 | 432 | 0.0085 | 100 | | | | | | | | |
| VOC | (TIC) BENZENE, 1,2,3,5-TETRAMETHYL- | 14 | 432 | 0.0071 | 180 | | | | | | | | |
| VOC | (TIC) BENZENE, 1,2,3-TRIMETHYL- | 14 | 432 | 0.01 | 170 | 1 | 11 | 0.063 | 0.063 | | | | |
| VOC | (TIC) BENZENE, 1,2,4,5-TETRAMETHYL- | 42 | 432 | 0.0069 | 290 | | | | | | | | |
| VOC | (TIC) BENZENE, 1,2-DIETHYL- | 12 | 432 | 0.012 | 210 | | | | | | | | |
| VOC | (TIC) BENZENE, 1,3,5-TRIMETHYL- | 20 | 432 | 0.049 | 510 | | | | | | | | |
| VOC | (TIC) BENZENE, 1,3-DIETHYL- | 5 | 432 | 5.9 | 90 | | | | | | | | |
| VOC | (TIC) BENZENE, 1,3-DIETHYL-5-METHYL- | 4 | 432 | 0.76 | 18 | | | | | | | | |
| VOC | (TIC) BENZENE, 1,3-DIMETHYL-5-(1-METHYLETHYL)- | 6 | 432 | 0.48 | 45 | | | | | | | | |
| VOC | (TIC) BENZENE, 1,4-DIETHYL- | 7 | 432 | 0.0086 | 45 | | | | | | | | |
| VOC | (TIC) BENZENE, 1,4-DIETHYL-2-METHYL- | 1 | 432 | 23 | 23 | | | | | | | | |
| VOC | (TIC) BENZENE, 1,4-DIMETHYL-2-(1-METHYLETHYL)- | 4 | 432 | 24 | 72 | | | | | | | | |
| VOC | (TIC) BENZENE, 1-ETHENYL-2-METHYL- | 1 | 432 | 14 | 14 | | | | | | | | |
| VOC | (TIC) BENZENE, 1-ETHENYL-3-METHYL- | 1 | 432 | 15 | 15 | | | | | | | | |
| VOC | (TIC) BENZENE, 1-ETHYL-2,3-DIMETHYL- | 12 | 432 | 0.049 | 230 | | | | | | | | |
| VOC | (TIC) BENZENE, 1-ETHYL-2,4,5-TRIMETHYL- | 1 | 432 | 4 | 4 | | | | | | | | |
| VOC | (TIC) BENZENE, 1-ETHYL-2,4-DIMETHYL- | 15 | 432 | 0.0093 | 320 | 1 | 11 | 0.008 | 0.008 | | | | |
| VOC | (TIC) BENZENE, 1-ETHYL-2-METHYL- | 7 | 432 | 0.32 | 300 | 1 | 11 | 0.011 | 0.011 | | | | |
| VOC | (TIC) BENZENE, 1-ETHYL-3-(1-METHYLETHYL)- | 2 | 432 | 2.6 | 74 | | | | | | | | |
| VOC | (TIC) BENZENE, 1-ETHYL-3,5-DIMETHYL- | 22 | 432 | 0.0056 | 240 | | | | | | | | |
| VOC | (TIC) BENZENE, 1-ETHYL-4-(1-METHYLETHYL)- | 1 | 432 | 1.7 | 1.7 | | | | | | | | |
| VOC | (TIC) BENZENE, 1-ETHYL-4-METHYL- | 5 | 432 | 0.063 | 170 | 1 | 11 | 0.019 | 0.019 | | | | |
| VOC | (TIC) BENZENE, 1-METHYL-2-(1-METHYLETHYL)- | 37 | 432 | 0.0057 | 390 | | | | | | | | |
| VOC | (TIC) BENZENE, 1-METHYL-2-PROPYL- | 4 | 432 | 0.49 | 2.7 | | | | | | | | |
| VOC | (TIC) BENZENE, 1-METHYL-3-(1-METHYLETHYL)- | 18 | 432 | 0.0056 | 190 | | | | | | | | |
| VOC | (TIC) BENZENE, 1-METHYL-3-PROPYL- | 3 | 432 | 0.019 | 6.9 | | | | | | | | |
| VOC | (TIC) BENZENE, 1-METHYL-4-(1-METHYLETHYL)- | 7 | 432 | 0.016 | 160 | | | | | | | | |
| VOC | (TIC) BENZENE, 1-METHYL-4-(1-METHYLPROPYL)- | 2 | 432 | 4.6 | 20 | | | | | | | | |
| VOC | (TIC) BENZENE, 1-METHYL-4-PROPYL- | 2 | 432 | 0.3 | 0.95 | | | | | | | | |
| VOC | (TIC) BENZENE, 1-PROPENYL- | 1 | 432 | 8.8 | 8.8 | | | | | | | | |
| VOC | (TIC) BENZENE, 2,4-DIETHYL-1-METHYL- | 3 | 432 | 2.5 | 3.7 | | | | | | | | |
| VOC | (TIC) BENZENE, 2,4-DIMETHYL-1-(1-METHYLETHYL)- | 1 | 432 | 22 | 22 | | | | | | | | |
| VOC | (TIC) BENZENE, 2-BUTENYL- | 1 | 432 | 6.4 | 6.4 | | | | | | | | |

**Table 1 FMP TIC Summary**

| Group | Analyte | Soil 0-10 ft | | | | Sediment 0-0.5 ft | | | | Surface Water All Depths | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/L) | Max. (mg/L) |
| VOC | (TIC) BENZENE, 2-ETHENYL-1,3-DIMETHYL- | 1 | 432 | 3.4 | 3.4 | | | | | | | | |
| VOC | (TIC) BENZENE, 2-ETHYL-1,3-DIMETHYL- | 7 | 432 | 0.49 | 420 | | | | | | | | |
| VOC | (TIC) BENZENE, 2-ETHYL-1,4-DIMETHYL- | 23 | 432 | 0.01 | 140 | | | | | | | | |
| VOC | (TIC) BENZENE, 4-(2-BUTENYL)-1,2-DIMETHYL-, (E | 1 | 432 | 0.49 | 0.49 | | | | | | | | |
| VOC | (TIC) BENZENE, 4-ETHYL-1,2-DIMETHYL- | 1 | 432 | 73 | 73 | | | | | | | | |
| VOC | (TIC) BENZENE, CYCLOHEXYL- | 1 | 432 | 0.72 | 0.72 | | | | | | | | |
| VOC | (TIC) BENZENE, CYCLOPROPYL- | 1 | 432 | 9.8 | 9.8 | | | | | | | | |
| VOC | (TIC) BENZENE, PROPYL- | 10 | 432 | 0.0075 | 55 | | | | | | | | |
| VOC | (TIC) BENZENE, TERT-BUTYL- | 2 | 432 | 0.013 | 0.027 | | | | | | | | |
| VOC | (TIC) BENZENE,1,2,3,4-TETRAMETHYL-/UNKNOWN | 1 | 432 | 0.99 | 0.99 | | | | | | | | |
| VOC | (TIC) BENZENE,1,2,4,5-TETRAMETHYL- | 2 | 432 | 0.91 | 93 | | | | | | | | |
| VOC | (TIC) BENZENE,1,2-DIETHYL- | 1 | 432 | 100 | 100 | | | | | | | | |
| VOC | (TIC) BENZENE,1-ETHYL-3,5-DIMETHYL- | 1 | 432 | 1.6 | 1.6 | | | | | | | | |
| VOC | (TIC) BENZENE,1-METHYL-2-(1-METHYLETHYL)- | 2 | 432 | 2.8 | 140 | | | | | | | | |
| VOC | (TIC) BENZENE,2,4-DIMETHYL-1-(1-METHYLETHYL)- | 1 | 432 | 39 | 39 | | | | | | | | |
| VOC | (TIC) BENZENE,2-ETHYL-1,3-DIMETHYL- | 1 | 432 | 140 | 140 | | | | | | | | |
| VOC | (TIC) BENZENE,ETHYL(1-METHYLETHENYL)- | 1 | 432 | 65 | 65 | | | | | | | | |
| VOC | (TIC) BENZENE1 | 2 | 432 | 0.01 | 0.02 | | | | | | | | |
| VOC | (TIC) BENZENE2 | 2 | 432 | 0.01 | 0.2 | | | | | | | | |
| VOC | (TIC) BENZENE3 | 1 | 432 | 0.2 | 0.2 | | | | | | | | |
| VOC | (TIC) BENZENE4 | 1 | 432 | 0.1 | 0.1 | | | | | | | | |
| VOC | (TIC) BENZENEETHANAMINE, N-[(PENTAFLUOROPHENYL | 1 | 432 | 0.02 | 0.02 | | | | | | | | |
| VOC | (TIC) BICYCLO[2.2.1]HEPTAN-2-ONE, 1,7,7-TRIMET | 1 | 432 | 0.0096 | 0.0096 | | | | | | | | |
| VOC | (TIC) BICYCLO[2.2.1]HEPTANE, 2,2,3-TRIMETHYL-, | 1 | 432 | 3 | 3 | | | | | | | | |
| VOC | (TIC) BICYCLO[3.1.0]HEXAN-2-ONE, 5-(1-METHYLET | 1 | 432 | 49 | 49 | | | | | | | | |
| VOC | (TIC) BICYCLO[3.3.1]NONANE | 1 | 432 | 0.034 | 0.034 | | | | | | | | |
| VOC | (TIC) BICYCLO[4.1.0]HEPTANE, 7-PENTYL- | 1 | 432 | 2.4 | 2.4 | | | | | | | | |
| VOC | (TIC) BICYCLO[4.2.0]OCTA-1,3,5-TRIENE, 7-ISOPR | 1 | 432 | 0.018 | 0.018 | | | | | | | | |
| VOC | (TIC) BICYCLO[4.4.0]DEC-1-ENE, 2-ISOPROPYL-5-M | 1 | 432 | 0.0061 | 0.0061 | | | | | | | | |
| VOC | (TIC) BIPHENYL | 2 | 432 | 22 | 22 | | | | | | | | |
| VOC | (TIC) C0H20-2 | 2 | 432 | 0.6 | 4 | | | | | | | | |
| VOC | (TIC) C10H12AROMATIC/C10H14AROMATIC | 1 | 432 | 0.95 | 0.95 | | | | | | | | |
| VOC | (TIC) C10H12AROMATIC/UNKNOWN | 1 | 432 | 0.007 | 0.007 | | | | | | | | |
| VOC | (TIC) C10H14AROMATIC/UNKNOWN | 8 | 432 | 21 | 73 | | | | | | | | |
| VOC | (TIC) C10H14AROMATIC/UNKNOWNALKANE | 1 | 432 | 22 | 22 | | | | | | | | |
| VOC | (TIC) C10H16UNKNOWN | 3 | 432 | 0.063 | 220 | | | | | | | | |
| VOC | (TIC) C10H20-1 | 4 | 432 | 0.03 | 300 | | | | | | | | |
| VOC | (TIC) C10H20-2 | 2 | 432 | 0.06 | 50 | | | | | | | | |
| VOC | (TIC) C10H20CYCLOALKANE | 21 | 432 | 0.0097 | 820 | | | | | | | | |
| VOC | (TIC) C10H20CYCLOALKANE/C10H14AROMATICS | 1 | 432 | 1.1 | 1.1 | | | | | | | | |
| VOC | (TIC) C10H20CYCLOALKANE/UNKNOWN | 2 | 432 | 0.033 | 0.23 | | | | | | | | |
| VOC | (TIC) C10H20HYDROCARBON | 1 | 432 | 1.4 | 1.4 | | | | | | | | |
| VOC | (TIC) C10H20UNKNOWN | 6 | 432 | 67 | 220 | | | | | | | | |
| VOC | (TIC) C10H22ALKANE | 20 | 432 | 0.019 | 210 | | | | | | | | |
| VOC | (TIC) C11H122CYCLOALKANE | 1 | 432 | 0.79 | 0.79 | | | | | | | | |
| VOC | (TIC) C11H14AROMATIC | 1 | 432 | 5.8 | 5.8 | | | | | | | | |
| VOC | (TIC) C11H16AROMATIC | 2 | 432 | 6.1 | 32 | | | | | | | | |
| VOC | (TIC) C11H16AROMATIC/UNKNOWN | 1 | 432 | 5.2 | 5.2 | | | | | | | | |
| VOC | (TIC) C11H20UNKNOWN | 1 | 432 | 0.62 | 0.62 | | | | | | | | |
| VOC | (TIC) C11H22CYCLOALKANE | 14 | 432 | 0.086 | 190 | | | | | | | | |
| VOC | (TIC) C11H22CYCLOALKANE/UNKNOWN | 3 | 432 | 0.015 | 0.39 | | | | | | | | |
| VOC | (TIC) C11H24ALKANE | 9 | 432 | 0.15 | 170 | | | | | | | | |
| VOC | (TIC) C11H24ALKANE/UNKNOWN | 3 | 432 | 7.2 | 18 | | | | | | | | |
| VOC | (TIC) C12H16AROMATIC | 1 | 432 | 12 | 12 | | | | | | | | |
| VOC | (TIC) C12H24ALKENE | 1 | 432 | 0.0068 | 0.0068 | | | | | | | | |
| VOC | (TIC) C12H24CYCLOALKANE | 2 | 432 | 0.0099 | 0.15 | | | | | | | | |
| VOC | (TIC) C12H26ALKANE | 2 | 432 | 0.034 | 2.6 | | | | | | | | |
| VOC | (TIC) C12H26ALKANE/C10H14AROMATIC | 1 | 432 | 0.11 | 0.11 | | | | | | | | |
| VOC | (TIC) C13H18AROMATIC | 1 | 432 | 1.7 | 1.7 | | | | | | | | |
| VOC | (TIC) C14H28CYCLOALKANE | 1 | 432 | 0.32 | 0.32 | | | | | | | | |
| VOC | (TIC) C14H30-1 | 1 | 432 | 2 | 2 | | | | | | | | |
| VOC | (TIC) C14H30ALKANE | 3 | 432 | 0.018 | 0.78 | | | | | | | | |
| VOC | (TIC) C15H24UNKNOWN | 1 | 432 | 2.7 | 2.7 | | | | | | | | |
| VOC | (TIC) C17H12-1 | 1 | 432 | 0.2 | 0.2 | | | | | | | | |
| VOC | (TIC) C17H36-1 | 1 | 432 | 1 | 1 | | | | | | | | |
| VOC | (TIC) C18H10-1 | 1 | 432 | 0.2 | 0.2 | | | | | | | | |
| VOC | (TIC) C19H40-1 | 1 | 432 | 0.7 | 0.7 | | | | | | | | |
| VOC | (TIC) C20H12-1 | 1 | 432 | 0.3 | 0.3 | | | | | | | | |
| VOC | (TIC) C2BENZ1 | 4 | 432 | 0.3 | 90 | | | | | | | | |
| VOC | (TIC) C3BENZ1 | 2 | 432 | 200 | 500 | | | | | | | | |
| VOC | (TIC) C3BENZ2 | 1 | 432 | 400 | 400 | | | | | | | | |
| VOC | (TIC) C3BENZ3 | 5 | 432 | 5 | 200 | | | | | | | | |
| VOC | (TIC) C3BENZ4 | 3 | 432 | 20 | 300 | | | | | | | | |
| VOC | (TIC) C3BENZ5 | 1 | 432 | 300 | 300 | | | | | | | | |
| VOC | (TIC) C3BENZENE1 | 1 | 432 | 200 | 200 | | | | | | | | |
| VOC | (TIC) C4B&H | 1 | 432 | 50 | 50 | | | | | | | | |
| VOC | (TIC) C4BENZ1 | 5 | 432 | 1 | 400 | | | | | | | | |
| VOC | (TIC) C4BENZ2 | 2 | 432 | 2 | 50 | | | | | | | | |
| VOC | (TIC) C4BENZ3 | 1 | 432 | 30 | 30 | | | | | | | | |
| VOC | (TIC) C4BENZ4 | 9 | 432 | 1 | 600 | | | | | | | | |
| VOC | (TIC) C4BENZ5 | 7 | 432 | 2 | 300 | | | | | | | | |
| VOC | (TIC) C4BENZ6 | 2 | 432 | 10 | 40 | | | | | | | | |
| VOC | (TIC) C4BENZ7 | 5 | 432 | 1 | 400 | | | | | | | | |
| VOC | (TIC) C4BENZ8 | 3 | 432 | 40 | 300 | | | | | | | | |
| VOC | (TIC) C4BENZ9 | 1 | 432 | 80 | 80 | | | | | | | | |
| VOC | (TIC) C4BENZHY1 | 1 | 432 | 40 | 40 | | | | | | | | |

**Table 1 FMP TIC Summary**

| Group | Analyte | Soil 0-10 ft | | | | Sediment 0-0.5 ft | | | | Surface Water All Depths | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/L) | Max. (mg/L) |
| VOC | (TIC) C5BENZ1 | 5 | 432 | 7 | 60 | | | | | | | | |
| VOC | (TIC) C5BENZ2 | 1 | 432 | 3 | 3 | | | | | | | | |
| VOC | (TIC) C6H120-1 | 1 | 432 | 0.2 | 0.2 | | | | | | | | |
| VOC | (TIC) C7H14CYCLOALKANE | 1 | 432 | 7.7 | 7.7 | | | | | | | | |
| VOC | (TIC) C8H16ALKENE | 1 | 432 | 10 | 10 | | | | | | | | |
| VOC | (TIC) C8H16CYCLOALKANE | 12 | 432 | 1.8 | 260 | | | | | | | | |
| VOC | (TIC) C8H16CYCLOALKANE/SURROGATE | 1 | 432 | 0.19 | 0.19 | | | | | | | | |
| VOC | (TIC) C8H18-1 | 2 | 432 | 0.5 | 100 | | | | | | | | |
| VOC | (TIC) C8H18-2 | 1 | 432 | 200 | 200 | | | | | | | | |
| VOC | (TIC) C8H18ALKANE | 5 | 432 | 1.8 | 18 | | | | | | | | |
| VOC | (TIC) C8H18ALKANE/C8H16ALKENE | 2 | 432 | 2.4 | 3.2 | | | | | | | | |
| VOC | (TIC) C9H10AROMATIC | 1 | 432 | 0.0068 | 0.0068 | | | | | | | | |
| VOC | (TIC) C9H10AROMATIC/C10H14AROMATIC | 1 | 432 | 1.2 | 1.2 | | | | | | | | |
| VOC | (TIC) C9H12AROMATIC | 1 | 432 | 2.6 | 2.6 | | | | | | | | |
| VOC | (TIC) C9H18-1 | 5 | 432 | 0.9 | 200 | | | | | | | | |
| VOC | (TIC) C9H18-2 | 1 | 432 | 600 | 600 | | | | | | | | |
| VOC | (TIC) C9H18CYCLOALKANE | 19 | 432 | 0.014 | 880 | | | | | | | | |
| VOC | (TIC) C9H18CYCLOALKANE/C10H22ALKANE | 2 | 432 | 0.014 | 0.03 | | | | | | | | |
| VOC | (TIC) C9H18CYCLOALKANE/UNKNOWN | 1 | 432 | 0.86 | 0.86 | | | | | | | | |
| VOC | (TIC) C9H20-1 | 3 | 432 | 0.6 | 200 | | | | | | | | |
| VOC | (TIC) C9H20ALKANE | 12 | 432 | 1.6 | 160 | | | | | | | | |
| VOC | (TIC) CAMPHENE | 2 | 432 | 0.022 | 0.79 | | | | | | | | |
| VOC | (TIC) CAMPHOR | 1 | 432 | 120 | 120 | | | | | | | | |
| VOC | (TIC) CARBON1 | 2 | 432 | 100 | 700 | | | | | | | | |
| VOC | (TIC) CARBON2 | 4 | 432 | 0.02 | 300 | | | | | | | | |
| VOC | (TIC) CARYOPHYLLENE | 1 | 432 | 0.14 | 0.14 | | | | | | | | |
| VOC | (TIC) CH1 | 1 | 432 | 50 | 50 | | | | | | | | |
| VOC | (TIC) CHEX1 | 1 | 432 | 300 | 300 | | | | | | | | |
| VOC | (TIC) CHLORODIFLUOROMETHANE | 2 | 432 | 0.009 | 0.011 | | | | | | | | |
| VOC | (TIC) CIS-DECALIN, 2-SYN-METHYL- | 1 | 432 | 48 | 48 | | | | | | | | |
| VOC | (TIC) CLOHEX1 | 1 | 432 | 50 | 50 | | | | | | | | |
| VOC | (TIC) CLOHEX2 | 1 | 432 | 100 | 100 | | | | | | | | |
| VOC | (TIC) COELUTINGAROMATICS | 5 | 432 | 0.0096 | 180 | | | | | | | | |
| VOC | (TIC) COELUTINGAROMATICS/UNKNOWN | 1 | 432 | 0.084 | 0.084 | | | | | | | | |
| VOC | (TIC) CYCHYD1 | 4 | 432 | 0.6 | 400 | | | | | | | | |
| VOC | (TIC) CYCLIC2 | 3 | 432 | 6 | 200 | | | | | | | | |
| VOC | (TIC) CYCLO1 | 8 | 432 | 2 | 300 | | | | | | | | |
| VOC | (TIC) CYCLO2 | 7 | 432 | 5 | 300 | | | | | | | | |
| VOC | (TIC) CYCLO3 | 5 | 432 | 2 | 300 | | | | | | | | |
| VOC | (TIC) CYCLO4 | 2 | 432 | 200 | 300 | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, (1-METHYLETHYL)- | 3 | 432 | 0.11 | 140 | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, 1,1,2,3-TETRAMETHYL- | 2 | 432 | 0.25 | 38 | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, 1,1,2-TRIMETHYL- | 1 | 432 | 0.61 | 0.61 | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, 1,1,3,5-TETRAMETHYL-, TRANS | 1 | 432 | 35 | 35 | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, 1,1,3-TRIMETHYL- | 2 | 432 | 0.055 | 0.13 | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, 1,1-DIMETHYL- | 1 | 432 | 0.034 | 0.034 | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, 1,2,4-TRIMETHYL-, (1.ALPHA. | 1 | 432 | 0.021 | 0.021 | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, 1,2-DIETHYL-3-METHYL- | 1 | 432 | 20 | 20 | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, 1,2-DIMETHYL- | 1 | 432 | 0.13 | 0.13 | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, 1,2-DIMETHYL-, CIS- | 2 | 432 | 0.028 | 0.054 | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, 1,2-DIMETHYL-, TRANS- | 1 | 432 | 6.1 | 6.1 | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, 1,3,5-TRIMETHYL- | 1 | 432 | 0.062 | 0.062 | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, 1,3-DIMETHYL-, CIS- | 1 | 432 | 3 | 3 | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, 1,3-DIMETHYL-, TRANS- | 1 | 432 | 0.068 | 0.068 | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, 1,4-DIMETHYL- | 1 | 432 | 22 | 22 | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, 1-ETHYL-2-METHYL- | 1 | 432 | 0.76 | 0.76 | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, 1-ETHYL-2-PROPYL- | 1 | 432 | 22 | 22 | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, 1-METHYL-2-PROPYL- | 1 | 432 | 19 | 19 | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, 1-METHYL-3-PROPYL- | 1 | 432 | 18 | 18 | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, 1-METHYL-4-(1-METHYLETHENYL | 1 | 432 | 0.56 | 0.56 | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, 1-METHYL-4-(1-METHYLETHYL)- | 1 | 432 | 0.56 | 0.56 | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, 2,4-DIETHYL-1-METHYL- | 1 | 432 | 0.52 | 0.52 | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, BUTYL- | 1 | 432 | 60 | 60 | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, BUTYLIDENE- | 1 | 432 | 50 | 50 | | | | | | | | |
| VOC | (TIC) CYCLOHEXANONE, 2,3-DIMETHYL- | 1 | 432 | 0.0088 | 0.0088 | | | | | | | | |
| VOC | (TIC) CYCLOHEXANONE, 5-METHYL-2-(1-METHYLETHEN | 1 | 432 | 11 | 11 | | | | | | | | |
| VOC | (TIC) CYCLOHEXENE, 3-ETHYL- | 2 | 432 | 21 | 35 | | | | | | | | |
| VOC | (TIC) CYCLOHEXENE,4-BUTYL- | 1 | 432 | 0.32 | 0.32 | | | | | | | | |
| VOC | (TIC) CYCLOPENTANE, 1,2,3-TRIMETHYL-,(1,ALPHA | 1 | 432 | 0.023 | 0.023 | | | | | | | | |
| VOC | (TIC) CYCLOPROPANE, 1-(2-METHYLBUTYL)-1-(1-MET | 1 | 432 | 22 | 22 | | | | | | | | |
| VOC | (TIC) CYCLOTRISILOXANE, HEXAMETHYL- | 1 | 432 | 0.023 | 0.023 | | | | | | | | |
| VOC | (TIC) DECA1 | 1 | 432 | 100 | 100 | | | | | | | | |
| VOC | (TIC) DECAH1 | 2 | 432 | 6 | 40 | | | | | | | | |
| VOC | (TIC) DECAHY1 | 1 | 432 | 30 | 30 | | | | | | | | |
| VOC | (TIC) DECAHYDRODIMETHYLNAPHTHALENEISOMER | 2 | 432 | 0.026 | 0.37 | | | | | | | | |
| VOC | (TIC) DECAHYDROMETHYLNAPHTHALENEISOMER | 22 | 432 | 0.038 | 380 | | | | | | | | |
| VOC | (TIC) DECAHYDROMETHYLNAPHTHALENEISOMER/UNKNOWN | 1 | 432 | 71 | 71 | | | | | | | | |
| VOC | (TIC) DECAHYDRONAPHTHALENEISOMER | 20 | 432 | 0.19 | 680 | | | | | | | | |
| VOC | (TIC) DECANE, 3-METHYL- | 1 | 432 | 18 | 18 | | | | | | | | |
| VOC | (TIC) DECANE, 5-PROPYL- | 1 | 432 | 0.28 | 0.28 | | | | | | | | |
| VOC | (TIC) DECMET1 | 7 | 432 | 3 | 200 | | | | | | | | |
| VOC | (TIC) DIETHYLBENZENEISOMER | 2 | 432 | 3.2 | 240 | | | | | | | | |
| VOC | (TIC) DIME1 | 3 | 432 | 60 | 200 | | | | | | | | |
| VOC | (TIC) DIME2 | 1 | 432 | 10 | 10 | | | | | | | | |
| VOC | (TIC) DIME3 | 1 | 432 | 30 | 30 | | | | | | | | |
| VOC | (TIC) DIME4 | 1 | 432 | 30 | 30 | | | | | | | | |

**Table 1 FMP TIC Summary**

| Group | Analyte | Soil 0-10 ft | | | | Sediment 0-0.5 ft | | | | Surface Water All Depths | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/L) | Max. (mg/L) |
| VOC | (TIC) DIME5 | 1 | 432 | 30 | 30 | | | | | | | | |
| VOC | (TIC) DIMETHYLNAPHTHALENEISOMER | 1 | 432 | 9.6 | 9.6 | | | | | | | | |
| VOC | (TIC) DIPHENYL ETHER | 3 | 432 | 0.0062 | 62 | | | | | | | | |
| VOC | (TIC) DISULFIDE, DIMETHYL | 1 | 432 | 0.0065 | 0.0065 | | | | | | | | |
| VOC | (TIC) D-LIMONENE | 5 | 432 | 0.0059 | 5.9 | | | | | | | | |
| VOC | (TIC) EC1 | 1 | 432 | 100 | 100 | | | | | | | | |
| VOC | (TIC) EMETH1 | 2 | 432 | 300 | 300 | | | | | | | | |
| VOC | (TIC) ETHYL1 | 4 | 432 | 4 | 500 | | | | | | | | |
| VOC | (TIC) ETHYLDIMETHYLBENZENEISOMER | 6 | 432 | 0.02 | 510 | | | | | | | | |
| VOC | (TIC) ETHYLMETHYLBENZENEISOMER | 3 | 432 | 0.012 | 240 | | | | | | | | |
| VOC | (TIC) HCARB1 | 1 | 432 | 1 | 1 | | | | | | | | |
| VOC | (TIC) HCARBON1 | 6 | 432 | 0.5 | 200 | | | | | | | | |
| VOC | (TIC) HCARBON2 | 5 | 432 | 0.6 | 100 | | | | | | | | |
| VOC | (TIC) HCARBON3 | 3 | 432 | 1 | 40 | | | | | | | | |
| VOC | (TIC) HCARBON4 | 3 | 432 | 2 | 80 | | | | | | | | |
| VOC | (TIC) HCARBON5 | 1 | 432 | 30 | 30 | | | | | | | | |
| VOC | (TIC) HCARBON6 | 1 | 432 | 40 | 40 | | | | | | | | |
| VOC | (TIC) HCARBON7 | 1 | 432 | 40 | 40 | | | | | | | | |
| VOC | (TIC) HCARBON8 | 1 | 432 | 40 | 40 | | | | | | | | |
| VOC | (TIC) HEPTANE, 3-ETHYL-2-METHYL- | 2 | 432 | 0.49 | 27 | | | | | | | | |
| VOC | (TIC) HEPTANE1 | 1 | 432 | 0.03 | 0.03 | | | | | | | | |
| VOC | (TIC) HEX1 | 5 | 432 | 0.2 | 20 | | | | | | | | |
| VOC | (TIC) HEX2 | 1 | 432 | 0.2 | 0.2 | | | | | | | | |
| VOC | (TIC) HEXA1 | 2 | 432 | 0.4 | 5 | | | | | | | | |
| VOC | (TIC) HEXADECANE, 1-CHLORO- | 1 | 432 | 0.59 | 0.59 | | | | | | | | |
| VOC | (TIC) HEXANE | 3 | 432 | 0.017 | 0.021 | | | | | | | | |
| VOC | (TIC) HY1 | 2 | 432 | 20 | 30 | | | | | | | | |
| VOC | (TIC) HY2 | 2 | 432 | 9 | 20 | | | | | | | | |
| VOC | (TIC) HYDCARB1 | 9 | 432 | 0.5 | 90 | | | | | | | | |
| VOC | (TIC) HYDCARB2 | 5 | 432 | 0.8 | 40 | | | | | | | | |
| VOC | (TIC) HYDCARB3 | 3 | 432 | 5 | 70 | | | | | | | | |
| VOC | (TIC) HYDCARB4 | 1 | 432 | 2 | 2 | | | | | | | | |
| VOC | (TIC) HYDCARB5 | 1 | 432 | 3 | 3 | | | | | | | | |
| VOC | (TIC) HYDRO1 | 11 | 432 | 0.2 | 400 | | | | | | | | |
| VOC | (TIC) HYDRO2 | 8 | 432 | 0.3 | 300 | | | | | | | | |
| VOC | (TIC) HYDRO3 | 2 | 432 | 3 | 8 | | | | | | | | |
| VOC | (TIC) HYDROC1 | 14 | 432 | 0.008 | 300 | | | | | | | | |
| VOC | (TIC) HYDROC2 | 10 | 432 | 1 | 400 | | | | | | | | |
| VOC | (TIC) HYDROC3 | 5 | 432 | 2 | 60 | | | | | | | | |
| VOC | (TIC) HYDROC4 | 4 | 432 | 1 | 200 | | | | | | | | |
| VOC | (TIC) HYDROC5 | 4 | 432 | 1 | 100 | | | | | | | | |
| VOC | (TIC) HYDROC6 | 2 | 432 | 60 | 80 | | | | | | | | |
| VOC | (TIC) HYDROC7 | 1 | 432 | 10 | 10 | | | | | | | | |
| VOC | (TIC) HYDROC8 | 1 | 432 | 80 | 80 | | | | | | | | |
| VOC | (TIC) HYDROC9 | 1 | 432 | 20 | 20 | | | | | | | | |
| VOC | (TIC) HYDROCARBO | 1 | 432 | 1 | 1 | | | | | | | | |
| VOC | (TIC) HYDUNK1 | 1 | 432 | 5 | 5 | | | | | | | | |
| VOC | (TIC) INDAN, 1-METHYL- | 2 | 432 | 0.009 | 0.061 | | | | | | | | |
| VOC | (TIC) INDANE | 6 | 432 | 0.0066 | 0.75 | | | | | 1 | 5 | 0.0063 | 0.0063 |
| VOC | (TIC) LIMONENE | 2 | 432 | 0.021 | 0.32 | | | | | | | | |
| VOC | (TIC) MESITYLENE | 2 | 432 | 0.0056 | 1.6 | | | | | | | | |
| VOC | (TIC) METH1 | 1 | 432 | 20 | 20 | | | | | | | | |
| VOC | (TIC) METHYL1 | 1 | 432 | 0.02 | 0.02 | | | | | | | | |
| VOC | (TIC) N-AMYLCYCLOHEXANE | 1 | 432 | 19 | 19 | | | | | | | | |
| VOC | (TIC) NAPHTHALENE, 1,2,3,4-TETRAHYDRO-1,1,6-TR | 1 | 432 | 0.57 | 0.57 | | | | | | | | |
| VOC | (TIC) NAPHTHALENE, 1,2,3,4-TETRAHYDRO-1,4-DIME | 1 | 432 | 0.45 | 0.45 | | | | | | | | |
| VOC | (TIC) NAPHTHALENE, 1,2,3,4-TETRAHYDRO-2,6-DIME | 1 | 432 | 0.59 | 0.59 | | | | | | | | |
| VOC | (TIC) NAPHTHALENE, 1,2,3,4-TETRAHYDRO-2-METHYL | 2 | 432 | 1.2 | 1.8 | | | | | | | | |
| VOC | (TIC) NAPHTHALENE, 1,2,3,4-TETRAHYDRO-5-METHYL | 1 | 432 | 4.5 | 4.5 | | | | | | | | |
| VOC | (TIC) NAPHTHALENE, 1,2,3,4-TETRAHYDRO-6-METHYL | 1 | 432 | 0.51 | 0.51 | | | | | | | | |
| VOC | (TIC) NAPHTHALENE, 1,3-DIMETHYL- | 1 | 432 | 0.45 | 0.45 | | | | | | | | |
| VOC | (TIC) NAPHTHALENE, 1-ETHYL- | 1 | 432 | 0.72 | 0.72 | | | | | | | | |
| VOC | (TIC) NAPHTHALENE, 1-METHYL- | 2 | 432 | 1.3 | 2.1 | | | | | | | | |
| VOC | (TIC) NAPHTHALENE, 2,3-DIMETHYL- | 1 | 432 | 0.89 | 0.89 | | | | | | | | |
| VOC | (TIC) NAPHTHALENE, 2,6-DIMETHYL- | 1 | 432 | 0.42 | 0.42 | | | | | | | | |
| VOC | (TIC) NAPHTHALENE, 2,7-DIMETHYL- | 1 | 432 | 0.84 | 0.84 | | | | | | | | |
| VOC | (TIC) NAPHTHALENE, 2-METHYL- | 1 | 432 | 1.2 | 1.2 | | | | | | | | |
| VOC | (TIC) NAPHTHALENE, DECAHYDRO- | 3 | 432 | 0.5 | 29 | 2 | 11 | 0.013 | 0.52 | | | | |
| VOC | (TIC) NAPHTHALENE, DECAHYDRO-, TRANS- | 9 | 432 | 0.0074 | 120 | 1 | 11 | 0.23 | 0.23 | | | | |
| VOC | (TIC) NAPHTHALENE, DECAHYDRO-1,5-DIMETHYL- | 1 | 432 | 1.1 | 1.1 | | | | | | | | |
| VOC | (TIC) NAPHTHALENE, DECAHYDRO-2,6-DIMETHYL- | 3 | 432 | 0.28 | 13 | | | | | | | | |
| VOC | (TIC) NAPHTHALENE, DECAHYDRO-2-METHYL- | 51 | 432 | 0.0054 | 220 | 4 | 11 | 0.01 | 0.22 | | | | |
| VOC | (TIC) NAPHTHALENE,DECAHYDRO- | 1 | 432 | 310 | 310 | | | | | | | | |
| VOC | (TIC) NAPHTHALENE,DECAHYDRO-,TRANS- | 1 | 432 | 260 | 260 | | | | | | | | |
| VOC | (TIC) NAPHTHALENE,DECAHYDRO-,TRANS-/C10H14AROM | 1 | 432 | 1.4 | 1.4 | | | | | | | | |
| VOC | (TIC) NAPHTHALENE,DECAHYDRO-1,6-DIMETHYL- | 1 | 432 | 47 | 47 | | | | | | | | |
| VOC | (TIC) NAPHTHALENE,DECAHYDRO-2,6-DIMETHYL- | 1 | 432 | 0.72 | 0.72 | | | | | | | | |
| VOC | (TIC) NAPHTHALENE,DECAHYDRO-2-METHYL- | 2 | 432 | 0.86 | 100 | | | | | | | | |
| VOC | (TIC) NONANE, 3,7-DIMETHYL- | 1 | 432 | 0.34 | 0.34 | | | | | | | | |
| VOC | (TIC) OCT1 | 1 | 432 | 100 | 100 | | | | | | | | |
| VOC | (TIC) OCTANE, 3,6-DIMETHYL- | 1 | 432 | 3 | 3 | | | | | | | | |
| VOC | (TIC) O-CYMENE | 6 | 432 | 0.0078 | 14 | | | | | | | | |
| VOC | (TIC) P-CYMENE | 2 | 432 | 1.8 | 8 | | | | | | | | |
| VOC | (TIC) PENT1 | 1 | 432 | 0.006 | 0.006 | | | | | | | | |
| VOC | (TIC) PENTALENE, OCTAHYDRO- | 1 | 432 | 0.02 | 0.02 | | | | | | | | |
| VOC | (TIC) PENTALENE, OCTAHYDRO-2-METHYL- | 3 | 432 | 0.033 | 2.3 | | | | | | | | |

**Table 1 FMP TIC Summary**

| Group | Analyte | Soil 0-10 ft | | | | Sediment 0-0.5 ft | | | | Surface Water All Depths | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/L) | Max. (mg/L) |
| VOC | (TIC) PENTALENE,OCTAHYDRO- | 1 | 432 | 55 | 55 | | | | | | | | |
| VOC | (TIC) PHOSPHONIC DICHLORIDE, 1-ADAMANTYL- | 1 | 432 | 60 | 60 | | | | | | | | |
| VOC | (TIC) PROPANAL, 2-METHYL- | 2 | 432 | 0.013 | 0.015 | | | | | | | | |
| VOC | (TIC) PROPENE | 2 | 432 | 0.0065 | 0.016 | | | | | | | | |
| VOC | (TIC) PROPYL1 | 1 | 432 | 0.01 | 0.01 | | | | | | | | |
| VOC | (TIC) SAB1 | 3 | 432 | 60 | 200 | | | | | | | | |
| VOC | (TIC) SAB2 | 2 | 432 | 50 | 100 | | | | | | | | |
| VOC | (TIC) SAB3 | 2 | 432 | 70 | 100 | | | | | | | | |
| VOC | (TIC) SAB4 | 2 | 432 | 60 | 90 | | | | | | | | |
| VOC | (TIC) SAB5 | 2 | 432 | 60 | 90 | | | | | | | | |
| VOC | (TIC) SAB6 | 1 | 432 | 80 | 80 | | | | | | | | |
| VOC | (TIC) SB1 | 4 | 432 | 2 | 200 | | | | | | | | |
| VOC | (TIC) SB2 | 2 | 432 | 40 | 300 | | | | | | | | |
| VOC | (TIC) SB3 | 1 | 432 | 300 | 300 | | | | | | | | |
| VOC | (TIC) SBUN1 | 1 | 432 | 3 | 3 | | | | | | | | |
| VOC | (TIC) SBUNK1 | 2 | 432 | 3 | 3 | | | | | | | | |
| VOC | (TIC) SBUNK2 | 2 | 432 | 2 | 3 | | | | | | | | |
| VOC | (TIC) SC1 | 5 | 432 | 0.03 | 500 | | | | | | | | |
| VOC | (TIC) SC2 | 2 | 432 | 100 | 100 | | | | | | | | |
| VOC | (TIC) SCHEX1 | 1 | 432 | 5 | 5 | | | | | | | | |
| VOC | (TIC) SILANE, TRICHLORODOCOSYL- | 1 | 432 | 46 | 46 | | | | | | | | |
| VOC | (TIC) SN1 | 7 | 432 | 0.02 | 200 | | | | | | | | |
| VOC | (TIC) SUBCYC1 | 1 | 432 | 100 | 100 | | | | | | | | |
| VOC | (TIC) SUBCYCLOH1 | | | | | 1 | 11 | 0.02 | 0.02 | | | | |
| VOC | (TIC) SUBHYDROC2 | | | | | 1 | 11 | 0.01 | 0.01 | | | | |
| VOC | (TIC) SUBST1 | 1 | 432 | 3 | 3 | | | | | | | | |
| VOC | (TIC) TETRAMETHYLBENZENEISOMER | 7 | 432 | 0.087 | 130 | | | | | | | | |
| VOC | (TIC) TOTAL ALKANES | 56 | 432 | 0.005 | 12000 | | | | | | | | |
| VOC | (TIC) TRANS,TRANS-1,10-DIMETHYLSPIRO[4.5]DECAN | 1 | 432 | 0.23 | 0.23 | | | | | | | | |
| VOC | (TIC) TRANS-DECALIN, 2-METHYL- | 8 | 432 | 0.015 | 140 | | | | | | | | |
| VOC | (TIC) TRI1 | 2 | 432 | 0.008 | 0.008 | | | | | | | | |
| VOC | (TIC) TRIC1 | 1 | 432 | 0.09 | 0.09 | | | | | | | | |
| VOC | (TIC) TRICYCLENE | 1 | 432 | 0.59 | 0.59 | | | | | | | | |
| VOC | (TIC) TRIME1 | 2 | 432 | 60 | 200 | | | | | | | | |
| VOC | (TIC) TRIMETHYLBENZENEISOMER | 3 | 432 | 1.3 | 400 | | | | | | | | |
| VOC | (TIC) TTLVOCTICS | 11 | 432 | 0.007 | 2.6 | | | | | | | | |
| VOC | (TIC) UA1 | 1 | 432 | 30 | 30 | | | | | | | | |
| VOC | (TIC) UAHC1 | 1 | 432 | 300 | 300 | | | | | | | | |
| VOC | (TIC) UCH1 | 4 | 432 | 3 | 500 | | | | | | | | |
| VOC | (TIC) UCH2 | 2 | 432 | 3 | 200 | | | | | | | | |
| VOC | (TIC) UCH3 | 1 | 432 | 200 | 200 | | | | | | | | |
| VOC | (TIC) UH1 | 9 | 432 | 0.03 | 300 | | | | | | | | |
| VOC | (TIC) UH2 | 8 | 432 | 0.03 | 200 | | | | | | | | |
| VOC | (TIC) UH3 | 6 | 432 | 0.02 | 200 | | | | | | | | |
| VOC | (TIC) UH4 | 4 | 432 | 0.03 | 100 | | | | | | | | |
| VOC | (TIC) UH5 | 3 | 432 | 0.03 | 30 | | | | | | | | |
| VOC | (TIC) UH6 | 1 | 432 | 20 | 20 | | | | | | | | |
| VOC | (TIC) UNCHEX1 | 1 | 432 | 700 | 700 | | | | | | | | |
| VOC | (TIC) UNDECANE | 1 | 432 | 3.8 | 3.8 | | | | | | | | |
| VOC | (TIC) UNDECANE, 2,9-DIMETHYL- | 1 | 432 | 0.64 | 0.64 | | | | | | | | |
| VOC | (TIC) UNDECANE, 6-CYCLOHEXYL- | 1 | 432 | 0.64 | 0.64 | | | | | | | | |
| VOC | (TIC) UNKAROMAT1 | | | | | | | | | 1 | 5 | 0.01 | 0.01 |
| VOC | (TIC) UNKC1 | 1 | 432 | 100 | 100 | | | | | | | | |
| VOC | (TIC) UNKCY1 | 1 | 432 | 10 | 10 | | | | | | | | |
| VOC | (TIC) UNKCYC1 | 1 | 432 | 50 | 50 | | | | | | | | |
| VOC | (TIC) UNKCYC2 | 1 | 432 | 200 | 200 | | | | | | | | |
| VOC | (TIC) UNKCYCLO1 | 4 | 432 | 0.02 | 200 | | | | | | | | |
| VOC | (TIC) UNKCYCLO2 | 2 | 432 | 0.03 | 200 | | | | | | | | |
| VOC | (TIC) UNKCYCLO3 | 1 | 432 | 200 | 200 | | | | | | | | |
| VOC | (TIC) UNKCYCLO4 | 1 | 432 | 200 | 200 | | | | | | | | |
| VOC | (TIC) UNKCYCLO5 | 1 | 432 | 200 | 200 | | | | | | | | |
| VOC | (TIC) UNKHYC9H18 | | | | | 1 | 11 | 0.01 | 0.01 | | | | |
| VOC | (TIC) UNKHYD1 | 1 | 432 | 1 | 1 | | | | | | | | |
| VOC | (TIC) UNKHYD2 | 1 | 432 | 0.8 | 0.8 | | | | | | | | |
| VOC | (TIC) UNKHYD3 | 1 | 432 | 0.6 | 0.6 | | | | | | | | |
| VOC | (TIC) UNKHYDRO1 | 10 | 432 | 0.05 | 400 | | | | | | | | |
| VOC | (TIC) UNKHYDRO2 | 7 | 432 | 0.03 | 400 | | | | | | | | |
| VOC | (TIC) UNKHYDRO3 | 4 | 432 | 3 | 400 | | | | | | | | |
| VOC | (TIC) UNKHYDRO4 | 2 | 432 | 4 | 100 | | | | | | | | |
| VOC | (TIC) UNKHYDRO5 | 1 | 432 | 200 | 200 | | | | | | | | |
| VOC | (TIC) UNKHYDROC1 | | | | | 2 | 11 | 0.01 | 0.01 | | | | |
| VOC | (TIC) UNKHYDROC2 | | | | | 1 | 11 | 0.01 | 0.01 | | | | |
| VOC | (TIC) UNKHYROCC1 | | | | | 1 | 11 | 0.01 | 0.01 | | | | |
| VOC | (TIC) UNKHYROCC2 | | | | | 1 | 11 | 0.01 | 0.01 | | | | |
| VOC | (TIC) UNKNOWN | 398 | 432 | 0.006 | 2600 | 11 | 11 | 0.01 | 18 | 1 | 5 | 0.001 | 0.001 |
| VOC | (TIC) UNKNOWN (1-METHYLPENTA-2,4-DIENYL)BENZ | 1 | 432 | 1.8 | 1.8 | | | | | | | | |
| VOC | (TIC) UNKNOWN 1-HEPTADECYNE | 1 | 432 | 1.8 | 1.8 | | | | | | | | |
| VOC | (TIC) UNKNOWN 1H-INDENE, 2,3-DIHYDRO-1,1,3 | 1 | 432 | 0.48 | 0.48 | | | | | | | | |
| VOC | (TIC) UNKNOWN 1H-INDENE, 2,3-DIHYDRO-1,1,5-TRI | 1 | 432 | 0.85 | 0.85 | | | | | | | | |
| VOC | (TIC) UNKNOWN 1H-INDENE, 2,3-DIHYDRO-1,1-DIMET | 1 | 432 | 2.7 | 2.7 | | | | | | | | |
| VOC | (TIC) UNKNOWN 1H-INDENE, 2,3-DIHYDRO-1,2-DIMET | 1 | 432 | 1.8 | 1.8 | | | | | | | | |
| VOC | (TIC) UNKNOWN 1H-INDENE, 2,3-DIHYDRO-4,7-DIMET | 1 | 432 | 0.019 | 0.019 | | | | | | | | |
| VOC | (TIC) UNKNOWN 1H-INDENE, OCTAHYDRO-, TRANS- | 1 | 432 | 0.0064 | 0.0064 | | | | | | | | |
| VOC | (TIC) UNKNOWN 1H-PYRROLO[2,3-B]PYRIDINE, 2-(1- | 1 | 432 | 0.64 | 0.64 | | | | | | | | |
| VOC | (TIC) UNKNOWN 2,2,4-TRIMETHYL-3-HEXENE | 1 | 432 | 1.4 | 1.4 | | | | | | | | |
| VOC | (TIC) UNKNOWN 2,3,6-TRIMETHYLACETOPHENONE | 1 | 432 | 1.4 | 1.4 | | | | | | | | |

**Table 1 FMP TIC Summary**

| Group | Analyte | Soil 0-10 ft | | | | Sediment 0-0.5 ft | | | | Surface Water All Depths | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/kg) | Max. (mg/kg) | Count of TIC Detects | Count of TIC Samples | Min. (mg/L) | Max. (mg/L) |
| VOC | (TIC) UNKNOWN 2-METHYLPROPIONIC ACID, 4-CYANOP | 1 | 432 | 0.0077 | 0.0077 | | | | | | | | |
| VOC | (TIC) UNKNOWN 3,4-DIMETHYLCUMENE | 1 | 432 | 0.85 | 0.85 | | | | | | | | |
| VOC | (TIC) UNKNOWN 3-HEPTENE, 2,6-DIMETHYL- | 1 | 432 | 1.1 | 1.1 | | | | | | | | |
| VOC | (TIC) UNKNOWN 3-HEXENE, 3-ETHYL-2,5-DIMETHYL- | 1 | 432 | 0.66 | 0.66 | | | | | | | | |
| VOC | (TIC) UNKNOWN 3-OCTEN-2-ONE, (E)- | 1 | 432 | 0.014 | 0.014 | | | | | | | | |
| VOC | (TIC) UNKNOWN 3-OXABICYCLO[3.3.0]OCT-6-EN-2-ON | 1 | 432 | 0.84 | 0.84 | | | | | | | | |
| VOC | (TIC) UNKNOWN 4-METHOXYBENZOIC ACID, 6-ETHYL-3 | 1 | 432 | 1.1 | 1.1 | | | | | | | | |
| VOC | (TIC) UNKNOWN 7-METHYL-1,2,3,5,8,8A-HEXAHYDRON | 1 | 432 | 2.1 | 2.1 | | | | | | | | |
| VOC | (TIC) UNKNOWN ALCOHOL | 2 | 432 | 0.0067 | 0.024 | | | | | | | | |
| VOC | (TIC) UNKNOWN ALIPHATIC KETONE | 2 | 432 | 0.0061 | 0.0064 | | | | | | | | |
| VOC | (TIC) UNKNOWN ALKANE | 179 | 432 | 0.0047 | 3700 | 7 | 11 | 0.01 | 14 | | | | |
| VOC | (TIC) UNKNOWN ALKENE | 1 | 432 | 5.2 | 5.2 | | | | | | | | |
| VOC | (TIC) UNKNOWN AROMATIC | 1 | 432 | 0.72 | 0.72 | | | | | | | | |
| VOC | (TIC) UNKNOWN AROMATIC COMPOUND | 9 | 432 | 0.012 | 13 | | | | | | | | |
| VOC | (TIC) UNKNOWN AROMATIC COMPOUNDS | 1 | 432 | 3.5 | 3.5 | | | | | | | | |
| VOC | (TIC) UNKNOWN BENZENE, (1,1-DIMETHYLPROPYL)- | 1 | 432 | 0.77 | 0.77 | | | | | | | | |
| VOC | (TIC) UNKNOWN BENZENE, (1-ETHYLPROPYL)- | 1 | 432 | 0.87 | 0.87 | | | | | | | | |
| VOC | (TIC) UNKNOWN BENZENE, (1-METHYL-1-BUTENYL)- | 2 | 432 | 1.8 | 2.3 | | | | | | | | |
| VOC | (TIC) UNKNOWN BENZENE, (1-METHYLPROPYL)- | 1 | 432 | 1.5 | 1.5 | | | | | | | | |
| VOC | (TIC) UNKNOWN BENZENE, 1-(2-BUTENYL)-2,3-DIMET | 1 | 432 | 0.57 | 0.57 | | | | | | | | |
| VOC | (TIC) UNKNOWN BENZENE, 1,2,3,4-TETRAMETHYL- | 1 | 432 | 3.8 | 3.8 | | | | | | | | |
| VOC | (TIC) UNKNOWN BENZENE, 1,2,4,5-TETRAMETHYL- | 2 | 432 | 0.61 | 2.4 | | | | | | | | |
| VOC | (TIC) UNKNOWN BENZENE, 1,2,4-TRIMETHYL- | 1 | 432 | 32 | 32 | | | | | | | | |
| VOC | (TIC) UNKNOWN BENZENE, 1,3-DIETHYL-5-METHYL- | 2 | 432 | 1.3 | 9.6 | | | | | | | | |
| VOC | (TIC) UNKNOWN BENZENE, 1,4-DIETHYL-2-METHYL- | 1 | 432 | 0.79 | 0.79 | | | | | | | | |
| VOC | (TIC) UNKNOWN BENZENE, 1-METHYL-3-PROPYL- | 1 | 432 | 11 | 11 | | | | | | | | |
| VOC | (TIC) UNKNOWN BENZENE, 1-METHYL-4-(1-METHYLPRO | 1 | 432 | 2.4 | 2.4 | | | | | | | | |
| VOC | (TIC) UNKNOWN BENZENE, 1-METHYL-4-PROPYL- | 1 | 432 | 1.4 | 1.4 | | | | | | | | |
| VOC | (TIC) UNKNOWN BENZENE, 2,4-DIMETHYL-1-(1-METHY | 1 | 432 | 0.0054 | 0.0054 | | | | | | | | |
| VOC | (TIC) UNKNOWN BENZENE, 2-ETHENYL-1,3,5-TRIMETH | 1 | 432 | 1.3 | 1.3 | | | | | | | | |
| VOC | (TIC) UNKNOWN BENZENE, 4-ETHYL-1,2-DIMETHYL- | 1 | 432 | 1.3 | 1.3 | | | | | | | | |
| VOC | (TIC) UNKNOWN BENZENE, PENTAMETHYL- | 1 | 432 | 1.7 | 1.7 | | | | | | | | |
| VOC | (TIC) UNKNOWN BENZENEACETALDEHYDE, .ALPHA.-MET | 1 | 432 | 7 | 7 | | | | | | | | |
| VOC | (TIC) UNKNOWN BICYCLO[4.2.1]NONA-2,4,7-TRIENE, | 1 | 432 | 0.64 | 0.64 | | | | | | | | |
| VOC | (TIC) UNKNOWN C2-ALKYLPHENANTHRENE | 1 | 432 | 4 | 4 | | | | | | | | |
| VOC | (TIC) UNKNOWN C3-ALKYLBENZENE | 5 | 432 | 0.0068 | 210 | | | | | | | | |
| VOC | (TIC) UNKNOWN C3-ALKYLBENZENES | 1 | 432 | 260 | 260 | | | | | | | | |
| VOC | (TIC) UNKNOWN C4-ALKYLBENZENE | 16 | 432 | 0.0093 | 240 | | | | | | | | |
| VOC | (TIC) UNKNOWN C5-ALKYLBENZENE | 2 | 432 | 22 | 48 | | | | | | | | |
| VOC | (TIC) UNKNOWN CIS-CHRYSANTHEMYL ALCOHOL | 1 | 432 | 0.64 | 0.64 | | | | | | | | |
| VOC | (TIC) UNKNOWN CYCLOALKANE | 1 | 432 | 0.95 | 0.95 | 2 | 11 | 0.23 | 16 | | | | |
| VOC | (TIC) UNKNOWN CYCLOHEXANONE, 2-METHYL-5-(1-MET | 1 | 432 | 0.94 | 0.94 | | | | | | | | |
| VOC | (TIC) UNKNOWN CYCLOHEXENE, 1-BUTYL- | 2 | 432 | 2.4 | 2.5 | | | | | | | | |
| VOC | (TIC) UNKNOWN CYCLOHEXENE, 4-PROPYL- | 1 | 432 | 0.57 | 0.57 | | | | | | | | |
| VOC | (TIC) UNKNOWN CYCLOHEXENE,1-PROPYL- | 1 | 432 | 16 | 16 | | | | | | | | |
| VOC | (TIC) UNKNOWN CYCLOHEXENE,3-PROPYL- | 1 | 432 | 0.96 | 0.96 | | | | | | | | |
| VOC | (TIC) UNKNOWN CYCLOPENTANE, (1-METHYLETHENYL)- | 1 | 432 | 0.48 | 0.48 | | | | | | | | |
| VOC | (TIC) UNKNOWN CYCLOPENTENE, 1-BUTYL- | 1 | 432 | 0.79 | 0.79 | | | | | | | | |
| VOC | (TIC) UNKNOWN NAPHTHALENE DERIVATIVE | 12 | 432 | 0.0054 | 380 | | | | | | | | |
| VOC | (TIC) UNKNOWN NAPHTHALENE, 1,2,3,4-TETRAHYDRO- | 3 | 432 | 0.44 | 2 | | | | | | | | |
| VOC | (TIC) UNKNOWN P-CYMEN-7-OL | 1 | 432 | 0.091 | 0.091 | | | | | | | | |
| VOC | (TIC) UNKNOWN PROPANENITRILE, 3-(PHENYLAMINO)- | 1 | 432 | 0.86 | 0.86 | | | | | | | | |
| VOC | (TIC) UNKNOWN SPIRO[4.4]NON-1-ENE | 1 | 432 | 0.3 | 0.3 | | | | | | | | |
| VOC | (TIC) UNKNOWN SUBSTITUTED BENZENE | 3 | 432 | 0.084 | 0.2 | | | | | | | | |
| VOC | (TIC) UNKNOWN TRANS-3-DECENE | 1 | 432 | 0.49 | 0.49 | | | | | | | | |
| VOC | (TIC) UNKNOWN TRICYCLO[3.3.1.1(3,7)]DECANE, 2- | 1 | 432 | 6 | 6 | | | | | | | | |
| VOC | (TIC) UNKNOWNALKANE | 24 | 432 | 0.0097 | 230 | | | | | | | | |
| VOC | (TIC) UNKNOWNALKANE/C10H14AROMATIC | 1 | 432 | 1.2 | 1.2 | | | | | | | | |
| VOC | (TIC) UNKNOWNALKANE/SURROGATE | 1 | 432 | 0.25 | 0.25 | | | | | | | | |
| VOC | (TIC) UNKNOWNALKANE/UNKNOWN | 12 | 432 | 0.011 | 20 | | | | | | | | |
| VOC | (TIC) UNKNOWNALKANE/UNKNOWNALKENE | 2 | 432 | 0.015 | 1.6 | | | | | | | | |
| VOC | (TIC) UNKNOWNALKANE/UNKNOWNAROMATIC | 1 | 432 | 1.1 | 1.1 | | | | | | | | |
| VOC | (TIC) UNKNOWNALKENE | 8 | 432 | 0.0072 | 160 | | | | | | | | |
| VOC | (TIC) UNKNOWNAROMATIC | 3 | 432 | 0.0063 | 250 | | | | | | | | |
| VOC | (TIC) UNKNOWNAROMATIC/UNKNOWN | 2 | 432 | 0.046 | 0.35 | | | | | | | | |
| VOC | (TIC) UNKNOWNCYCLOALKANE | 17 | 432 | 0.01 | 210 | | | | | | | | |
| VOC | (TIC) UNKNOWNCYCLOALKANE/UNKNOWN | 2 | 432 | 0.024 | 0.68 | | | | | | | | |
| VOC | (TIC) UNKNOWNHYDROCARBON | 3 | 432 | 16 | 170 | | | | | | | | |
| VOC | (TIC) UNKNOWNSILOXANE | 1 | 432 | 0.013 | 0.013 | | | | | | | | |

Note:

The maximum concentration of each TIC in each sample was used.

**Table 2 Soil TIC Screening Summary Table, 0-10 ft Depth**

| Exposure Point | Analyte | Count of TIC Detects | Count of TIC Samples | Detection Frequency | Minimum | Maximum | Units | Screening Criteria | Exceedances | COPC Flag | Rationale for Selection or Deletion |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EUSA | (TIC) 1,2,4-TRIMETHYLBENZENE | 1 | 28 | 4% | 0.02 | 0.02 | MG/KG | 5.8 | 0 | N | BSL |
| EUSA | (TIC) BENZENE, 1,2,3-TRIMETHYL- | 1 | 28 | 4% | 0.15 | 0.15 | MG/KG | 4.9 | 0 | N | BSL |
| EUSA | (TIC) BENZENE, 1,3,5-TRIMETHYL- | 1 | 28 | 4% | 0.19 | 0.19 | MG/KG | 78 | 0 | N | BSL |
| NFA | (TIC) 1,1-BIPHENYL, 2,3,3,4,4,5-HEXACHLORO | 9 | 334 | 3% | 0.08 | 22 | MG/KG | 0.12 | 7 | N | LDF |
| NFA | (TIC) 1,1-BIPHENYL, 2,3,3,4,4-PENTACHLORO- | 4 | 334 | 1% | 0.1 | 1.3 | MG/KG | 0.12 | 3 | N | LDF |
| NFA | (TIC) 1,1-BIPHENYL, 2,3,4,4,5,5-HEXACHLORO | 8 | 334 | 2% | 0.099 | 22 | MG/KG | 0.12 | 7 | N | LDF |
| NFA | (TIC) 1,1-BIPHENYL, 2,3,4,4,5-PENTACHLORO- | 4 | 334 | 1% | 0.13 | 0.45 | MG/KG | 0.12 | 4 | N | LDF |
| NFA | (TIC) 1,1-BIPHENYL, 3,3,4,4,5,5-HEXACHLORO | 4 | 334 | 1% | 0.095 | 0.41 | MG/KG | 0.00012 | 4 | N | LDF |
| NFA | (TIC) 1,2,4-TRIMETHYLBENZENE | 16 | 404 | 4% | 0.13 | 300 | MG/KG | 5.8 | 12 | Y | ASL(1) |
| NFA | (TIC) 1,4-DIOXANE | 1 | 334 | 0.3% | 0.015 | 0.015 | MG/KG | 5.3 | 0 | N | BSL |
| NFA | (TIC) BENZENE, 1,2,3-TRICHLORO- | 1 | 334 | 0.3% | 8.3 | 8.3 | MG/KG | 6.3 | 1 | N | LDF |
| NFA | (TIC) BENZENE, 1,2,3-TRIMETHYL- | 32 | 404 | 8% | 0.01 | 290 | MG/KG | 4.9 | 12 | Y | ASL |
| NFA | (TIC) BENZENE, 1,3,5-TRIMETHYL- | 18 | 404 | 4% | 0.096 | 510 | MG/KG | 78 | 7 | Y | ASL(1) |
| NFA | (TIC) BENZENE, BUTYL- | 2 | 334 | 0.6% | 0.2 | 0.22 | MG/KG | 390 | 0 | N | BSL |
| NFA | (TIC) BENZENE, PROPYL- | 17 | 404 | 4% | 0.0075 | 55 | MG/KG | 380 | 0 | N | BSL |
| NFA | (TIC) BENZENE, TERT-BUTYL- | 1 | 404 | 0.2% | 0.013 | 0.013 | MG/KG | 780 | 0 | N | BSL |
| NFA | (TIC) BENZO[J]FLUORANTHENE | 13 | 334 | 4% | 0.071 | 12 | MG/KG | 0.42 | 7 | N | LDF |
| NFA | (TIC) ETHYLBENZENE | 1 | 334 | 0.3% | 13 | 13 | MG/KG | 5.8 | 1 | N | LDF |
| NFA | (TIC) NAPHTHALENE, 1-METHYL- | 25 | 404 | 6% | 0.09 | 27 | MG/KG | 18 | 1 | Y | ASL |
| NFA | (TIC) NAPHTHALENE, 2-METHYL- | 1 | 200 | 0.5% | 1.2 | 1.2 | MG/KG | 24 | 0 | N | BSL |
| NFA | (TIC) P,P-DDE | 1 | 334 | 0.3% | 0.094 | 0.094 | MG/KG | 2 | 0 | N | BSL |
| NFA | (TIC) UNKNOWN BENZENE, 1,2,4-TRIMETHYL- | 1 | 200 | 0.5% | 32 | 32 | MG/KG | 5.8 | 1 | N | LDF |
| SFA | (TIC) 1,1-BIPHENYL, 2,3,3,4,4,5-HEXACHLORO | 1 | 146 | 1% | 0.072 | 0.072 | MG/KG | 0.12 | 0 | N | BSL |
| SFA | (TIC) 1,2,4-TRIMETHYLBENZENE | 9 | 172 | 5% | 0.13 | 480 | MG/KG | 5.8 | 4 | Y | ASL |
| SFA | (TIC) BENZ[A]ANTHRACENE, 7,12-DIMETHYL- | 1 | 146 | 1% | 0.11 | 0.11 | MG/KG | 0.00046 | 1 | N | LDF |
| SFA | (TIC) BENZENE, 1,2,3-TRIMETHYL- | 14 | 172 | 8% | 0.017 | 210 | MG/KG | 4.9 | 5 | Y | ASL |
| SFA | (TIC) BENZENE, 1,3,5-TRIMETHYL- | 10 | 172 | 6% | 0.37 | 180 | MG/KG | 78 | 2 | Y | ASL |
| SFA | (TIC) BENZENE, PROPYL- | 7 | 172 | 4% | 0.0079 | 8.1 | MG/KG | 380 | 0 | N | BSL |
| SFA | (TIC) BENZENE, TERT-BUTYL- | 1 | 172 | 1% | 0.027 | 0.027 | MG/KG | 780 | 0 | N | BSL |
| SFA | (TIC) BENZO[J]FLUORANTHENE | 2 | 146 | 1% | 0.26 | 0.7 | MG/KG | 0.42 | 1 | N | LDF |
| SFA | (TIC) BENZOIC ACID | 3 | 146 | 2% | 0.081 | 0.13 | MG/KG | 25000 | 0 | N | BSL |
| SFA | (TIC) BIS(2-ETHYLHEXYL) PHTHALATE | 4 | 146 | 3% | 0.1 | 0.44 | MG/KG | 39 | 0 | N | BSL |
| SFA | (TIC) DIBENZOFURAN | 1 | 146 | 1% | 0.94 | 0.94 | MG/KG | 7.3 | 0 | N | BSL |
| SFA | (TIC) NAPHTHALENE, 1-METHYL- | 9 | 172 | 5% | 0.088 | 8.6 | MG/KG | 18 | 0 | N | BSL |
| UNDV | (TIC) 1,2,4-TRIMETHYLBENZENE | 10 | 287 | 3% | 0.0061 | 1.3 | MG/KG | 5.8 | 0 | N | BSL |
| UNDV | (TIC) BENZENE, 1,2,3-TRIMETHYL- | 6 | 287 | 2% | 0.13 | 9.5 | MG/KG | 4.9 | 1 | N | LDF |
| UNDV | (TIC) BENZENE, 1,3,5-TRIMETHYL- | 6 | 287 | 2% | 0.049 | 1.5 | MG/KG | 78 | 0 | N | BSL |
| UNDV | (TIC) BENZENE, PROPYL- | 1 | 287 | 0.3% | 0.16 | 0.16 | MG/KG | 380 | 0 | N | BSL |
| UNDV | (TIC) BENZENE, TERT-BUTYL- | 1 | 287 | 0.3% | 0.095 | 0.095 | MG/KG | 780 | 0 | N | BSL |
| UNDV | (TIC) BENZO[J]FLUORANTHENE | 2 | 256 | 1% | 1 | 8.2 | MG/KG | 0.42 | 2 | N | LDF |
| UNDV | (TIC) BENZOIC ACID | 2 | 256 | 1% | 0.29 | 1.2 | MG/KG | 25000 | 0 | N | BSL |
| UNDV | (TIC) BIS(2-ETHYLHEXYL) PHTHALATE | 2 | 256 | 1% | 0.17 | 2.3 | MG/KG | 39 | 0 | N | BSL |

Notes:

Only the analytes with screening levels are presented.

The maximum concentration of each TIC reported in each sample analysis was used.

The maximum detected concentration was used for the screening.

Rationale codes:

Selection reason: ASL – Above screening level.

Deletion reason: BSL – Below screening level.

LDF – Low detection frequency (<5%).

Benzo(ghi)fluoranthene was removed from this list because it does not have an RSL.

(1) 1,2,4-Trimethylbenzene and 1,3,5-trimethylbenzene were retained as COPCs in the NFA, because they are COPCs in the SFA area.

**Table 3 Soil TIC Screening Summary Table, 0-2 ft Depth**

| Exposure Point | Analyte | Count of TIC Detects | Count of TIC Samples | Detection Frequency | Minimum | Maximum | Units | Screening Criteria | Exceedances | COPC Flag | Rationale for Selection or Deletion |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EUSA | (TIC) 1,2,4-TRIMETHYLBENZENE | 1 | 16 | 6% | 0.02 | 0.02 | MG/KG | 5.8 | 0 | N | BSL |
| EUSA | (TIC) BENZENE, 1,2,3-TRIMETHYL- | 1 | 16 | 6% | 0.15 | 0.15 | MG/KG | 4.9 | 0 | N | BSL |
| EUSA | (TIC) BENZENE, 1,3,5-TRIMETHYL- | 1 | 16 | 6% | 0.19 | 0.19 | MG/KG | 78 | 0 | N | BSL |
| NFA | (TIC) 1,1-BIPHENYL, 2,3,3,4,4,5-HEXACHLORO | 5 | 119 | 4% | 0.08 | 2.9 | MG/KG | 0.12 | 4 | N | LDF |
| NFA | (TIC) 1,1-BIPHENYL, 2,3,3,4,4-PENTACHLORO- | 3 | 119 | 3% | 0.1 | 1.3 | MG/KG | 0.12 | 2 | N | LDF |
| NFA | (TIC) 1,1-BIPHENYL, 2,3,4,4,5,5-HEXACHLORO | 6 | 119 | 5% | 0.26 | 2.9 | MG/KG | 0.12 | 6 | Y | ASL |
| NFA | (TIC) 1,1-BIPHENYL, 2,3,4,4,5-PENTACHLORO- | 3 | 119 | 3% | 0.13 | 0.45 | MG/KG | 0.12 | 3 | N | LDF |
| NFA | (TIC) 1,1-BIPHENYL, 3,3,4,4,5,5-HEXACHLORO | 4 | 119 | 3% | 0.095 | 0.41 | MG/KG | 0.00012 | 4 | N | LDF |
| NFA | (TIC) 1,2,4-TRIMETHYLBENZENE | 4 | 159 | 3% | 0.13 | 200 | MG/KG | 5.8 | 2 | N | LDF |
| NFA | (TIC) 1,4-DIOXANE | 1 | 119 | 1% | 0.015 | 0.015 | MG/KG | 5.3 | 0 | N | BSL |
| NFA | (TIC) BENZENE, 1,2,3-TRIMETHYL- | 7 | 159 | 4% | 0.085 | 76 | MG/KG | 4.9 | 1 | N | LDF |
| NFA | (TIC) BENZENE, 1,3,5-TRIMETHYL- | 2 | 159 | 1% | 0.096 | 14 | MG/KG | 78 | 0 | N | BSL |
| NFA | (TIC) BENZENE, PROPYL- | 3 | 159 | 2% | 0.15 | 2.2 | MG/KG | 380 | 0 | N | BSL |
| NFA | (TIC) BENZO[J]FLUORANTHENE | 9 | 119 | 8% | 0.071 | 4.4 | MG/KG | 0.42 | 5 | Y | ASL |
| NFA | (TIC) NAPHTHALENE, 1-METHYL- | 9 | 159 | 6% | 0.091 | 3.3 | MG/KG | 18 | 0 | N | BSL |
| NFA | (TIC) P,P-DDE | 1 | 119 | 1% | 0.094 | 0.094 | MG/KG | 2 | 0 | N | BSL |
| SFA | (TIC) 1,1-BIPHENYL, 2,3,3,4,4,5-HEXACHLORO | 1 | 57 | 2% | 0.072 | 0.072 | MG/KG | 0.12 | 0 | N | BSL |
| SFA | (TIC) 1,2,4-TRIMETHYLBENZENE | 2 | 73 | 3% | 0.13 | 170 | MG/KG | 5.8 | 1 | N | LDF |
| SFA | (TIC) BENZ[A]ANTHRACENE, 7,12-DIMETHYL- | 1 | 57 | 2% | 0.11 | 0.11 | MG/KG | 0.00046 | 1 | N | LDF |
| SFA | (TIC) BENZENE, 1,2,3-TRIMETHYL- | 3 | 73 | 4% | 0.082 | 210 | MG/KG | 4.9 | 1 | N | LDF |
| SFA | (TIC) BENZENE, 1,3,5-TRIMETHYL- | 1 | 73 | 1% | 0.53 | 0.53 | MG/KG | 78 | 0 | N | BSL |
| SFA | (TIC) BENZO[J]FLUORANTHENE | 2 | 57 | 4% | 0.26 | 0.7 | MG/KG | 0.42 | 1 | Y | ASL (1) |
| SFA | (TIC) BENZOIC ACID | 2 | 57 | 4% | 0.11 | 0.13 | MG/KG | 25000 | 0 | N | BSL |
| SFA | (TIC) BIS(2-ETHYLHEXYL) PHTHALATE | 3 | 57 | 5% | 0.18 | 0.44 | MG/KG | 39 | 0 | N | BSL |
| SFA | (TIC) NAPHTHALENE, 1-METHYL- | 2 | 73 | 3% | 1.6 | 8.6 | MG/KG | 18 | 0 | N | BSL |
| UNDV | (TIC) 1,2,4-TRIMETHYLBENZENE | 1 | 179 | 1% | 0.077 | 0.077 | MG/KG | 5.8 | 0 | N | BSL |
| UNDV | (TIC) BENZENE, 1,3,5-TRIMETHYL- | 1 | 179 | 1% | 0.15 | 0.15 | MG/KG | 78 | 0 | N | BSL |
| UNDV | (TIC) BENZO[J]FLUORANTHENE | 2 | 154 | 1% | 1 | 8.2 | MG/KG | 0.42 | 2 | N | LDF |
| UNDV | (TIC) BENZOIC ACID | 2 | 154 | 1% | 0.29 | 1.2 | MG/KG | 25000 | 0 | N | BSL |
| UNDV | (TIC) BIS(2-ETHYLHEXYL) PHTHALATE | 2 | 154 | 1% | 0.17 | 2.3 | MG/KG | 39 | 0 | N | BSL |

Notes:

Only the analytes with screening levels are presented.

The maximum concentration of each TIC reported in each sample analysis was used.

The maximum detected concentration was used for the screening.

Rationale codes:

Selection reason: ASL – Above screening level.

Deletion reason: BSL – Below screening level.

LDF – Low detection frequency (<5%).

Benzo(ghi)fluoranthene was removed from this list because it does not have an RSL.

(1) Benzo(j)fluoranthene was retained as a COPC in the SFA, because it is a COPC in the NFA.

**Table 4 Sediment TIC Screening Summary Table, 0-0.5 ft Depth**

| Exposure Point | Analyte | Count of TIC Detects | Count of TIC Samples | Detection Frequency | Minimum | Maximum | Units | Screening Criteria | Exceedances | COPC Flag | Rationale for Selection or Deletion |
|---|---|---|---|---|---|---|---|---|---|---|---|
| UHC | (TIC) BENZENE, 1,2,3-TRIMETHYL- | 1 | 17 | 6% | 0.063 | 0.063 | MG/KG | 4.9 | 0 | N | BSL |
| UHC | (TIC) BENZO(K)FLUORANTHENE | 1 | 17 | 6% | 0.57 | 0.57 | MG/KG | 1.6 | 0 | N | BSL |
| UHC | (TIC) BENZO[J]FLUORANTHENE | 2 | 17 | 12% | 0.45 | 1.1 | MG/KG | 0.42 | 2 | Y | ASL |
| UHC | (TIC) CARBAZOLE | 2 | 17 | 12% | 2.1 | 3 | MG/KG | 24 | 0 | N | BSL |

Notes:

Only the analytes with screening levels are presented.

The maximum concentration of each TIC reported in each sample analysis was used.

The maximum detected concentration was used for the screening.

Rationale codes:

Selection reason: ASL – Above screening level.

Deletion reason: BSL – Below screening level.

Benzo(ghi)fluoranthene was removed from this list because it does not have an RSL.

No TICs with criteria were detected in surface water in UHC.

# Appendix F

## Sub-slab and Indoor Air Screening

**Table 1 Sub-slab Data**

| Chemical Group | Analyte | CAS | EPA VISL Sub-slab Commercial | Units | Exceedances | | Address | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 10 Foster Ave | 10 Foster Ave | 2 Foster Ave |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sample Location ID | Unit 1F_SS_001 | Unit 1F_SS_002 | Unit 1F_SS_003 | Unit 1F_SS_004 | Unit 1F_SS_005 | Unit 1F_SS_006 | Unit 1F_SS_007 | Unit 1F_SS_008 | Unit 1F_SS_009 | Unit 10F_SS_001 | Unit 10F_SS_002 | Unit 2F_SS_001 |
| | | | | | | | Sample Date | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 |
| | | | | | | Min. Det. | Max. Det. | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 |
| ALS SOP VOA-EPA3C (TCD) | Methane | 74-82-8 | - | %v/v | | 17 | 48 | | | | | | | | | | | | |
| ALS SOP VOA-S307M_SCD | Hydrogen Sulfide | 7783-06-4 | 292 | µg/m3 | | | | | | | | | | | | | | | |
| MADEP APH 1.0 | C5 - C8 Aliphatics | | - | µg/m3 | | 430000 | 69000000 | | | | | | | | | | | | |
| MADEP APH 1.0 | C9 - C10 Aromatics | | - | µg/m3 | | 870 | 590000 | | | | | | | | | | | | |
| MADEP APH 1.0 | C9 - C12 Aliphatics | | - | µg/m3 | | 260000 | 9600000 | | | | | | | | | | | | |
| VOC | 1,1,1,2-Tetrachloroethane | 630-20-6 | 55 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,1,1,2-Tetrafluoroethane | 811-97-2 | 11680000 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,1,1-Trichloroethane | 71-55-6 | 730000 | µg/m3 | 0 | 0.37 | 14 | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 1.3 | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.9 | 0.76 U | 7700 U |
| VOC | 1,1,2,2-Tetrachloroethane | 79-34-5 | 7.0 | µg/m3 | | | | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | 1,1,2-Trichloroethane | 79-00-5 | 26 | µg/m3 | | | | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | 1,1,2-Trichlorotrifluoroethane | 76-13-1 | 4380000 | µg/m3 | 0 | 0.41 | 3 | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | 1,1-Dichloroethane | 75-34-3 | 256 | µg/m3 | 0 | 0.15 | 53.4 | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | 1,1-Dichloroethene | 75-35-4 | 29200 | µg/m3 | 0 | 2.5 | 14 | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | 1,1-Dichloropropene | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,1-Difluoroethane | 75-37-6 | 5840000 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,3,4-Tetramethylbenzene | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,3,5-Tetramethylbenzene | | - | µg/m3 | | 75 | 75 | | | | | | | | | | | | |
| VOC | 1,2,3-Trichlorobenzene | 87-61-6 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,3-Trichloropropane | 96-18-4 | 44 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,3-Trimethylbenzene | 526-73-8 | 730 | µg/m3 | 4 | 0.78 | 26000 | | | | | | | | | | | | |
| VOC | 1,2,4,5-Tetramethylbenzene | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,4-Trichlorobenzene | 120-82-1 | 292 | µg/m3 | | | | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | 1,2,4-Trimethylbenzene | 95-63-6 | 1022 | µg/m3 | 38 | 0.35 | 130000 | 0.83 | 27 | 0.74 U | 0.78 U | 37 | 9.7 | 0.75 U | 12 | 1.6 | 1.2 | 1.5 | 14000 |
| VOC | 1,2-Dibromo 3-Chloropropane | 96-12-8 | 0.068 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2-Dibromoethane | 106-93-4 | 0.68 | µg/m3 | | | | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | 1,2-Dichloro-1,1,2,2-tetrafluoroethane | | - | µg/m3 | | | | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | 1,2-Dichlorobenzene | 95-50-1 | 29200 | µg/m3 | | | | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | 1,2-Dichloroethane | 107-06-2 | 16 | µg/m3 | 0 | 0.22 | 0.22 | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | 1,2-Dichloropropane | 78-87-5 | 41 | µg/m3 | 0 | 2.6 | 2.6 | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | 1,2-Dichlorotetrafluoroethane | 76-14-2 | - | µg/m3 | | | | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | 1,3,5-Trimethylbenzene | 108-67-8 | No Inh. Tox | µg/m3 | | 0.76 | 59000 | 0.77 U | 15 | 0.74 U | 0.78 U | 27 | 4.8 | 0.75 U | 6.2 | 0.77 U | 0.76 U | 0.76 U | 11000 |
| VOC | 1,3-Butadiene | 106-99-0 | 14 | µg/m3 | | | | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | 1,3-Dichlorobenzene | 541-73-1 | - | µg/m3 | | | | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | 1,3-Dichloropropane | | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,4-Dichlorobenzene | 106-46-7 | 37 | µg/m3 | 0 | 0.82 | 1.8 | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.82 | 1.7 | 7700 U |
| VOC | 1,4-Dioxane | 123-91-1 | 82 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1-Butanol | 71-36-3 | No Inh. Tox | µg/m3 | | 1.6 | 2.6 | | | | | | | | | | | | |
| VOC | 1-Chloro-1,1-difluoroethane | 75-68-3 | 7300000 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1-Chlorohexane | 544-10-5 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 2,2,4-Trimethylpentane | 540-84-1 | - | µg/m3 | | 0.8 | 2100 | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.8 | 7700 U |
| VOC | 2,2-Dichloro-1,1,1-trifluoroethane | 306-83-2 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 2,2-Dichloropropane | 594-20-7 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 2,3-Dimethylpentane | 565-59-3 | - | µg/m3 | | 700 | 480000 | | | | | | | | | | | | |
| VOC | 2-Butanone (MEK) | 78-93-3 | 730000 | µg/m3 | 0 | 0.78 | 1300 | 1.5 | 3.1 | 1 | 1.2 | 0.94 | 1.6 | 1.3 | 0.78 | 4.7 | 69 | 3.9 | 7700 U |
| VOC | 2-Chlorotoluene | 95-49-8 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 2-Ethyltoluene | 611-14-3 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 2-Hexanone | 591-78-6 | 4380 | µg/m3 | 0 | 0.37 | 1500 | | | | | | | | | | | | |
| VOC | 2-Methylbutane | 78-78-4 | - | µg/m3 | | 6200 | 54000 | | | | | | | | | | | | |
| VOC | 2-Methylpentane | 107-83-5 | - | µg/m3 | | 17000 | 180000 | | | | | | | | | | | | |
| VOC | 2-Propanol | 67-63-0 | 29200 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 3-Chloro-1-propene | 107-05-1 | 68 | µg/m3 | | | | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | 3-Ethyltoluene | 620-14-4 | - | µg/m3 | | 4900 | 21000 | | | | | | | | | | | | |
| VOC | 4-Chlorotoluene | 106-43-4 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 4-Ethyltoluene | 622-96-8 | - | µg/m3 | | 0.95 | 18000 | 0.77 U | 4.3 | 0.74 U | 0.78 U | 8 | 2.1 | 0.75 U | 0.95 | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | 4-Isopropyltoluene | 99-87-6 | - | µg/m3 | | 9300 | 19000 | | | | | | | | | | | | |
| VOC | 4-Methyl-2-pentanone | 108-10-1 | 438000 | µg/m3 | 0 | 0.25 | 11 | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 3.3 | 0.75 U | 0.76 U | 0.77 U | 3.7 | 1.5 | 7700 U |
| VOC | Acetone | 67-64-1 | 4526000 | µg/m3 | 0 | 8 | 8500 | 18 | 820 | 8 | 14 | 7.5 U | 25 | 13 | 7.6 U | 18 | 98 | 100 | 77000 U |
| VOC | Acetonitrile | 75-05-8 | 8760 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Acrolein | 107-02-8 | 2.9 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Acrylonitrile | 107-13-1 | 6.0 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | alpha-Pinene | 80-56-8 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | a-Methylstyrene | 98-83-9 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Benzene | 71-43-2 | 52 | µg/m3 | 51 | 0.16 | 370000 | 0.31 | 1.44 | 0.15 U | 1.8 | 2.3 | 0.68 | 0.15 U | 0.34 | 0.57 | 1.5 | 1.8 | 32000 |
| VOC | Benzyl Chloride | 100-44-7 | 8.3 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Bromobenzene | 108-86-1 | 8760 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Bromodichloromethane | 75-27-4 | 11 | µg/m3 | | | | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | Bromoform | 75-25-2 | 372 | µg/m3 | | | | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | Bromomethane | 74-83-9 | 730 | µg/m3 | | | | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | Carbon Disulfide | 75-15-0 | 102200 | µg/m3 | 0 | 0.7 | 5000 | 3.4 | 3.1 U | 1.5 | 4.9 | 7.4 | 5.7 | 0.75 U | 2.7 | 1.1 | 0.76 U | 0.76 U | 7700 U |
| VOC | Carbon Tetrachloride | 56-23-5 | 68 | µg/m3 | 0 | 0.16 | 1.6 | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | Chlorobenzene | 108-90-7 | 7300 | µg/m3 | | | | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | Chlorodifluoromethane | 75-45-6 | 7300000 | µg/m3 | | | | | | | | | | | | | | | |

**Table 1 Sub-slab Data**

| Chemical Group | Analyte | CAS | EPA VISL Sub-slab Commercial | Units | Exceedances | Min. Det. | Max. Det. | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 10 Foster Ave | 10 Foster Ave | 2 Foster Ave |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sample Location ID | Unit 1F_SS_001 | Unit 1F_SS_002 | Unit 1F_SS_003 | Unit 1F_SS_004 | Unit 1F_SS_005 | Unit 1F_SS_006 | Unit 1F_SS_007 | Unit 1F_SS_008 | Unit 1F_SS_009 | Unit 10F_SS_001 | Unit 10F_SS_002 | Unit 2F_SS_001 |
| | | | | | | | Sample Date | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 |
| | | | | | | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 |
| VOC | Chloroethane | 75-00-3 | 1460000 | µg/m3 | 0 | 0.25 | 0.25 | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | Chloroform | 67-66-3 | 18 | µg/m3 | 0 | 0.12 | 12 | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | Chloromethane | 74-87-3 | 13140 | µg/m3 | | | | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | Chloropentafluoroethane | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | cis-1,2-Dichloroethene | 156-59-2 | No Inh. Tox | µg/m3 | | 6.4 | 16000 | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 9600 |
| VOC | cis-1,3-Dichloropropene | 10061-01-5 | 102.2 | µg/m3 | | | | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | Cyclohexane | 110-82-7 | 876000 | µg/m3 | 2 | 0.52 | 1100000 | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 2.1 | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 1.5 | 390000 |
| VOC | Cyclohexanone | 108-94-1 | 102200 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Dibromochloromethane | 124-48-1 | No Inh. Tox | µg/m3 | | | | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | Dibromomethane | 74-95-3 | 584 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Dichlorodifluoromethane | 75-71-8 | 14600 | µg/m3 | 0 | 1.6 | 330 | 2.4 | 3.7 | 2.5 | 3 | 33 | 2.5 | 2.3 | 2.3 | 2.2 | 10 | 5 | 7700 U |
| VOC | Dichlorofluoromethane | 75-43-4 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Diisopropyl Ether | 108-20-3 | 102200 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | d-Limonene | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Ethanol | 64-17-5 | - | µg/m3 | | 8.7 | 42 | | | | | | | | | | | | |
| VOC | Ethyl Acetate | 141-78-6 | 10220 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Ethyl tert-Butyl Ether | 637-92-3 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Ethylbenzene | 100-41-4 | 164 | µg/m3 | 43 | 0.24 | 460000 | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 28 | 2.8 | 0.75 U | 1.4 | 0.77 U | 0.76 U | 1.5 | 100000 |
| VOC | Hexachlorobutadiene | 87-68-3 | 19 | µg/m3 | | | | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | Indan | 496-11-7 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Indene | 95-13-6 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Isopropyl Acetate | 108-21-4 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Isopropylbenzene | 98-82-8 | 58400 | µg/m3 | 0 | 6300 | 32000 | | | | | | | | | | | | |
| VOC | m,p-Xylenes | 1330-20-7 | 14600 | µg/m3 | 26 | 0.741 | 3000000 | 1.3 | 6.41 | 0.81 | 2 | 190 | 14 | 0.75 U | 7.3 | 4.3 | 4 | 5 | 400000 |
| VOC | Methyl Acetate | 79-20-9 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Methyl Methacrylate | 80-62-6 | 102200 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Methyl tert-Butyl Ether | 1634-04-4 | 1572 | µg/m3 | | | | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | Methylcyclohexane | 108-87-2 | - | µg/m3 | | 0.88 | 10000000 | | | | | | | | | | | | |
| VOC | Methylene Chloride | 75-09-2 | 40880 | µg/m3 | 0 | 3 | 33000 | 0.77 U | 3.1 U | 0.74 U | 17 | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | Naphthalene | 91-20-3 | 12 | µg/m3 | 0 | 0.75 | 1.9 | | | | | | | | | | | | |
| VOC | n-Butyl Acetate | 123-86-4 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | n-Butylbenzene | 104-51-8 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | n-Decane | 124-18-5 | - | µg/m3 | | 0.76 | 66000 | | | | | | | | | | | | |
| VOC | n-Dodecane | 112-40-3 | - | µg/m3 | | 16 | 48 | | | | | | | | | | | | |
| VOC | n-Heptane | 142-82-5 | - | µg/m3 | | 0.2 | 1300000 | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 3.2 | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 3.4 | 1200000 |
| VOC | n-Hexane | 110-54-3 | 102200 | µg/m3 | 4 | 1 | 360000 | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 1.8 | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 1.8 | 260000 |
| VOC | n-Nonane | 111-84-2 | 2920 | µg/m3 | 4 | 4000 | 130000 | | | | | | | | | | | | |
| VOC | n-Octane | 111-65-9 | - | µg/m3 | | 20000 | 1200000 | | | | | | | | | | | | |
| VOC | n-Propylbenzene | 103-65-1 | 146000 | µg/m3 | 0 | 7000 | 45000 | | | | | | | | | | | | |
| VOC | n-Undecane | 1120-21-4 | - | µg/m3 | | 5.4 | 6200 | | | | | | | | | | | | |
| VOC | o-Xylene | 95-47-6 | 14600 | µg/m3 | 4 | 0.45 | 680000 | 0.77 U | 3.1 | 0.74 U | 0.78 U | 34 | 4.7 | 0.75 U | 6.5 | 1.8 | 2.1 | 1.8 | 7700 U |
| VOC | Propene | 115-07-1 | 438000 | µg/m3 | 0 | 1.8 | 1.8 | | | | | | | | | | | | |
| VOC | sec-Butylbenzene | 135-98-8 | No Inh. Tox | µg/m3 | | 530 | 530 | | | | | | | | | | | | |
| VOC | Styrene | 100-42-5 | 146000 | µg/m3 | 0 | 0.24 | 5000 | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.97 | 7700 U |
| VOC | tert-Amyl Methyl Ether | 994-05-8 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Tert-Butyl Alcohol | 75-65-0 | - | µg/m3 | | 540 | 540 | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | tert-Butylbenzene | 98-06-6 | No Inh. Tox | µg/m3 | | 780 | 780 | | | | | | | | | | | | |
| VOC | Tetrachloroethene | 127-18-4 | 1572 | µg/m3 | 2 | 0.21 | 2400 | 0.77 U | 4.9 | 0.78 | 1.7 | 33 | 1.9 | 2.2 | 0.76 U | 1.1 | 12 | 4.5 | 7700 U |
| VOC | Tetrahydrofuran | 109-99-9 | 292000 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Thiophene | 110-02-1 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Toluene | 108-88-3 | 730000 | µg/m3 | 0 | 0.37 | 10000 | 0.86 | 6.77 | 2 | 4.5 | 23 | 5.2 | 0.75 U | 1.4 | 2.9 | 24 | 14 | 7700 U |
| VOC | trans-1,2-Dichloroethene | 156-60-5 | No Inh. Tox | µg/m3 | | 4 | 3000 | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | trans-1,3-Dichloropropene | 10061-02-6 | 102.2 | µg/m3 | | | | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.75 U | 0.77 U | 0.75 U | 0.76 U | 0.77 U | 0.76 U | 0.76 U | 7700 U |
| VOC | Trichloroethene | 79-01-6 | 100 | µg/m3 | 2 | 0.14 | 167 | 0.77 U | 3.1 U | 0.74 U | 0.78 U | 0.84 | 0.77 U | 0.75 U | 0.76 U | 11 | 0.76 U | 0.76 U | 7700 U |
| VOC | Trichlorofluoromethane | 75-69-4 | No Inh. Tox | µg/m3 | | 0.84 | 12 | 1.2 | 3.1 U | 1 | 1.1 | 1.2 | 1.2 | 1.3 | 1.3 | 1.2 | 2 | 1.8 | 7700 U |
| VOC | Vinyl Acetate | 108-05-4 | 29200 | µg/m3 | 0 | 11 | 12 | | | | | | | | | | | | |
| VOC | Vinyl Bromide | 593-60-2 | 13 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Vinyl Chloride | 75-01-4 | 93 | µg/m3 | 23 | 19.2 | 2110 | 0.15 U | 0.61 U | 0.15 U | 0.16 U | 0.15 U | 0.15 U | 0.15 U | 0.15 U | 0.15 U | 0.15 U | 0.15 U | 1500 U |

Notes:

EPA criteria: May 2016 VISL Target Sub-Slab and Exterior Soil Gas Conc., TCR = 1E-06 or THQ = 1, Commercial scenario.

- = No criterion listed.

No Inh. Tox – No inhalation toxicity information available; therefore, no criterion calculated.

U – Non-detect.

J – Estimated Value.

Shading – Value exceeds criterion.

**Table 1 Sub-slab Data**

| Chemical Group | Analyte | CAS | EPA VISL Sub-slab Commercial | Units | Exceedances | | Address | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 3 US Ave | 3 US Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sample Location ID | Unit 2F_SS_002 | Unit 2F_SS_003 | Unit 2F_SS_004 | Unit 2F_SS_005 | Unit 2F_SS_006 | Unit 2F_SS_007 | Unit 2F_SS_008 | Unit 3US_SS_001 | Unit 3US_SS_002 | Unit 4F_SS_001 | Unit 4F_SS_002 | Unit 4F_SS_003 |
| | | | | | | | Sample Date | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 |
| | | | | | | Min. Det. | Max. Det. | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 |
| ALS SOP VOA-EPA3C (TCD) | Methane | 74-82-8 | - | %v/v | | 17 | 48 | | | | | | | | | | | | |
| ALS SOP VOA-S307M_SCD | Hydrogen Sulfide | 7783-06-4 | 292 | µg/m3 | | | | | | | | | | | | | | | |
| MADEP APH 1.0 | C5 - C8 Aliphatics | | - | µg/m3 | | 430000 | 69000000 | | | | | | | | | | | | |
| MADEP APH 1.0 | C9 - C10 Aromatics | | - | µg/m3 | | 870 | 590000 | | | | | | | | | | | | |
| MADEP APH 1.0 | C9 - C12 Aliphatics | | - | µg/m3 | | 260000 | 9600000 | | | | | | | | | | | | |
| VOC | 1,1,1,2-Tetrachloroethane | 630-20-6 | 55 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,1,1,2-Tetrafluoroethane | 811-97-2 | 11680000 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,1,1-Trichloroethane | 71-55-6 | 730000 | µg/m3 | 0 | 0.37 | 14 | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | 1,1,2,2-Tetrachloroethane | 79-34-5 | 7.0 | µg/m3 | | | | 1200 U | 1200 U | 9100 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | 1,1,2-Trichloroethane | 79-00-5 | 26 | µg/m3 | | | | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | 1,1,2-Trichlorotrifluoroethane | 76-13-1 | 4380000 | µg/m3 | 0 | 0.41 | 3 | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | 1,1-Dichloroethane | 75-34-3 | 256 | µg/m3 | 0 | 0.15 | 53.4 | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | 1,1-Dichloroethene | 75-35-4 | 29200 | µg/m3 | 0 | 2.5 | 14 | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | 1,1-Dichloropropene | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,1-Difluoroethane | 75-37-6 | 5840000 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,3,4-Tetramethylbenzene | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,3,5-Tetramethylbenzene | | - | µg/m3 | | 75 | 75 | | | | | | | | | | | | |
| VOC | 1,2,3-Trichlorobenzene | 87-61-6 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,3-Trichloropropane | 96-18-4 | 44 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,3-Trimethylbenzene | 526-73-8 | 730 | µg/m3 | 4 | 0.78 | 26000 | | | | | | | | | | | | |
| VOC | 1,2,4,5-Tetramethylbenzene | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,4-Trichlorobenzene | 120-82-1 | 292 | µg/m3 | | | | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | 1,2,4-Trimethylbenzene | 95-63-6 | 1022 | µg/m3 | 38 | 0.35 | 130000 | 8800 | 10000 | 22000 | 12000 | 21000 | 25000 | 10000 | 340 U | 1400 U | 22000 | 2500 U | 6700 U |
| VOC | 1,2-Dibromo 3-Chloropropane | 96-12-8 | 0.068 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2-Dibromoethane | 106-93-4 | 0.68 | µg/m3 | | | | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | 1,2-Dichloro-1,1,2,2-tetrafluoroethane | | - | µg/m3 | | | | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | 1,2-Dichlorobenzene | 95-50-1 | 29200 | µg/m3 | | | | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | 1,2-Dichloroethane | 107-06-2 | 16 | µg/m3 | 0 | 0.22 | 0.22 | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | 1,2-Dichloropropane | 78-87-5 | 41 | µg/m3 | 0 | 2.6 | 2.6 | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | 1,2-Dichlorotetrafluoroethane | 76-14-2 | - | µg/m3 | | | | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | 1,3,5-Trimethylbenzene | 108-67-8 | No Inh. Tox | µg/m3 | | 0.76 | 59000 | 17000 | 17000 | 26000 | 5500 | 16000 | 20000 | 4700 | 340 U | 1400 U | 10000 | 2500 U | 6700 U |
| VOC | 1,3-Butadiene | 106-99-0 | 14 | µg/m3 | | | | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | 1,3-Dichlorobenzene | 541-73-1 | - | µg/m3 | | | | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | 1,3-Dichloropropane | | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,4-Dichlorobenzene | 106-46-7 | 37 | µg/m3 | 0 | 0.82 | 1.8 | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | 1,4-Dioxane | 123-91-1 | 82 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1-Butanol | 71-36-3 | No Inh. Tox | µg/m3 | | 1.6 | 2.6 | | | | | | | | | | | | |
| VOC | 1-Chloro-1,1-difluoroethane | 75-68-3 | 7300000 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1-Chlorohexane | 544-10-5 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 2,2,4-Trimethylpentane | 540-84-1 | - | µg/m3 | | 0.8 | 2100 | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | 2,2-Dichloro-1,1,1-trifluoroethane | 306-83-2 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 2,2-Dichloropropane | 594-20-7 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 2,3-Dimethylpentane | 565-59-3 | - | µg/m3 | | 700 | 480000 | | | | | | | | | | | | |
| VOC | 2-Butanone (MEK) | 78-93-3 | 730000 | µg/m3 | 0 | 0.78 | 1300 | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | 2-Chlorotoluene | 95-49-8 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 2-Ethyltoluene | 611-14-3 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 2-Hexanone | 591-78-6 | 4380 | µg/m3 | 0 | 0.37 | 1500 | | | | | | | | | | | | |
| VOC | 2-Methylbutane | 78-78-4 | - | µg/m3 | | 6200 | 54000 | | | | | | | | | | | | |
| VOC | 2-Methylpentane | 107-83-5 | - | µg/m3 | | 17000 | 180000 | | | | | | | | | | | | |
| VOC | 2-Propanol | 67-63-0 | 29200 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 3-Chloro-1-propene | 107-05-1 | 68 | µg/m3 | | | | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | 3-Ethyltoluene | 620-14-4 | - | µg/m3 | | 4900 | 21000 | | | | | | | | | | | | |
| VOC | 4-Chlorotoluene | 106-43-4 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 4-Ethyltoluene | 622-96-8 | - | µg/m3 | | 0.95 | 18000 | 1900 | 1300 | 5800 | 1000 | 3800 U | 4530 | 1800 U | 340 U | 1400 U | 4300 | 2500 U | 6700 U |
| VOC | 4-Isopropyltoluene | 99-87-6 | - | µg/m3 | | 9300 | 19000 | | | | | | | | | | | | |
| VOC | 4-Methyl-2-pentanone | 108-10-1 | 438000 | µg/m3 | 0 | 0.25 | 11 | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | Acetone | 67-64-1 | 4526000 | µg/m3 | 0 | 8 | 8500 | 12000 U | 12000 U | 24000 U | 4200 U | 38000 U | 33000 U | 18000 U | 3400 U | 14000 U | 39000 U | 25000 U | 67000 U |
| VOC | Acetonitrile | 75-05-8 | 8760 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Acrolein | 107-02-8 | 2.9 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Acrylonitrile | 107-13-1 | 6.0 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | alpha-Pinene | 80-56-8 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | a-Methylstyrene | 98-83-9 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Benzene | 71-43-2 | 52 | µg/m3 | 51 | 0.16 | 370000 | 27000 | 93000 | 370000 | 6200 | 4000 | 5290 | 30000 | 700 | 8800 | 6700 | 1900 | 10000 |
| VOC | Benzyl Chloride | 100-44-7 | 8.3 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Bromobenzene | 108-86-1 | 8760 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Bromodichloromethane | 75-27-4 | 11 | µg/m3 | | | | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | Bromoform | 75-25-2 | 372 | µg/m3 | | | | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | Bromomethane | 74-83-9 | 730 | µg/m3 | | | | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | Carbon Disulfide | 75-15-0 | 102200 | µg/m3 | 0 | 0.7 | 5000 | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | Carbon Tetrachloride | 56-23-5 | 68 | µg/m3 | 0 | 0.16 | 1.6 | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | Chlorobenzene | 108-90-7 | 7300 | µg/m3 | | | | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | Chlorodifluoromethane | 75-45-6 | 7300000 | µg/m3 | | | | | | | | | | | | | | | |

**Table 1 Sub-slab Data**

| Chemical Group | Analyte | CAS | EPA VISL Sub-slab Commercial | Units | Exceedances | Min. Det. | Max. Det. | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 3 US Ave | 3 US Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sample Location ID | Unit 2F_SS_002 | Unit 2F_SS_003 | Unit 2F_SS_004 | Unit 2F_SS_005 | Unit 2F_SS_006 | Unit 2F_SS_007 | Unit 2F_SS_008 | Unit 3US_SS_001 | Unit 3US_SS_002 | Unit 4F_SS_001 | Unit 4F_SS_002 | Unit 4F_SS_003 |
| | | | | | | | Sample Date | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 |
| | | | | | | | | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 |
| VOC | Chloroethane | 75-00-3 | 1460000 | µg/m3 | 0 | 0.25 | 0.25 | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | Chloroform | 67-66-3 | 18 | µg/m3 | 0 | 0.12 | 12 | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | Chloromethane | 74-87-3 | 13140 | µg/m3 | | | | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | Chloropentafluoroethane | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | cis-1,2-Dichloroethene | 156-59-2 | No Inh. Tox | µg/m3 | | 6.4 | 16000 | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | cis-1,3-Dichloropropene | 10061-01-5 | 102.2 | µg/m3 | | | | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | Cyclohexane | 110-82-7 | 876000 | µg/m3 | 2 | 0.52 | 1100000 | 72000 | 70000 | 100000 | 35000 | 250000 | 180000 | 90000 | 9400 | 29000 | 240000 | 180000 | 510000 |
| VOC | Cyclohexanone | 108-94-1 | 102200 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Dibromochloromethane | 124-48-1 | No Inh. Tox | µg/m3 | | | | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | Dibromomethane | 74-95-3 | 584 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Dichlorodifluoromethane | 75-71-8 | 14600 | µg/m3 | 0 | 1.6 | 330 | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | Dichlorofluoromethane | 75-43-4 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Diisopropyl Ether | 108-20-3 | 102200 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | d-Limonene | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Ethanol | 64-17-5 | - | µg/m3 | | 8.7 | 42 | | | | | | | | | | | | |
| VOC | Ethyl Acetate | 141-78-6 | 10220 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Ethyl tert-Butyl Ether | 637-92-3 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Ethylbenzene | 100-41-4 | 164 | µg/m3 | 43 | 0.24 | 460000 | 15000 | 42000 | 370000 | 4300 | 16000 | 26000 | 45000 | 1400 | 18000 | 34000 | 2500 U | 6700 U |
| VOC | Hexachlorobutadiene | 87-68-3 | 19 | µg/m3 | | | | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | Indan | 496-11-7 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Indene | 95-13-6 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Isopropyl Acetate | 108-21-4 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Isopropylbenzene | 98-82-8 | 58400 | µg/m3 | 0 | 6300 | 32000 | | | | | | | | | | | | |
| VOC | m,p-Xylenes | 1330-20-7 | 14600 | µg/m3 | 26 | 0.741 | 3000000 | 5400 | 310000 | 3000000 | 1400 | 51000 | 18000 | 27000 | 1500 | 48000 | 19000 | 2500 U | 6700 U |
| VOC | Methyl Acetate | 79-20-9 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Methyl Methacrylate | 80-62-6 | 102200 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Methyl tert-Butyl Ether | 1634-04-4 | 1572 | µg/m3 | | | | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | Methylcyclohexane | 108-87-2 | - | µg/m3 | | 0.88 | 10000000 | | | | | | | | | | | | |
| VOC | Methylene Chloride | 75-09-2 | 40880 | µg/m3 | 0 | 3 | 33000 | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | Naphthalene | 91-20-3 | 12 | µg/m3 | 0 | 0.75 | 1.9 | | | | | | | | | | | | |
| VOC | n-Butyl Acetate | 123-86-4 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | n-Butylbenzene | 104-51-8 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | n-Decane | 124-18-5 | - | µg/m3 | | 0.76 | 66000 | | | | | | | | | | | | |
| VOC | n-Dodecane | 112-40-3 | - | µg/m3 | | 16 | 48 | | | | | | | | | | | | |
| VOC | n-Heptane | 142-82-5 | - | µg/m3 | | 0.2 | 1300000 | 66000 | 35000 | 150000 | 10000 | 410000 | 345000 | 25000 | 710 | 8300 | 80000 | 2500 U | 6700 U |
| VOC | n-Hexane | 110-54-3 | 102200 | µg/m3 | 4 | 1 | 360000 | 45000 | 12000 | 41000 | 15000 | 86000 | 99900 | 9900 | 830 | 4000 | 38000 | 23000 | 6700 U |
| VOC | n-Nonane | 111-84-2 | 2920 | µg/m3 | 4 | 4000 | 130000 | | | | | | | | | | | | |
| VOC | n-Octane | 111-65-9 | - | µg/m3 | | 20000 | 1200000 | | | | | | | | | | | | |
| VOC | n-Propylbenzene | 103-65-1 | 146000 | µg/m3 | 0 | 7000 | 45000 | | | | | | | | | | | | |
| VOC | n-Undecane | 1120-21-4 | - | µg/m3 | | 5.4 | 6200 | | | | | | | | | | | | |
| VOC | o-Xylene | 95-47-6 | 14600 | µg/m3 | 4 | 0.45 | 680000 | 1200 U | 1200 U | 680000 | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | Propene | 115-07-1 | 438000 | µg/m3 | 0 | 1.8 | 1.8 | | | | | | | | | | | | |
| VOC | sec-Butylbenzene | 135-98-8 | No Inh. Tox | µg/m3 | | 530 | 530 | | | | | | | | | | | | |
| VOC | Styrene | 100-42-5 | 146000 | µg/m3 | 0 | 0.24 | 5000 | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | tert-Amyl Methyl Ether | 994-05-8 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Tert-Butyl Alcohol | 75-65-0 | - | µg/m3 | | 540 | 540 | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | tert-Butylbenzene | 98-06-6 | No Inh. Tox | µg/m3 | | 780 | 780 | | | | | | | | | | | | |
| VOC | Tetrachloroethene | 127-18-4 | 1572 | µg/m3 | 2 | 0.21 | 2400 | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | Tetrahydrofuran | 109-99-9 | 292000 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Thiophene | 110-02-1 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Toluene | 108-88-3 | 730000 | µg/m3 | 0 | 0.37 | 10000 | 1200 U | 1200 U | 10000 | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | trans-1,2-Dichloroethene | 156-60-5 | No Inh. Tox | µg/m3 | | 4 | 3000 | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | trans-1,3-Dichloropropene | 10061-02-6 | 102.2 | µg/m3 | | | | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | Trichloroethene | 79-01-6 | 100 | µg/m3 | 2 | 0.14 | 167 | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | Trichlorofluoromethane | 75-69-4 | No Inh. Tox | µg/m3 | | 0.84 | 12 | 1200 U | 1200 U | 2400 U | 420 U | 3800 U | 3300 U | 1800 U | 340 U | 1400 U | 3900 U | 2500 U | 6700 U |
| VOC | Vinyl Acetate | 108-05-4 | 29200 | µg/m3 | 0 | 11 | 12 | | | | | | | | | | | | |
| VOC | Vinyl Bromide | 593-60-2 | 13 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Vinyl Chloride | 75-01-4 | 93 | µg/m3 | 23 | 19.2 | 2110 | 260 | 230 U | 490 U | 680 | 1000 | 2110 | 360 U | 67 U | 280 U | 770 U | 490 U | 1300 U |

Notes:

EPA criteria: May 2016 VISL Target Sub-Slab and Exterior Soil Gas Conc., TCR = 1E-06 or THQ = 1, Commercial scenario.

- = No criterion listed.

No Inh. Tox – No inhalation toxicity information available; therefore, no criterion calculated.

U – Non-detect.

J – Estimated Value.

Shading – Value exceeds criterion.

**Table 1 Sub-slab Data**

| Chemical Group | Analyte | CAS | EPA VISL Sub-slab Commercial | Units | Exceedances | | Address | 4 Foster Ave | 4 Foster Ave | 5 Foster Ave | 5 Foster Ave | 6 Clementon Rd | 6 Clementon Rd | 6 Clementon Rd | 7 Foster Ave | 7 Foster Ave | 7 Foster Ave | 7 Foster Ave | 7 Foster Ave |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sample Location ID | Unit 4F_SS_004 | Unit 4F_SS_005 | Unit 5F_SS_001 | Unit 5F_SS_002 | Unit 6C_SS_001 | Unit 6C_SS_002 | Unit 6C_SS_003 | Unit 7F_SS_001 | Unit 7F_SS_002 | Unit 7F_SS_003 | Unit 7F_SS_004 | Unit 7F_SS_005 |
| | | | | | | | Sample Date | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 |
| | | | | | | Min. Det. | Max. Det. | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 |
| ALS SOP VOA-EPA3C (TCD) | Methane | 74-82-8 | - | %v/v | | 17 | 48 | | | | | | | | | | | | |
| ALS SOP VOA-S307M_SCD | Hydrogen Sulfide | 7783-06-4 | 292 | µg/m3 | | | | | | | | | | | | | | | |
| MADEP APH 1.0 | C5 - C8 Aliphatics | | - | µg/m3 | | 430000 | 69000000 | | | | | | | | | | | | |
| MADEP APH 1.0 | C9 - C10 Aromatics | | - | µg/m3 | | 870 | 590000 | | | | | | | | | | | | |
| MADEP APH 1.0 | C9 - C12 Aliphatics | | - | µg/m3 | | 260000 | 9600000 | | | | | | | | | | | | |
| VOC | 1,1,1,2-Tetrachloroethane | 630-20-6 | 55 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,1,1,2-Tetrafluoroethane | 811-97-2 | 11680000 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,1,1-Trichloroethane | 71-55-6 | 730000 | µg/m3 | 0 | 0.37 | 14 | 880 U | 1.5 U | 0.74 U | 0.94 | 3.8 | 5.4 | 14 | 0.82 | 0.75 U | 0.71 U | 0.74 U | 2.2 |
| VOC | 1,1,2,2-Tetrachloroethane | 79-34-5 | 7.0 | µg/m3 | | | | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | 1,1,2-Trichloroethane | 79-00-5 | 26 | µg/m3 | | | | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | 1,1,2-Trichlorotrifluoroethane | 76-13-1 | 4380000 | µg/m3 | 0 | 0.41 | 3 | 880 U | 1.5 U | 0.74 U | 0.75 | 0.7 U | 0.77 | 0.76 | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | 1,1-Dichloroethane | 75-34-3 | 256 | µg/m3 | 0 | 0.15 | 53.4 | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.77 | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | 1,1-Dichloroethene | 75-35-4 | 29200 | µg/m3 | 0 | 2.5 | 14 | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | 1,1-Dichloropropene | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,1-Difluoroethane | 75-37-6 | 5840000 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,3,4-Tetramethylbenzene | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,3,5-Tetramethylbenzene | | - | µg/m3 | | 75 | 75 | | | | | | | | | | | | |
| VOC | 1,2,3-Trichlorobenzene | 87-61-6 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,3-Trichloropropane | 96-18-4 | 44 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,3-Trimethylbenzene | 526-73-8 | 730 | µg/m3 | 4 | 0.78 | 26000 | | | | | | | | | | | | |
| VOC | 1,2,4,5-Tetramethylbenzene | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,4-Trichlorobenzene | 120-82-1 | 292 | µg/m3 | | | | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | 1,2,4-Trimethylbenzene | 95-63-6 | 1022 | µg/m3 | 38 | 0.35 | 130000 | 2800 | 3.9 | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | 1,2-Dibromo 3-Chloropropane | 96-12-8 | 0.068 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2-Dibromoethane | 106-93-4 | 0.68 | µg/m3 | | | | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | 1,2-Dichloro-1,1,2,2-tetrafluoroethane | | - | µg/m3 | | | | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | 1,2-Dichlorobenzene | 95-50-1 | 29200 | µg/m3 | | | | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | 1,2-Dichloroethane | 107-06-2 | 16 | µg/m3 | 0 | 0.22 | 0.22 | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | 1,2-Dichloropropane | 78-87-5 | 41 | µg/m3 | 0 | 2.6 | 2.6 | 880 U | 2.6 | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | 1,2-Dichlorotetrafluoroethane | 76-14-2 | - | µg/m3 | | | | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | 1,3,5-Trimethylbenzene | 108-67-8 | No Inh. Tox | µg/m3 | | 0.76 | 59000 | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | 1,3-Butadiene | 106-99-0 | 14 | µg/m3 | | | | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | 1,3-Dichlorobenzene | 541-73-1 | - | µg/m3 | | | | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | 1,3-Dichloropropane | | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,4-Dichlorobenzene | 106-46-7 | 37 | µg/m3 | 0 | 0.82 | 1.8 | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 1 | 1 | 1.2 | 0.75 U | 0.71 U | 0.74 U | 1.2 |
| VOC | 1,4-Dioxane | 123-91-1 | 82 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1-Butanol | 71-36-3 | No Inh. Tox | µg/m3 | | 1.6 | 2.6 | | | | | | | | | | | | |
| VOC | 1-Chloro-1,1-difluoroethane | 75-68-3 | 7300000 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1-Chlorohexane | 544-10-5 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 2,2,4-Trimethylpentane | 540-84-1 | - | µg/m3 | | 0.8 | 2100 | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.93 | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | 2,2-Dichloro-1,1,1-trifluoroethane | 306-83-2 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 2,2-Dichloropropane | 594-20-7 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 2,3-Dimethylpentane | 565-59-3 | - | µg/m3 | | 700 | 480000 | | | | | | | | | | | | |
| VOC | 2-Butanone (MEK) | 78-93-3 | 730000 | µg/m3 | 0 | 0.78 | 1300 | 880 U | 40 | 2 | 1.7 | 1.4 | 1.2 | 1.8 | 1.4 | 0.75 U | 0.71 U | 0.74 U | 0.81 |
| VOC | 2-Chlorotoluene | 95-49-8 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 2-Ethyltoluene | 611-14-3 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 2-Hexanone | 591-78-6 | 4380 | µg/m3 | 0 | 0.37 | 1500 | | | | | | | | | | | | |
| VOC | 2-Methylbutane | 78-78-4 | - | µg/m3 | | 6200 | 54000 | | | | | | | | | | | | |
| VOC | 2-Methylpentane | 107-83-5 | - | µg/m3 | | 17000 | 180000 | | | | | | | | | | | | |
| VOC | 2-Propanol | 67-63-0 | 29200 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 3-Chloro-1-propene | 107-05-1 | 68 | µg/m3 | | | | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | 3-Ethyltoluene | 620-14-4 | - | µg/m3 | | 4900 | 21000 | | | | | | | | | | | | |
| VOC | 4-Chlorotoluene | 106-43-4 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 4-Ethyltoluene | 622-96-8 | - | µg/m3 | | 0.95 | 18000 | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | 4-Isopropyltoluene | 99-87-6 | - | µg/m3 | | 9300 | 19000 | | | | | | | | | | | | |
| VOC | 4-Methyl-2-pentanone | 108-10-1 | 438000 | µg/m3 | 0 | 0.25 | 11 | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | Acetone | 67-64-1 | 4526000 | µg/m3 | 0 | 8 | 8500 | 8800 U | 240 | 11 | 10 | 7 U | 7.3 U | 9.4 | 9.6 | 7.5 U | 7.1 U | 7.4 U | 7.7 U |
| VOC | Acetonitrile | 75-05-8 | 8760 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Acrolein | 107-02-8 | 2.9 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Acrylonitrile | 107-13-1 | 6.0 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | alpha-Pinene | 80-56-8 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | a-Methylstyrene | 98-83-9 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Benzene | 71-43-2 | 52 | µg/m3 | 51 | 0.16 | 370000 | 320 | 1.5 | 0.22 | 0.26 | 0.17 | 0.46 | 0.44 | 0.16 | 0.25 | 0.18 | 0.34 | 0.35 |
| VOC | Benzyl Chloride | 100-44-7 | 8.3 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Bromobenzene | 108-86-1 | 8760 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Bromodichloromethane | 75-27-4 | 11 | µg/m3 | | | | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | Bromoform | 75-25-2 | 372 | µg/m3 | | | | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | Bromomethane | 74-83-9 | 730 | µg/m3 | | | | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | Carbon Disulfide | 75-15-0 | 102200 | µg/m3 | 0 | 0.7 | 5000 | 880 U | 1.8 | 2.6 | 4.3 | 0.7 U | 1.7 | 2.1 | 0.78 U | 1.6 | 0.71 U | 0.74 U | 0.77 U |
| VOC | Carbon Tetrachloride | 56-23-5 | 68 | µg/m3 | 0 | 0.16 | 1.6 | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.93 | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | Chlorobenzene | 108-90-7 | 7300 | µg/m3 | | | | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | Chlorodifluoromethane | 75-45-6 | 7300000 | µg/m3 | | | | | | | | | | | | | | | |

**Table 1 Sub-slab Data**

| Chemical Group | Analyte | CAS | EPA VISL Sub-slab Commercial | Units | Exceedances | | Address | 4 Foster Ave | 4 Foster Ave | 5 Foster Ave | 5 Foster Ave | 6 Clementon Rd | 6 Clementon Rd | 6 Clementon Rd | 7 Foster Ave | 7 Foster Ave | 7 Foster Ave | 7 Foster Ave | 7 Foster Ave |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sample Location ID | Unit 4F_SS_004 | Unit 4F_SS_005 | Unit 5F_SS_001 | Unit 5F_SS_002 | Unit 6C_SS_001 | Unit 6C_SS_002 | Unit 6C_SS_003 | Unit 7F_SS_001 | Unit 7F_SS_002 | Unit 7F_SS_003 | Unit 7F_SS_004 | Unit 7F_SS_005 |
| | | | | | | | Sample Date | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 | 39788 |
| | | | | | | Min. Det. | Max. Det. | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 | 2008 |
| VOC | Chloroethane | 75-00-3 | 1460000 | µg/m3 | 0 | 0.25 | 0.25 | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | Chloroform | 67-66-3 | 18 | µg/m3 | 0 | 0.12 | 12 | 880 U | 12 | 0.74 U | 0.74 U | 1.8 | 5.9 | 5.7 | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | Chloromethane | 74-87-3 | 13140 | µg/m3 | | | | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | Chloropentafluoroethane | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | cis-1,2-Dichloroethene | 156-59-2 | No Inh. Tox | µg/m3 | | 6.4 | 16000 | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | cis-1,3-Dichloropropene | 10061-01-5 | 102.2 | µg/m3 | | | | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | Cyclohexane | 110-82-7 | 876000 | µg/m3 | 2 | 0.52 | 1100000 | 24000 | 27 | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.86 | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | Cyclohexanone | 108-94-1 | 102200 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Dibromochloromethane | 124-48-1 | No Inh. Tox | µg/m3 | | | | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | Dibromomethane | 74-95-3 | 584 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Dichlorodifluoromethane | 75-71-8 | 14600 | µg/m3 | 0 | 1.6 | 330 | 880 U | 3.3 | 2.2 | 2.2 | 2.9 | 2.8 | 3.4 | 2.4 | 2.5 | 2.6 | 3 | 2.4 |
| VOC | Dichlorofluoromethane | 75-43-4 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Diisopropyl Ether | 108-20-3 | 102200 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | d-Limonene | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Ethanol | 64-17-5 | - | µg/m3 | | 8.7 | 42 | | | | | | | | | | | | |
| VOC | Ethyl Acetate | 141-78-6 | 10220 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Ethyl tert-Butyl Ether | 637-92-3 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Ethylbenzene | 100-41-4 | 164 | µg/m3 | 43 | 0.24 | 460000 | 1400 | 2.2 | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | Hexachlorobutadiene | 87-68-3 | 19 | µg/m3 | | | | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | Indan | 496-11-7 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Indene | 95-13-6 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Isopropyl Acetate | 108-21-4 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Isopropylbenzene | 98-82-8 | 58400 | µg/m3 | 0 | 6300 | 32000 | | | | | | | | | | | | |
| VOC | m,p-Xylenes | 1330-20-7 | 14600 | µg/m3 | 26 | 0.741 | 3000000 | 1400 | 4.1 | 0.83 | 0.74 U | 0.741 | 1.5 | 1.2 | 1.8 | 0.75 U | 0.71 U | 0.74 U | 0.93 |
| VOC | Methyl Acetate | 79-20-9 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Methyl Methacrylate | 80-62-6 | 102200 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Methyl tert-Butyl Ether | 1634-04-4 | 1572 | µg/m3 | | | | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | Methylcyclohexane | 108-87-2 | - | µg/m3 | | 0.88 | 10000000 | | | | | | | | | | | | |
| VOC | Methylene Chloride | 75-09-2 | 40880 | µg/m3 | 0 | 3 | 33000 | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | Naphthalene | 91-20-3 | 12 | µg/m3 | 0 | 0.75 | 1.9 | | | | | | | | | | | | |
| VOC | n-Butyl Acetate | 123-86-4 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | n-Butylbenzene | 104-51-8 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | n-Decane | 124-18-5 | - | µg/m3 | | 0.76 | 66000 | | | | | | | | | | | | |
| VOC | n-Dodecane | 112-40-3 | - | µg/m3 | | 16 | 48 | | | | | | | | | | | | |
| VOC | n-Heptane | 142-82-5 | - | µg/m3 | | 0.2 | 1300000 | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | n-Hexane | 110-54-3 | 102200 | µg/m3 | 4 | 1 | 360000 | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | n-Nonane | 111-84-2 | 2920 | µg/m3 | 4 | 4000 | 130000 | | | | | | | | | | | | |
| VOC | n-Octane | 111-65-9 | - | µg/m3 | | 20000 | 1200000 | | | | | | | | | | | | |
| VOC | n-Propylbenzene | 103-65-1 | 146000 | µg/m3 | 0 | 7000 | 45000 | | | | | | | | | | | | |
| VOC | n-Undecane | 1120-21-4 | - | µg/m3 | | 5.4 | 6200 | | | | | | | | | | | | |
| VOC | o-Xylene | 95-47-6 | 14600 | µg/m3 | 4 | 0.45 | 680000 | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.86 | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | Propene | 115-07-1 | 438000 | µg/m3 | 0 | 1.8 | 1.8 | | | | | | | | | | | | |
| VOC | sec-Butylbenzene | 135-98-8 | No Inh. Tox | µg/m3 | | 530 | 530 | | | | | | | | | | | | |
| VOC | Styrene | 100-42-5 | 146000 | µg/m3 | 0 | 0.24 | 5000 | 880 U | 2 | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | tert-Amyl Methyl Ether | 994-05-8 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Tert-Butyl Alcohol | 75-65-0 | - | µg/m3 | | 540 | 540 | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | tert-Butylbenzene | 98-06-6 | No Inh. Tox | µg/m3 | | 780 | 780 | | | | | | | | | | | | |
| VOC | Tetrachloroethene | 127-18-4 | 1572 | µg/m3 | 2 | 0.21 | 2400 | 880 U | 1.5 U | 0.74 U | 0.74 U | 130 | 12 | 5.6 | 3.9 | 0.75 U | 4.6 | 3.4 | 22 |
| VOC | Tetrahydrofuran | 109-99-9 | 292000 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Thiophene | 110-02-1 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Toluene | 108-88-3 | 730000 | µg/m3 | 0 | 0.37 | 10000 | 880 U | 9.7 | 1.1 | 0.74 U | 1.3 | 1.1 | 4.2 | 4.7 | 1.3 | 2.3 | 1.7 | 2.8 |
| VOC | trans-1,2-Dichloroethene | 156-60-5 | No Inh. Tox | µg/m3 | | 4 | 3000 | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | trans-1,3-Dichloropropene | 10061-02-6 | 102.2 | µg/m3 | | | | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | Trichloroethene | 79-01-6 | 100 | µg/m3 | 2 | 0.14 | 167 | 880 U | 1.5 U | 0.74 U | 0.74 U | 0.7 U | 0.73 U | 0.74 U | 0.78 U | 0.75 U | 0.71 U | 0.74 U | 0.77 U |
| VOC | Trichlorofluoromethane | 75-69-4 | No Inh. Tox | µg/m3 | | 0.84 | 12 | 880 U | 6.1 | 1.3 | 1.3 | 5.6 | 4.3 | 8.3 | 6.1 | 1.5 | 3 | 4.8 | 9.5 |
| VOC | Vinyl Acetate | 108-05-4 | 29200 | µg/m3 | 0 | 11 | 12 | | | | | | | | | | | | |
| VOC | Vinyl Bromide | 593-60-2 | 13 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Vinyl Chloride | 75-01-4 | 93 | µg/m3 | 23 | 19.2 | 2110 | 180 U | 0.31 U | 0.15 U | 0.15 U | 0.14 U | 0.15 U | 0.15 U | 0.16 U | 0.15 U | 0.14 U | 0.15 U | 0.15 U |

Notes:

EPA criteria: May 2016 VISL Target Sub-Slab and Exterior Soil Gas Conc., TCR = 1E-06 or THQ = 1, Commercial scenario.

- = No criterion listed.

No Inh. Tox – No inhalation toxicity information available; therefore, no criterion calculated.

U – Non-detect.

J – Estimated Value.

Shading – Value exceeds criterion.

**Table 1 Sub-slab Data**

| Chemical Group | Analyte | CAS | EPA VISL Sub-slab Commercial | Units | Exceedances | Min. Det. | Max. Det. | 10 Foster Ave | 10 Foster Ave | 10 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 3 US Ave |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Address | 10 Foster Ave | 10 Foster Ave | 10 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 3 US Ave |
| | | | | | | | Sample Location ID | Unit 10F_SS_001 | Unit 10F_SS_002 | Unit 10F_SS_004 | Unit 2F_SS_001 | Unit 2F_SS_002 | Unit 2F_SS_003 | Unit 2F_SS_004 | Unit 2F_SS_005 | Unit 2F_SS_006 | Unit 2F_SS_007 | Unit 2F_SS_008 | Unit 3US_SS_001 |
| | | | | | | | Sample Date | 39898 | 39898 | 39898 | 39898 | 39898 | 39898 | 39898 | 39898 | 39898 | 39898 | 39898 | 39898 |
| | | | | | | Min. Det. | Max. Det. | 2009 | 2009 | 2009 | 2009 | 2009 | 2009 | 2009 | 2009 | 2009 | 2009 | 2009 | 2009 |
| ALS SOP VOA-EPA3C (TCD) | Methane | 74-82-8 | - | %v/v | | 17 | 48 | | | | | | | | | | | | |
| ALS SOP VOA-S307M_SCD | Hydrogen Sulfide | 7783-06-4 | 292 | µg/m3 | | | | | | | | | | | | | | | |
| MADEP APH 1.0 | C5 - C8 Aliphatics | | - | µg/m3 | | 430000 | 69000000 | | | | | | | | | | | | |
| MADEP APH 1.0 | C9 - C10 Aromatics | | - | µg/m3 | | 870 | 590000 | | | | | | | | | | | | |
| MADEP APH 1.0 | C9 - C12 Aliphatics | | - | µg/m3 | | 260000 | 9600000 | | | | | | | | | | | | |
| VOC | 1,1,1,2-Tetrachloroethane | 630-20-6 | 55 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,1,1,2-Tetrafluoroethane | 811-97-2 | 11680000 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,1,1-Trichloroethane | 71-55-6 | 730000 | µg/m3 | 0 | 0.37 | 14 | 1.1 U | 1.1 U | 1.1 U | 1100 U | 1100 U | 110 U | 220 U | 110 U | 1100 U | 110 U | 440 U | 110 U |
| VOC | 1,1,2,2-Tetrachloroethane | 79-34-5 | 7.0 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,1,2-Trichloroethane | 79-00-5 | 26 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,1,2-Trichlorotrifluoroethane | 76-13-1 | 4380000 | µg/m3 | 0 | 0.41 | 3 | 1.6 U | 1.6 U | 1.6 U | 1600 U | 1600 U | 160 U | 310 U | 160 U | 1600 U | 160 U | 610 U | 160 U |
| VOC | 1,1-Dichloroethane | 75-34-3 | 256 | µg/m3 | 0 | 0.15 | 53.4 | 0.8 U | 0.8 U | 0.8 U | 800 U | 800 U | 80 U | 160 U | 80 U | 800 U | 80 U | 320 U | 80 U |
| VOC | 1,1-Dichloroethene | 75-35-4 | 29200 | µg/m3 | 0 | 2.5 | 14 | 0.78 U | 0.78 U | 0.78 U | 780 U | 780 U | 78 U | 160 U | 78 U | 780 U | 78 U | 320 U | 78 U |
| VOC | 1,1-Dichloropropene | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,1-Difluoroethane | 75-37-6 | 5840000 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,3,4-Tetramethylbenzene | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,3,5-Tetramethylbenzene | | - | µg/m3 | | 75 | 75 | | | | | | | | | | | | |
| VOC | 1,2,3-Trichlorobenzene | 87-61-6 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,3-Trichloropropane | 96-18-4 | 44 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,3-Trimethylbenzene | 526-73-8 | 730 | µg/m3 | 4 | 0.78 | 26000 | | | | | | | | | | | | |
| VOC | 1,2,4,5-Tetramethylbenzene | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,4-Trichlorobenzene | 120-82-1 | 292 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,4-Trimethylbenzene | 95-63-6 | 1022 | µg/m3 | 38 | 0.35 | 130000 | 10 | 0.98 U | 11 | 39000 | 8300 | 11000 | 1600 | 2300 | 21000 | 31000 | 13000 | 120 |
| VOC | 1,2-Dibromo 3-Chloropropane | 96-12-8 | 0.068 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2-Dibromoethane | 106-93-4 | 0.68 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2-Dichloro-1,1,2,2-tetrafluoroethane | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2-Dichlorobenzene | 95-50-1 | 29200 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2-Dichloroethane | 107-06-2 | 16 | µg/m3 | 0 | 0.22 | 0.22 | | | | | | | | | | | | |
| VOC | 1,2-Dichloropropane | 78-87-5 | 41 | µg/m3 | 0 | 2.6 | 2.6 | 0.92 U | 0.92 U | 0.92 U | 920 U | 920 U | 92 U | 190 U | 92 U | 920 U | 92 U | 370 U | 92 U |
| VOC | 1,2-Dichlorotetrafluoroethane | 76-14-2 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,3,5-Trimethylbenzene | 108-67-8 | No Inh. Tox | µg/m3 | | 0.76 | 59000 | 7 | 0.98 U | 4.5 | 30000 | 18000 | 17000 | 200 U | 5400 | 16000 | 27000 | 6100 | 98 U |
| VOC | 1,3-Butadiene | 106-99-0 | 14 | µg/m3 | | | | 0.44 U | 0.44 U | 0.44 U | 440 U | 440 U | 44 U | 88 U | 44 U | 440 U | 44 U | 180 U | 44 U |
| VOC | 1,3-Dichlorobenzene | 541-73-1 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,3-Dichloropropane | | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,4-Dichlorobenzene | 106-46-7 | 37 | µg/m3 | 0 | 0.82 | 1.8 | 1.2 U | 1.2 U | 1.2 U | 1200 U | 1200 U | 120 U | 240 U | 120 U | 1200 U | 120 U | 480 U | 120 U |
| VOC | 1,4-Dioxane | 123-91-1 | 82 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1-Butanol | 71-36-3 | No Inh. Tox | µg/m3 | | 1.6 | 2.6 | | | | | | | | | | | | |
| VOC | 1-Chloro-1,1-difluoroethane | 75-68-3 | 7300000 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1-Chlorohexane | 544-10-5 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 2,2,4-Trimethylpentane | 540-84-1 | - | µg/m3 | | 0.8 | 2100 | 1.3 U | 1.3 U | 1.3 U | 1300 U | 1300 U | 130 U | 250 U | 130 U | 1300 U | 130 U | 500 U | 130 U |
| VOC | 2,2-Dichloro-1,1,1-trifluoroethane | 306-83-2 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 2,2-Dichloropropane | 594-20-7 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 2,3-Dimethylpentane | 565-59-3 | - | µg/m3 | | 700 | 480000 | | | | | | | | | | | | |
| VOC | 2-Butanone (MEK) | 78-93-3 | 730000 | µg/m3 | 0 | 0.78 | 1300 | 2.3 | 3.4 | 9 | 1300 | 580 U | 58 U | 120 U | 58 U | 580 U | 58 U | 240 U | 58 U |
| VOC | 2-Chlorotoluene | 95-49-8 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 2-Ethyltoluene | 611-14-3 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 2-Hexanone | 591-78-6 | 4380 | µg/m3 | 0 | 0.37 | 1500 | | | | | | | | | | | | |
| VOC | 2-Methylbutane | 78-78-4 | - | µg/m3 | | 6200 | 54000 | | | | | | | | | | | | |
| VOC | 2-Methylpentane | 107-83-5 | - | µg/m3 | | 17000 | 180000 | | | | | | | | | | | | |
| VOC | 2-Propanol | 67-63-0 | 29200 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 3-Chloro-1-propene | 107-05-1 | 68 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 3-Ethyltoluene | 620-14-4 | - | µg/m3 | | 4900 | 21000 | | | | | | | | | | | | |
| VOC | 4-Chlorotoluene | 106-43-4 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 4-Ethyltoluene | 622-96-8 | - | µg/m3 | | 0.95 | 18000 | 1.5 | 0.98 U | 1.6 | 8700 | 1300 | 4900 | 570 | 98 U | 2000 | 5400 | 1800 | 98 U |
| VOC | 4-Isopropyltoluene | 99-87-6 | - | µg/m3 | | 9300 | 19000 | | | | | | | | | | | | |
| VOC | 4-Methyl-2-pentanone | 108-10-1 | 438000 | µg/m3 | 0 | 0.25 | 11 | 0.82 U | 0.86 | 0.82 U | 820 U | 820 U | 82 U | 170 U | 82 U | 820 U | 82 U | 330 U | 82 U |
| VOC | Acetone | 67-64-1 | 4526000 | µg/m3 | 0 | 8 | 8500 | 9.9 J | 61 J | 140 J | 480 U | 480 U | 48 U | 96 U | 48 U | 480 U | 48 U | 200 U | 48 U |
| VOC | Acetonitrile | 75-05-8 | 8760 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Acrolein | 107-02-8 | 2.9 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Acrylonitrile | 107-13-1 | 6.0 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | alpha-Pinene | 80-56-8 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | a-Methylstyrene | 98-83-9 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Benzene | 71-43-2 | 52 | µg/m3 | 51 | 0.16 | 370000 | 1.1 | 1 | 21 | 44000 | 32000 | 83000 | 300000 | 610 | 2000 | 7300 | 24000 | 530 |
| VOC | Benzyl Chloride | 100-44-7 | 8.3 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Bromobenzene | 108-86-1 | 8760 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Bromodichloromethane | 75-27-4 | 11 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Bromoform | 75-25-2 | 372 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Bromomethane | 74-83-9 | 730 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Carbon Disulfide | 75-15-0 | 102200 | µg/m3 | 0 | 0.7 | 5000 | 0.62 U | 0.62 U | 0.87 | 5000 | 620 U | 360 | 1400 | 120 | 760 | 390 | 380 | 330 |
| VOC | Carbon Tetrachloride | 56-23-5 | 68 | µg/m3 | 0 | 0.16 | 1.6 | 1.3 U | 1.3 U | 1.3 U | 1300 U | 1300 U | 130 U | 250 U | 130 U | 1300 U | 130 U | 500 U | 130 U |
| VOC | Chlorobenzene | 108-90-7 | 7300 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Chlorodifluoromethane | 75-45-6 | 7300000 | µg/m3 | | | | | | | | | | | | | | | |

**Table 1 Sub-slab Data**

| Chemical Group | Analyte | CAS | EPA VISL Sub-slab Commercial | Units | Exceedances | Min. Det. | Max. Det. | 10 Foster Ave | 10 Foster Ave | 10 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 3 US Ave |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Address | 10 Foster Ave | 10 Foster Ave | 10 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 3 US Ave |
| | | | | | | | Sample Location ID | Unit 10F_SS_001 | Unit 10F_SS_002 | Unit 10F_SS_004 | Unit 2F_SS_001 | Unit 2F_SS_002 | Unit 2F_SS_003 | Unit 2F_SS_004 | Unit 2F_SS_005 | Unit 2F_SS_006 | Unit 2F_SS_007 | Unit 2F_SS_008 | Unit 3US_SS_001 |
| | | | | | | | Sample Date | 39898 | 39898 | 39898 | 39898 | 39898 | 39898 | 39898 | 39898 | 39898 | 39898 | 39898 | 39898 |
| | | | | | | Min. Det. | Max. Det. | 2009 | 2009 | 2009 | 2009 | 2009 | 2009 | 2009 | 2009 | 2009 | 2009 | 2009 | 2009 |
| VOC | Chloroethane | 75-00-3 | 1460000 | µg/m3 | 0 | 0.25 | 0.25 | | | | | | | | | | | | |
| VOC | Chloroform | 67-66-3 | 18 | µg/m3 | 0 | 0.12 | 12 | 0.96 U | 0.96 U | 0.96 U | 960 U | 960 U | 96 U | 200 U | 96 U | 960 U | 96 U | 390 U | 96 U |
| VOC | Chloromethane | 74-87-3 | 13140 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Chloropentafluoroethane | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | cis-1,2-Dichloroethene | 156-59-2 | No Inh. Tox | µg/m3 | | 6.4 | 16000 | 0.78 U | 0.78 U | 0.78 U | 12000 | 780 U | 78 U | 160 U | 78 U | 820 | 740 | 320 U | 78 U |
| VOC | cis-1,3-Dichloropropene | 10061-01-5 | 102.2 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Cyclohexane | 110-82-7 | 876000 | µg/m3 | 2 | 0.52 | 1100000 | 41 | 1.5 | 51 | 480000 | 91000 | 61000 | 100000 | 21000 | 180000 | 170000 | 66000 | 8200 |
| VOC | Cyclohexanone | 108-94-1 | 102200 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Dibromochloromethane | 124-48-1 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Dibromomethane | 74-95-3 | 584 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Dichlorodifluoromethane | 75-71-8 | 14600 | µg/m3 | 0 | 1.6 | 330 | 9.6 | 0.98 U | 4.8 | 980 U | 980 U | 98 U | 200 U | 98 U | 980 U | 98 U | 400 U | 98 U |
| VOC | Dichlorofluoromethane | 75-43-4 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Diisopropyl Ether | 108-20-3 | 102200 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | d-Limonene | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Ethanol | 64-17-5 | - | µg/m3 | | 8.7 | 42 | | | | | | | | | | | | |
| VOC | Ethyl Acetate | 141-78-6 | 10220 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Ethyl tert-Butyl Ether | 637-92-3 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Ethylbenzene | 100-41-4 | 164 | µg/m3 | 43 | 0.24 | 460000 | 6.2 | 0.86 U | 29 | 160000 | 15000 | 30000 | 310000 | 330 | 9000 | 29000 | 50000 | 96 |
| VOC | Hexachlorobutadiene | 87-68-3 | 19 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Indan | 496-11-7 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Indene | 95-13-6 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Isopropyl Acetate | 108-21-4 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Isopropylbenzene | 98-82-8 | 58400 | µg/m3 | 0 | 6300 | 32000 | | | | | | | | | | | | |
| VOC | m,p-Xylenes | 1330-20-7 | 14600 | µg/m3 | 26 | 0.741 | 3000000 | 4.8 | 2.2 | 21 | 460000 | 4800 | 220000 | 1300000 | 500 | 41000 | 20000 | 28000 | 180 U |
| VOC | Methyl Acetate | 79-20-9 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Methyl Methacrylate | 80-62-6 | 102200 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Methyl tert-Butyl Ether | 1634-04-4 | 1572 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Methylcyclohexane | 108-87-2 | - | µg/m3 | | 0.88 | 10000000 | | | | | | | | | | | | |
| VOC | Methylene Chloride | 75-09-2 | 40880 | µg/m3 | 0 | 3 | 33000 | 3.3 U | 2 U | 5.6 | 13000 | 2800 | 1300 | 2000 | 1200 | 2800 | 1100 | 1400 | 1200 |
| VOC | Naphthalene | 91-20-3 | 12 | µg/m3 | 0 | 0.75 | 1.9 | | | | | | | | | | | | |
| VOC | n-Butyl Acetate | 123-86-4 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | n-Butylbenzene | 104-51-8 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | n-Decane | 124-18-5 | - | µg/m3 | | 0.76 | 66000 | | | | | | | | | | | | |
| VOC | n-Dodecane | 112-40-3 | - | µg/m3 | | 16 | 48 | | | | | | | | | | | | |
| VOC | n-Heptane | 142-82-5 | - | µg/m3 | | 0.2 | 1300000 | 67 | 2.7 | 13 | 1300000 | 82000 | 43000 | 140000 | 4700 | 220000 | 320000 | 20000 | 390 |
| VOC | n-Hexane | 110-54-3 | 102200 | µg/m3 | 4 | 1 | 360000 | 20 | 1.5 U | 5.6 | 360000 | 63000 | 16000 | 36000 | 7900 | 60000 | 100000 | 7900 | 910 |
| VOC | n-Nonane | 111-84-2 | 2920 | µg/m3 | 4 | 4000 | 130000 | | | | | | | | | | | | |
| VOC | n-Octane | 111-65-9 | - | µg/m3 | | 20000 | 1200000 | | | | | | | | | | | | |
| VOC | n-Propylbenzene | 103-65-1 | 146000 | µg/m3 | 0 | 7000 | 45000 | | | | | | | | | | | | |
| VOC | n-Undecane | 1120-21-4 | - | µg/m3 | | 5.4 | 6200 | | | | | | | | | | | | |
| VOC | o-Xylene | 95-47-6 | 14600 | µg/m3 | 4 | 0.45 | 680000 | 0.86 U | 0.86 U | 2.1 | 960 | 860 U | 86 U | 530000 | 140 | 860 U | 86 U | 350 U | 86 U |
| VOC | Propene | 115-07-1 | 438000 | µg/m3 | 0 | 1.8 | 1.8 | | | | | | | | | | | | |
| VOC | sec-Butylbenzene | 135-98-8 | No Inh. Tox | µg/m3 | | 530 | 530 | | | | | | | | | | | | |
| VOC | Styrene | 100-42-5 | 146000 | µg/m3 | 0 | 0.24 | 5000 | 0.86 U | 0.86 U | 0.86 U | 860 U | 860 U | 260 | 180 U | 86 U | 860 U | 86 U | 350 U | 86 U |
| VOC | tert-Amyl Methyl Ether | 994-05-8 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Tert-Butyl Alcohol | 75-65-0 | - | µg/m3 | | 540 | 540 | | | | | | | | | | | | |
| VOC | tert-Butylbenzene | 98-06-6 | No Inh. Tox | µg/m3 | | 780 | 780 | | | | | | | | | | | | |
| VOC | Tetrachloroethene | 127-18-4 | 1572 | µg/m3 | 2 | 0.21 | 2400 | 1.9 | 1.4 U | 1.4 U | 1400 U | 1400 U | 140 U | 270 U | 140 U | 1400 U | 140 U | 540 U | 140 U |
| VOC | Tetrahydrofuran | 109-99-9 | 292000 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Thiophene | 110-02-1 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Toluene | 108-88-3 | 730000 | µg/m3 | 0 | 0.37 | 10000 | 0.76 U | 7.3 | 16 | 1300 | 760 U | 76 U | 6900 | 76 U | 760 U | 110 | 310 U | 76 U |
| VOC | trans-1,2-Dichloroethene | 156-60-5 | No Inh. Tox | µg/m3 | | 4 | 3000 | | | | | | | | | | | | |
| VOC | trans-1,3-Dichloropropene | 10061-02-6 | 102.2 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Trichloroethene | 79-01-6 | 100 | µg/m3 | 2 | 0.14 | 167 | 1.1 U | 1.1 U | 1.1 U | 1100 U | 1100 U | 110 U | 220 U | 110 U | 1100 U | 110 U | 430 U | 110 U |
| VOC | Trichlorofluoromethane | 75-69-4 | No Inh. Tox | µg/m3 | | 0.84 | 12 | 1.7 | 1.5 | 1.7 | 1200 U | 1200 U | 120 U | 230 U | 120 U | 1200 U | 120 U | 450 U | 120 U |
| VOC | Vinyl Acetate | 108-05-4 | 29200 | µg/m3 | 0 | 11 | 12 | | | | | | | | | | | | |
| VOC | Vinyl Bromide | 593-60-2 | 13 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Vinyl Chloride | 75-01-4 | 93 | µg/m3 | 23 | 19.2 | 2110 | 0.5 U | 0.5 U | 0.5 U | 840 | 500 U | 50 U | 100 U | 350 | 740 | 2100 | 200 U | 50 U |

Notes:

EPA criteria: May 2016 VISL Target Sub-Slab and Exterior Soil Gas Conc., TCR = 1E-06 or THQ = 1, Commercial scenario.

- = No criterion listed.

No Inh. Tox – No inhalation toxicity information available; therefore, no criterion calculated.

U – Non-detect.

J – Estimated Value.

Shading – Value exceeds criterion.

**Table 1 Sub-slab Data**

| Chemical Group | Analyte | CAS | EPA VISL Sub-slab Commercial | Units | Exceedances | | Address | 3 US Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave | 6 Clementon Rd | 6 Clementon Rd | 6 Clementon Rd | 6 Clementon Rd | 6 Clementon Rd | 6 Clementon Rd |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sample Location ID | Unit 3US_SS_002 | Unit 4F_SS_001 | Unit 4F_SS_002 | Unit 4F_SS_003 | Unit 4F_SS_004 | Unit 4F_SS_005 | Unit 6C_SS_001 | Unit 6C_SS_002 | Unit 6C_SS_003 | Unit 6C_SS_004 | Unit 6C_SS_005 | Unit 6C_SS_006 |
| | | | | | | | Sample Date | 39898 | 39898 | 39898 | 39898 | 39898 | 39898 | 39898 | 39898 | 39898 | 39898 | 39898 | 39898 |
| | | | | | | Min. Det. | Max. Det. | 2009 | 2009 | 2009 | 2009 | 2009 | 2009 | 2009 | 2009 | 2009 | 2009 | 2009 | 2009 |
| ALS SOP VOA-EPA3C (TCD) | Methane | 74-82-8 | - | %v/v | | 17 | 48 | | | | | | | | | | | | |
| ALS SOP VOA-S307M_SCD | Hydrogen Sulfide | 7783-06-4 | 292 | µg/m3 | | | | | | | | | | | | | | | |
| MADEP APH 1.0 | C5 - C8 Aliphatics | | - | µg/m3 | | 430000 | 69000000 | | | | | | | | | | | | |
| MADEP APH 1.0 | C9 - C10 Aromatics | | - | µg/m3 | | 870 | 590000 | | | | | | | | | | | | |
| MADEP APH 1.0 | C9 - C12 Aliphatics | | - | µg/m3 | | 260000 | 9600000 | | | | | | | | | | | | |
| VOC | 1,1,1,2-Tetrachloroethane | 630-20-6 | 55 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,1,1,2-Tetrafluoroethane | 811-97-2 | 11680000 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,1,1-Trichloroethane | 71-55-6 | 730000 | µg/m3 | 0 | 0.37 | 14 | 110 U | 110 UJ | 110 U | 1100 U | 110 U | 1.1 U | 2.2 | 2.5 | 8.9 | 1.1 U | 1.1 U | 1.1 U |
| VOC | 1,1,2,2-Tetrachloroethane | 79-34-5 | 7.0 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,1,2-Trichloroethane | 79-00-5 | 26 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,1,2-Trichlorotrifluoroethane | 76-13-1 | 4380000 | µg/m3 | 0 | 0.41 | 3 | 160 U | 160 U | 160 U | 1600 U | 160 U | 1.6 U | 1.6 U | 1.6 U | 1.6 U | 1.6 U | 1.6 U | 1.6 U |
| VOC | 1,1-Dichloroethane | 75-34-3 | 256 | µg/m3 | 0 | 0.15 | 53.4 | 80 U | 80 U | 80 U | 800 U | 80 U | 0.8 U | 0.8 U | 0.8 U | 0.8 U | 0.8 U | 0.8 U | 0.8 U |
| VOC | 1,1-Dichloroethene | 75-35-4 | 29200 | µg/m3 | 0 | 2.5 | 14 | 78 U | 78 U | 78 U | 780 U | 78 U | 0.78 U | 0.78 U | 0.78 U | 0.78 U | 0.78 U | 0.78 U | 0.78 U |
| VOC | 1,1-Dichloropropene | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,1-Difluoroethane | 75-37-6 | 5840000 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,3,4-Tetramethylbenzene | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,3,5-Tetramethylbenzene | | - | µg/m3 | | 75 | 75 | | | | | | | | | | | | |
| VOC | 1,2,3-Trichlorobenzene | 87-61-6 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,3-Trichloropropane | 96-18-4 | 44 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,3-Trimethylbenzene | 526-73-8 | 730 | µg/m3 | 4 | 0.78 | 26000 | | | | | | | | | | | | |
| VOC | 1,2,4,5-Tetramethylbenzene | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,4-Trichlorobenzene | 120-82-1 | 292 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,4-Trimethylbenzene | 95-63-6 | 1022 | µg/m3 | 38 | 0.35 | 130000 | 280 | 34000 J | 530 | 980 U | 100 | 0.98 U | 0.98 U | 7 | 1.3 | 4 | 0.98 U | 0.98 U |
| VOC | 1,2-Dibromo 3-Chloropropane | 96-12-8 | 0.068 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2-Dibromoethane | 106-93-4 | 0.68 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2-Dichloro-1,1,2,2-tetrafluoroethane | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2-Dichlorobenzene | 95-50-1 | 29200 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2-Dichloroethane | 107-06-2 | 16 | µg/m3 | 0 | 0.22 | 0.22 | | | | | | | | | | | | |
| VOC | 1,2-Dichloropropane | 78-87-5 | 41 | µg/m3 | 0 | 2.6 | 2.6 | 92 U | 92 UJ | 92 U | 920 U | 92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U |
| VOC | 1,2-Dichlorotetrafluoroethane | 76-14-2 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,3,5-Trimethylbenzene | 108-67-8 | No Inh. Tox | µg/m3 | | 0.76 | 59000 | 620 | 17000 J | 98 U | 980 U | 160 | 0.98 U | 0.98 U | 13 | 0.98 U | 1.4 | 0.98 U | 0.98 U |
| VOC | 1,3-Butadiene | 106-99-0 | 14 | µg/m3 | | | | 44 U | 44 U | 44 U | 440 U | 44 U | 0.44 U | 0.44 U | 0.44 U | 0.44 U | 0.44 U | 0.44 U | 0.44 U |
| VOC | 1,3-Dichlorobenzene | 541-73-1 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,3-Dichloropropane | | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,4-Dichlorobenzene | 106-46-7 | 37 | µg/m3 | 0 | 0.82 | 1.8 | 120 U | | 120 U | 1200 U | 120 U | 1.2 U | 1.5 | 1.2 U | 1.4 | 1.2 U | 1.8 | 1.2 U |
| VOC | 1,4-Dioxane | 123-91-1 | 82 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1-Butanol | 71-36-3 | No Inh. Tox | µg/m3 | | 1.6 | 2.6 | | | | | | | | | | | | |
| VOC | 1-Chloro-1,1-difluoroethane | 75-68-3 | 7300000 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1-Chlorohexane | 544-10-5 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 2,2,4-Trimethylpentane | 540-84-1 | - | µg/m3 | | 0.8 | 2100 | 130 U | 130 U | 130 U | 1300 U | 130 U | 1.3 U | 1.3 U | 1.3 U | 1.3 U | 1.3 U | 1.3 U | 1.3 U |
| VOC | 2,2-Dichloro-1,1,1-trifluoroethane | 306-83-2 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 2,2-Dichloropropane | 594-20-7 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 2,3-Dimethylpentane | 565-59-3 | - | µg/m3 | | 700 | 480000 | | | | | | | | | | | | |
| VOC | 2-Butanone (MEK) | 78-93-3 | 730000 | µg/m3 | 0 | 0.78 | 1300 | 58 U | 58 U | 58 U | 580 U | 58 U | 1.9 | 1.9 | 2.7 U | 1.5 U | 4.8 | 4.7 | 3.7 |
| VOC | 2-Chlorotoluene | 95-49-8 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 2-Ethyltoluene | 611-14-3 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 2-Hexanone | 591-78-6 | 4380 | µg/m3 | 0 | 0.37 | 1500 | | | | | | | | | | | | |
| VOC | 2-Methylbutane | 78-78-4 | - | µg/m3 | | 6200 | 54000 | | | | | | | | | | | | |
| VOC | 2-Methylpentane | 107-83-5 | - | µg/m3 | | 17000 | 180000 | | | | | | | | | | | | |
| VOC | 2-Propanol | 67-63-0 | 29200 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 3-Chloro-1-propene | 107-05-1 | 68 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 3-Ethyltoluene | 620-14-4 | - | µg/m3 | | 4900 | 21000 | | | | | | | | | | | | |
| VOC | 4-Chlorotoluene | 106-43-4 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 4-Ethyltoluene | 622-96-8 | - | µg/m3 | | 0.95 | 18000 | 98 U | 6400 J | 210 | 980 U | 98 U | 0.98 U | 0.98 U | 0.98 | 0.98 U | 0.98 U | 0.98 U | 0.98 U |
| VOC | 4-Isopropyltoluene | 99-87-6 | - | µg/m3 | | 9300 | 19000 | | | | | | | | | | | | |
| VOC | 4-Methyl-2-pentanone | 108-10-1 | 438000 | µg/m3 | 0 | 0.25 | 11 | 82 U | 82 UJ | 82 U | 820 U | 82 U | 0.82 U | 0.82 U | 0.82 U | 0.82 U | 3.2 | 11 | 0.82 U |
| VOC | Acetone | 67-64-1 | 4526000 | µg/m3 | 0 | 8 | 8500 | 48 U | 48 U | 48 U | 480 U | 290 J | 7.7 U | 7.9 U | 13 J | 7.3 U | 28 J | 65 J | 17 J |
| VOC | Acetonitrile | 75-05-8 | 8760 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Acrolein | 107-02-8 | 2.9 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Acrylonitrile | 107-13-1 | 6.0 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | alpha-Pinene | 80-56-8 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | a-Methylstyrene | 98-83-9 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Benzene | 71-43-2 | 52 | µg/m3 | 51 | 0.16 | 370000 | 6100 | 11000 J | 3200 | 12000 | 64 U | 0.64 U | 0.64 U | 14 | 0.64 U | 2.2 | 0.64 U | 0.68 |
| VOC | Benzyl Chloride | 100-44-7 | 8.3 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Bromobenzene | 108-86-1 | 8760 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Bromodichloromethane | 75-27-4 | 11 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Bromoform | 75-25-2 | 372 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Bromomethane | 74-83-9 | 730 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Carbon Disulfide | 75-15-0 | 102200 | µg/m3 | 0 | 0.7 | 5000 | 200 | 590 | 240 | 1000 | 180 | 0.62 U | 0.62 U | 0.62 U | 0.62 U | 6.1 | 3 | 0.7 |
| VOC | Carbon Tetrachloride | 56-23-5 | 68 | µg/m3 | 0 | 0.16 | 1.6 | 130 U | 130 UJ | 130 U | 1300 U | 130 U | 1.3 U | 1.3 U | 1.3 U | 1.3 U | 1.3 U | 1.3 U | 1.3 U |
| VOC | Chlorobenzene | 108-90-7 | 7300 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Chlorodifluoromethane | 75-45-6 | 7300000 | µg/m3 | | | | | | | | | | | | | | | |

**Table 1 Sub-slab Data**

| Chemical Group | Analyte | CAS | EPA VISL Sub-slab Commercial | Units | Exceedances | | Address | 3 US Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave | 6 Clementon Rd | 6 Clementon Rd | 6 Clementon Rd | 6 Clementon Rd | 6 Clementon Rd | 6 Clementon Rd |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sample Location ID | Unit 3US_SS_002 | Unit 4F_SS_001 | Unit 4F_SS_002 | Unit 4F_SS_003 | Unit 4F_SS_004 | Unit 4F_SS_005 | Unit 6C_SS_001 | Unit 6C_SS_002 | Unit 6C_SS_003 | Unit 6C_SS_004 | Unit 6C_SS_005 | Unit 6C_SS_006 |
| | | | | | | | Sample Date | 39898 | 39898 | 39898 | 39898 | 39898 | 39898 | 39898 | 39898 | 39898 | 39898 | 39898 | 39898 |
| | | | | | | Min. Det. | Max. Det. | 2009 | 2009 | 2009 | 2009 | 2009 | 2009 | 2009 | 2009 | 2009 | 2009 | 2009 | 2009 |
| VOC | Chloroethane | 75-00-3 | 1460000 | µg/m3 | 0 | 0.25 | 0.25 | | | | | | | | | | | | |
| VOC | Chloroform | 67-66-3 | 18 | µg/m3 | 0 | 0.12 | 12 | 96 U | 96 U | 96 U | 960 U | 96 U | 3.2 | 1.4 | 4 | 4 | 1.2 | 0.96 U | 2.8 |
| VOC | Chloromethane | 74-87-3 | 13140 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Chloropentafluoroethane | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | cis-1,2-Dichloroethene | 156-59-2 | No Inh. Tox | µg/m3 | | 6.4 | 16000 | 78 U | 760 | 130 | 780 U | 78 U | 0.78 U | 0.78 U | 0.78 U | 0.78 U | 0.78 U | 0.78 U | 0.78 U |
| VOC | cis-1,3-Dichloropropene | 10061-01-5 | 102.2 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Cyclohexane | 110-82-7 | 876000 | µg/m3 | 2 | 0.52 | 1100000 | 20000 | 190000 | 150000 | 470000 | 990 | 0.68 U | 0.68 U | 42 | 7.5 | 18 | 0.68 U | 0.68 U |
| VOC | Cyclohexanone | 108-94-1 | 102200 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Dibromochloromethane | 124-48-1 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Dibromomethane | 74-95-3 | 584 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Dichlorodifluoromethane | 75-71-8 | 14600 | µg/m3 | 0 | 1.6 | 330 | 98 U | 98 U | 98 U | 980 U | 98 U | 2 | 2.2 | 1.6 J | 2.5 | 2.4 | 2.4 | 2.2 |
| VOC | Dichlorofluoromethane | 75-43-4 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Diisopropyl Ether | 108-20-3 | 102200 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | d-Limonene | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Ethanol | 64-17-5 | - | µg/m3 | | 8.7 | 42 | | | | | | | | | | | | |
| VOC | Ethyl Acetate | 141-78-6 | 10220 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Ethyl tert-Butyl Ether | 637-92-3 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Ethylbenzene | 100-41-4 | 164 | µg/m3 | 43 | 0.24 | 460000 | 6500 | 43000 | 340 | 1200 | 86 U | 0.86 U | 0.86 U | 8.1 | 0.86 U | 5.7 | 1 | 0.86 U |
| VOC | Hexachlorobutadiene | 87-68-3 | 19 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Indan | 496-11-7 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Indene | 95-13-6 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Isopropyl Acetate | 108-21-4 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Isopropylbenzene | 98-82-8 | 58400 | µg/m3 | 0 | 6300 | 32000 | | | | | | | | | | | | |
| VOC | m,p-Xylenes | 1330-20-7 | 14600 | µg/m3 | 26 | 0.741 | 3000000 | 17000 | 22000 J | 360 | 1800 U | 180 U | 1.8 U | 1.8 U | 3.6 | 1.9 | 23 | 4.6 | 1.8 U |
| VOC | Methyl Acetate | 79-20-9 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Methyl Methacrylate | 80-62-6 | 102200 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Methyl tert-Butyl Ether | 1634-04-4 | 1572 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Methylcyclohexane | 108-87-2 | - | µg/m3 | | 0.88 | 10000000 | | | | | | | | | | | | |
| VOC | Methylene Chloride | 75-09-2 | 40880 | µg/m3 | 0 | 3 | 33000 | 790 | 1500 | 940 | 3300 | 750 | 10 | 1.6 U | 2.8 U | 4.3 U | 6.4 | 1.8 U | 1.4 U |
| VOC | Naphthalene | 91-20-3 | 12 | µg/m3 | 0 | 0.75 | 1.9 | | | | | | | | | | | | |
| VOC | n-Butyl Acetate | 123-86-4 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | n-Butylbenzene | 104-51-8 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | n-Decane | 124-18-5 | - | µg/m3 | | 0.76 | 66000 | | | | | | | | | | | | |
| VOC | n-Dodecane | 112-40-3 | - | µg/m3 | | 16 | 48 | | | | | | | | | | | | |
| VOC | n-Heptane | 142-82-5 | - | µg/m3 | | 0.2 | 1300000 | 5600 | 80000 | 82 U | 1100 | 82 U | 0.82 U | 0.82 U | 38 | 7.6 | 48 | 0.82 U | 1.8 |
| VOC | n-Hexane | 110-54-3 | 102200 | µg/m3 | 4 | 1 | 360000 | 3500 | 39000 | 15000 | 8000 | 70 U | 0.79 U | 0.7 U | 27 | 2.1 | 16 | 1.4 U | 1.3 U |
| VOC | n-Nonane | 111-84-2 | 2920 | µg/m3 | 4 | 4000 | 130000 | | | | | | | | | | | | |
| VOC | n-Octane | 111-65-9 | - | µg/m3 | | 20000 | 1200000 | | | | | | | | | | | | |
| VOC | n-Propylbenzene | 103-65-1 | 146000 | µg/m3 | 0 | 7000 | 45000 | | | | | | | | | | | | |
| VOC | n-Undecane | 1120-21-4 | - | µg/m3 | | 5.4 | 6200 | | | | | | | | | | | | |
| VOC | o-Xylene | 95-47-6 | 14600 | µg/m3 | 4 | 0.45 | 680000 | 150 | | 86 U | 860 U | 86 U | 0.86 U | 0.86 U | 0.86 U | 0.86 U | 1.1 | 2.9 | 0.86 U |
| VOC | Propene | 115-07-1 | 438000 | µg/m3 | 0 | 1.8 | 1.8 | | | | | | | | | | | | |
| VOC | sec-Butylbenzene | 135-98-8 | No Inh. Tox | µg/m3 | | 530 | 530 | | | | | | | | | | | | |
| VOC | Styrene | 100-42-5 | 146000 | µg/m3 | 0 | 0.24 | 5000 | 86 U | | 86 U | 860 U | 86 U | 0.86 U | 0.86 U | 0.86 U | 0.86 U | 0.86 U | 0.86 U | 0.86 U |
| VOC | tert-Amyl Methyl Ether | 994-05-8 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Tert-Butyl Alcohol | 75-65-0 | - | µg/m3 | | 540 | 540 | | | | | | | | | | | | |
| VOC | tert-Butylbenzene | 98-06-6 | No Inh. Tox | µg/m3 | | 780 | 780 | | | | | | | | | | | | |
| VOC | Tetrachloroethene | 127-18-4 | 1572 | µg/m3 | 2 | 0.21 | 2400 | 140 U | | 140 U | 1400 U | 140 U | 1.4 U | 110 | 11 | 5 | 29 | 2.1 | 250 |
| VOC | Tetrahydrofuran | 109-99-9 | 292000 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Thiophene | 110-02-1 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Toluene | 108-88-3 | 730000 | µg/m3 | 0 | 0.37 | 10000 | 76 U | 370 J | 76 U | 760 U | 76 U | 0.76 U | 0.76 U | 0.76 U | 0.76 U | 4.2 | 3.3 | 0.76 U |
| VOC | trans-1,2-Dichloroethene | 156-60-5 | No Inh. Tox | µg/m3 | | 4 | 3000 | | | | | | | | | | | | |
| VOC | trans-1,3-Dichloropropene | 10061-02-6 | 102.2 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Trichloroethene | 79-01-6 | 100 | µg/m3 | 2 | 0.14 | 167 | 110 U | 110 UJ | 110 U | 1100 U | 110 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.2 | 1.1 U | 1.1 U |
| VOC | Trichlorofluoromethane | 75-69-4 | No Inh. Tox | µg/m3 | | 0.84 | 12 | 120 U | 120 U | 120 U | 1200 U | 120 U | 1.8 | 2.7 | 2.4 | 5 | 5.2 | 8.7 | 1.7 |
| VOC | Vinyl Acetate | 108-05-4 | 29200 | µg/m3 | 0 | 11 | 12 | | | | | | | | | | | | |
| VOC | Vinyl Bromide | 593-60-2 | 13 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Vinyl Chloride | 75-01-4 | 93 | µg/m3 | 23 | 19.2 | 2110 | 50 U | 610 | 180 | 500 U | 50 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |

Notes:

EPA criteria: May 2016 VISL Target Sub-Slab and Exterior Soil Gas Conc., TCR = 1E-06 or THQ = 1, Commercial scenario.

- = No criterion listed.

No Inh. Tox – No inhalation toxicity information available; therefore, no criterion calculated.

U – Non-detect.

J – Estimated Value.

Shading – Value exceeds criterion.

**Table 1 Sub-slab Data**

| Chemical Group | Analyte | CAS | EPA VISL Sub-slab Commercial | Units | Exceedances | | | Address | 6 Clementon Rd | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 2 Foster Ave | 2 Foster Ave |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Sample Location ID | Unit 6C_SS_007 | Unit 1F_SS_001 | Unit 1F_SS_002 | Unit 1F_SS_003 | Unit 1F_SS_004 | Unit 1F_SS_005 | Unit 1F_SS_006 | Unit 1F_SS_007 | Unit 1F_SS_008 | Unit 1F_SS_009 | Unit 2F_SS_001 | Unit 2F_SS_002 |
| | | | | | | | | Sample Date | 39898 | 41704 | 41704 | 41704 | 41704 | 41704 | 41704 | 41704 | 41704 | 41704 | 41704 | 41704 |
| | | | | | | Min. Det. | Max. Det. | | 2009 | 2014 | 2014 | 2014 | 2014 | 2014 | 2014 | 2014 | 2014 | 2014 | 2014 | 2014 |
| ALS SOP VOA-EPA3C (TCD) | Methane | 74-82-8 | - | %v/v | | 17 | 48 | | | | | | | | | | | | | |
| ALS SOP VOA-S307M_SCD | Hydrogen Sulfide | 7783-06-4 | 292 | µg/m3 | | | | | | | | | | | | | | | | |
| MADEP APH 1.0 | C5 - C8 Aliphatics | | - | µg/m3 | | 430000 | 69000000 | | | | | | | | | | | | | |
| MADEP APH 1.0 | C9 - C10 Aromatics | | - | µg/m3 | | 870 | 590000 | | | | | | | | | | | | | |
| MADEP APH 1.0 | C9 - C12 Aliphatics | | - | µg/m3 | | 260000 | 9600000 | | | | | | | | | | | | | |
| VOC | 1,1,1,2-Tetrachloroethane | 630-20-6 | 55 | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | 1,1,1,2-Tetrafluoroethane | 811-97-2 | 11680000 | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | 1,1,1-Trichloroethane | 71-55-6 | 730000 | µg/m3 | 0 | 0.37 | 14 | | 3 | 0.14 U | 0.55 U | 0.14 U | 0.098 U | 0.37 | 0.14 U | 0.14 U | 0.14 U | 0.14 U | 270 U | 270 U |
| VOC | 1,1,2,2-Tetrachloroethane | 79-34-5 | 7.0 | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-Trichloroethane | 79-00-5 | 26 | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | 1,1,2-Trichlorotrifluoroethane | 76-13-1 | 4380000 | µg/m3 | 0 | 0.41 | 3 | | 1.5 | 0.8 | 1.5 U | 0.41 | 0.51 | 0.49 | 0.54 | 0.56 | 0.51 | 0.48 | 770 U | 770 U |
| VOC | 1,1-Dichloroethane | 75-34-3 | 256 | µg/m3 | 0 | 0.15 | 53.4 | | 0.8 U | 0.1 U | 0.4 U | 0.1 U | 0.073 U | 0.15 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 200 U | 200 U |
| VOC | 1,1-Dichloroethene | 75-35-4 | 29200 | µg/m3 | 0 | 2.5 | 14 | | 0.78 U | 0.099 U | 0.4 U | 0.099 U | 0.071 U | 0.099 U | 0.099 U | 0.099 U | 0.099 U | 0.099 U | 200 U | 200 U |
| VOC | 1,1-Dichloropropene | | - | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | 1,1-Difluoroethane | 75-37-6 | 5840000 | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | 1,2,3,4-Tetramethylbenzene | | - | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | 1,2,3,5-Tetramethylbenzene | | - | µg/m3 | | 75 | 75 | | | | | | | | | | | | | |
| VOC | 1,2,3-Trichlorobenzene | 87-61-6 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | 1,2,3-Trichloropropane | 96-18-4 | 44 | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | 1,2,3-Trimethylbenzene | 526-73-8 | 730 | µg/m3 | 4 | 0.78 | 26000 | | | | | | | | | | | | | |
| VOC | 1,2,4,5-Tetramethylbenzene | | - | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-Trichlorobenzene | 120-82-1 | 292 | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | 1,2,4-Trimethylbenzene | 95-63-6 | 1022 | µg/m3 | 38 | 0.35 | 130000 | | 0.98 U | 0.35 | 230 | 38 | 0.17 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 85000 | 5200 |
| VOC | 1,2-Dibromo 3-Chloropropane | 96-12-8 | 0.068 | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | 1,2-Dibromoethane | 106-93-4 | 0.68 | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | 1,2-Dichloro-1,1,2,2-tetrafluoroethane | | - | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | 1,2-Dichlorobenzene | 95-50-1 | 29200 | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | 1,2-Dichloroethane | 107-06-2 | 16 | µg/m3 | 0 | 0.22 | 0.22 | | | | | | | | | | | | | |
| VOC | 1,2-Dichloropropane | 78-87-5 | 41 | µg/m3 | 0 | 2.6 | 2.6 | | 0.92 U | 0.12 UJ | 0.46 U | 0.12 UJ | 0.16 UJ | 0.12 UJ | 0.12 UJ | 0.12 UJ | 0.12 UJ | 0.12 UJ | 230 U | 230 U |
| VOC | 1,2-Dichlorotetrafluoroethane | 76-14-2 | - | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | 1,3,5-Trimethylbenzene | 108-67-8 | No Inh. Tox | µg/m3 | | 0.76 | 59000 | | 0.98 U | 0.25 U | 160 | 27 | 0.17 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 59000 | 9400 |
| VOC | 1,3-Butadiene | 106-99-0 | 14 | µg/m3 | | | | | 0.44 U | 0.11 U | 0.44 U | 0.11 U | 0.077 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 220 U | 220 U |
| VOC | 1,3-Dichlorobenzene | 541-73-1 | - | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | 1,3-Dichloropropane | | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | 1,4-Dichlorobenzene | 106-46-7 | 37 | µg/m3 | 0 | 0.82 | 1.8 | | 1.2 U | 0.3 U | 1.2 U | 0.3 U | 0.21 U | 0.3 U | 0.3 U | 0.3 U | 0.3 U | 0.3 U | 600 U | 600 U |
| VOC | 1,4-Dioxane | 123-91-1 | 82 | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | 1-Butanol | 71-36-3 | No Inh. Tox | µg/m3 | | 1.6 | 2.6 | | | | | | | | | | | | | |
| VOC | 1-Chloro-1,1-difluoroethane | 75-68-3 | 7300000 | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | 1-Chlorohexane | 544-10-5 | - | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | 2,2,4-Trimethylpentane | 540-84-1 | - | µg/m3 | | 0.8 | 2100 | | 1.3 U | 1.5 J | 2.5 U | 0.61 UJ | 0.44 UJ | 0.61 UJ | 0.61 UJ | 0.61 UJ | 0.61 UJ | 0.61 UJ | 1300 U | 1300 U |
| VOC | 2,2-Dichloro-1,1,1-trifluoroethane | 306-83-2 | - | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | 2,2-Dichloropropane | 594-20-7 | - | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | 2,3-Dimethylpentane | 565-59-3 | - | µg/m3 | | 700 | 480000 | | | | | | | | | | | | | |
| VOC | 2-Butanone (MEK) | 78-93-3 | 730000 | µg/m3 | 0 | 0.78 | 1300 | | 1.9 | 5.9 U | 24 U | 31 | 5.3 | 20 | 17 | 6.8 | 6.4 | 14 | 12000 U | 12000 U |
| VOC | 2-Chlorotoluene | 95-49-8 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | 2-Ethyltoluene | 611-14-3 | - | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | 2-Hexanone | 591-78-6 | 4380 | µg/m3 | 0 | 0.37 | 1500 | | | 0.61 | 2.1 | 0.2 U | 0.37 | 4.1 | 3.4 | 0.48 | 0.49 | 3 | 410 U | 410 U |
| VOC | 2-Methylbutane | 78-78-4 | - | µg/m3 | | 6200 | 54000 | | | | | | | | | | | | | |
| VOC | 2-Methylpentane | 107-83-5 | - | µg/m3 | | 17000 | 180000 | | | | | | | | | | | | | |
| VOC | 2-Propanol | 67-63-0 | 29200 | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | 3-Chloro-1-propene | 107-05-1 | 68 | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | 3-Ethyltoluene | 620-14-4 | - | µg/m3 | | 4900 | 21000 | | | | | | | | | | | | | |
| VOC | 4-Chlorotoluene | 106-43-4 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | 4-Ethyltoluene | 622-96-8 | - | µg/m3 | | 0.95 | 18000 | | 0.98 U | 0.25 U | 32 | 2.4 | 0.17 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 16000 | 730 |
| VOC | 4-Isopropyltoluene | 99-87-6 | - | µg/m3 | | 9300 | 19000 | | | | | | | | | | | | | |
| VOC | 4-Methyl-2-pentanone | 108-10-1 | 438000 | µg/m3 | 0 | 0.25 | 11 | | 0.82 U | 0.25 | 2.3 | 7.8 | 0.14 U | 5.2 | 3.2 | 0.2 U | 0.2 U | 3.2 | 410 U | 410 U |
| VOC | Acetone | 67-64-1 | 4526000 | µg/m3 | 0 | 8 | 8500 | | 7.3 U | 44 | 420 | 140 | 74 | 97 | 86 | 77 | 62 | 80 | 9500 U | 9500 U |
| VOC | Acetonitrile | 75-05-8 | 8760 | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | Acrolein | 107-02-8 | 2.9 | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | Acrylonitrile | 107-13-1 | 6.0 | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | alpha-Pinene | 80-56-8 | - | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | a-Methylstyrene | 98-83-9 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | Benzene | 71-43-2 | 52 | µg/m3 | 51 | 0.16 | 370000 | | 0.64 U | 0.6 | 1.2 | 3.8 | 0.27 | 0.16 | 0.16 U | 0.16 U | 0.21 | 0.19 | 47000 | 6800 |
| VOC | Benzyl Chloride | 100-44-7 | 8.3 | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | Bromobenzene | 108-86-1 | 8760 | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | Bromodichloromethane | 75-27-4 | 11 | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | Bromoform | 75-25-2 | 372 | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | Bromomethane | 74-83-9 | 730 | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | Carbon Disulfide | 75-15-0 | 102200 | µg/m3 | 0 | 0.7 | 5000 | | 0.82 | 1.6 U | 6.2 U | 65 | 1.1 U | 1.6 U | 1.6 U | 1.6 U | 1.6 U | 1.6 U | 3100 U | 3100 U |
| VOC | Carbon Tetrachloride | 56-23-5 | 68 | µg/m3 | 0 | 0.16 | 1.6 | | 1.6 | 0.5 | 0.63 U | 0.16 U | 0.16 | 0.26 | 0.26 | 0.34 | 0.24 | 0.16 U | 310 U | 310 U |
| VOC | Chlorobenzene | 108-90-7 | 7300 | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | Chlorodifluoromethane | 75-45-6 | 7300000 | µg/m3 | | | | | | | | | | | | | | | | |

**Table 1 Sub-slab Data**

| Chemical Group | Analyte | CAS | EPA VISL Sub-slab Commercial | Units | Exceedances | Min. Det. | Max. Det. | 6 Clementon Rd | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 2 Foster Ave | 2 Foster Ave |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sample Location ID | Unit 6C_SS_007 | Unit 1F_SS_001 | Unit 1F_SS_002 | Unit 1F_SS_003 | Unit 1F_SS_004 | Unit 1F_SS_005 | Unit 1F_SS_006 | Unit 1F_SS_007 | Unit 1F_SS_008 | Unit 1F_SS_009 | Unit 2F_SS_001 | Unit 2F_SS_002 |
| | | | | | | | Sample Date | 39898 | 41704 | 41704 | 41704 | 41704 | 41704 | 41704 | 41704 | 41704 | 41704 | 41704 | 41704 |
| | | | | | | | | 2009 | 2014 | 2014 | 2014 | 2014 | 2014 | 2014 | 2014 | 2014 | 2014 | 2014 | 2014 |
| VOC | Chloroethane | 75-00-3 | 1460000 | µg/m3 | 0 | 0.25 | 0.25 | | | | | | | | | | | | |
| VOC | Chloroform | 67-66-3 | 18 | µg/m3 | 0 | 0.12 | 12 | 1.5 | 0.12 U | 0.49 U | 0.18 | 0.12 | 0.4 | 0.15 | 0.77 | 0.19 | 0.12 U | 240 U | 240 U |
| VOC | Chloromethane | 74-87-3 | 13140 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Chloropentafluoroethane | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | cis-1,2-Dichloroethene | 156-59-2 | No Inh. Tox | µg/m3 | | 6.4 | 16000 | 0.78 U | 0.099 U | 0.4 U | 0.099 U | 0.071 U | 0.099 U | 0.099 U | 0.099 U | 0.099 U | 0.099 U | 15000 | 200 U |
| VOC | cis-1,3-Dichloropropene | 10061-01-5 | 102.2 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Cyclohexane | 110-82-7 | 876000 | µg/m3 | 2 | 0.52 | 1100000 | 12 | 0.17 U | 3.4 | 46 | 0.12 U | 0.52 | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 440000 | 64000 |
| VOC | Cyclohexanone | 108-94-1 | 102200 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Dibromochloromethane | 124-48-1 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Dibromomethane | 74-95-3 | 584 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Dichlorodifluoromethane | 75-71-8 | 14600 | µg/m3 | 0 | 1.6 | 330 | 16 | 3 | 3 | 2 | 2.4 | 16 | 2.2 | 2.2 | 2.1 | 1.8 | 250 U | 250 U |
| VOC | Dichlorofluoromethane | 75-43-4 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Diisopropyl Ether | 108-20-3 | 102200 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | d-Limonene | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Ethanol | 64-17-5 | - | µg/m3 | | 8.7 | 42 | | | | | | | | | | | | |
| VOC | Ethyl Acetate | 141-78-6 | 10220 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Ethyl tert-Butyl Ether | 637-92-3 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Ethylbenzene | 100-41-4 | 164 | µg/m3 | 43 | 0.24 | 460000 | 0.86 U | 0.24 | 19 | 17 | 0.15 U | 0.22 U | 0.22 U | 0.22 U | 0.22 U | 0.22 U | 230000 | 2600 |
| VOC | Hexachlorobutadiene | 87-68-3 | 19 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Indan | 496-11-7 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Indene | 95-13-6 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Isopropyl Acetate | 108-21-4 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Isopropylbenzene | 98-82-8 | 58400 | µg/m3 | 0 | 6300 | 32000 | | | | | | | | | | | | |
| VOC | m,p-Xylenes | 1330-20-7 | 14600 | µg/m3 | 26 | 0.741 | 3000000 | 1.8 U | 0.86 | 99 | 140 | 0.3 U | 0.43 U | 0.43 U | 0.43 U | 0.43 U | 0.43 U | 710000 | 1200 |
| VOC | Methyl Acetate | 79-20-9 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Methyl Methacrylate | 80-62-6 | 102200 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Methyl tert-Butyl Ether | 1634-04-4 | 1572 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Methylcyclohexane | 108-87-2 | - | µg/m3 | | 0.88 | 10000000 | | 0.64 UJ | 8.9 J | 67 J | 0.44 UJ | 0.88 J | 0.64 UJ | 0.64 UJ | 0.64 UJ | 0.64 UJ | 3100000 | 640000 J |
| VOC | Methylene Chloride | 75-09-2 | 40880 | µg/m3 | 0 | 3 | 33000 | 1.6 U | 11 | 6.9 U | 1.7 U | 3 | 1.7 U | 1.7 U | 1.7 U | 1.7 U | 1.7 U | 3500 U | 3500 U |
| VOC | Naphthalene | 91-20-3 | 12 | µg/m3 | 0 | 0.75 | 1.9 | | | | | | | | | | | | |
| VOC | n-Butyl Acetate | 123-86-4 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | n-Butylbenzene | 104-51-8 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | n-Decane | 124-18-5 | - | µg/m3 | | 0.76 | 66000 | | | | | | | | | | | | |
| VOC | n-Dodecane | 112-40-3 | - | µg/m3 | | 16 | 48 | | | | | | | | | | | | |
| VOC | n-Heptane | 142-82-5 | - | µg/m3 | | 0.2 | 1300000 | 0.82 U | 0.26 | 8.9 | 18 | 0.2 | 0.43 | 0.3 | 0.2 U | 0.2 U | 0.26 | 810000 | 30000 |
| VOC | n-Hexane | 110-54-3 | 102200 | µg/m3 | 4 | 1 | 360000 | 0.7 U | 9.8 | 28 U | 32 | 4.9 U | 7 U | 7 U | 7 U | 7 U | 7 U | 330000 | 36000 |
| VOC | n-Nonane | 111-84-2 | 2920 | µg/m3 | 4 | 4000 | 130000 | | | | | | | | | | | | |
| VOC | n-Octane | 111-65-9 | - | µg/m3 | | 20000 | 1200000 | | | | | | | | | | | | |
| VOC | n-Propylbenzene | 103-65-1 | 146000 | µg/m3 | 0 | 7000 | 45000 | | | | | | | | | | | | |
| VOC | n-Undecane | 1120-21-4 | - | µg/m3 | | 5.4 | 6200 | | | | | | | | | | | | |
| VOC | o-Xylene | 95-47-6 | 14600 | µg/m3 | 4 | 0.45 | 680000 | 0.86 U | 0.45 | 26 | 28 | 0.15 U | 0.22 U | 0.22 U | 0.22 U | 0.22 U | 0.22 U | 430 U | 430 U |
| VOC | Propene | 115-07-1 | 438000 | µg/m3 | 0 | 1.8 | 1.8 | | | | | | | | | | | | |
| VOC | sec-Butylbenzene | 135-98-8 | No Inh. Tox | µg/m3 | | 530 | 530 | | | | | | | | | | | | |
| VOC | Styrene | 100-42-5 | 146000 | µg/m3 | 0 | 0.24 | 5000 | 0.86 U | 0.21 U | 0.85 U | 0.26 | 0.15 U | 0.21 U | 0.24 | 0.21 U | 0.21 U | 0.21 U | 430 U | 430 U |
| VOC | tert-Amyl Methyl Ether | 994-05-8 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Tert-Butyl Alcohol | 75-65-0 | - | µg/m3 | | 540 | 540 | | | | | | | | | | | | |
| VOC | tert-Butylbenzene | 98-06-6 | No Inh. Tox | µg/m3 | | 780 | 780 | | | | | | | | | | | | |
| VOC | Tetrachloroethene | 127-18-4 | 1572 | µg/m3 | 2 | 0.21 | 2400 | 3.2 | 0.25 | 4.3 | 0.93 | 1 | 16 | 1.3 | 0.48 | 0.21 | 0.56 | 340 U | 340 U |
| VOC | Tetrahydrofuran | 109-99-9 | 292000 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Thiophene | 110-02-1 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Toluene | 108-88-3 | 730000 | µg/m3 | 0 | 0.37 | 10000 | 0.76 U | 1.2 | 3 | 96 | 0.39 | 0.43 | 0.68 | 0.5 | 0.38 | 0.37 | 560 | 380 U |
| VOC | trans-1,2-Dichloroethene | 156-60-5 | No Inh. Tox | µg/m3 | | 4 | 3000 | | | | | | | | | | | | |
| VOC | trans-1,3-Dichloropropene | 10061-02-6 | 102.2 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Trichloroethene | 79-01-6 | 100 | µg/m3 | 2 | 0.14 | 167 | 1.1 U | 0.13 U | 0.54 U | 0.13 U | 0.097 U | 0.13 U | 0.14 | 0.13 U | 0.13 U | 2.4 | 270 U | 270 U |
| VOC | Trichlorofluoromethane | 75-69-4 | No Inh. Tox | µg/m3 | | 0.84 | 12 | 8 | 4.2 | 1.1 U | 0.84 | 1.4 | 1.2 | 1.2 | 1.2 | 1 | 0.94 | 560 U | 560 U |
| VOC | Vinyl Acetate | 108-05-4 | 29200 | µg/m3 | 0 | 11 | 12 | | | | | | | | | | | | |
| VOC | Vinyl Bromide | 593-60-2 | 13 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Vinyl Chloride | 75-01-4 | 93 | µg/m3 | 23 | 19.2 | 2110 | 0.5 U | 0.064 U | 0.26 U | 0.064 U | 0.046 U | 0.064 U | 0.064 U | 0.064 U | 0.064 U | 0.064 U | 1900 | 130 U |

Notes:

EPA criteria: May 2016 VISL Target Sub-Slab and Exterior Soil Gas Conc., TCR = 1E-06 or THQ = 1, Commercial scenario.

- = No criterion listed.

No Inh. Tox – No inhalation toxicity information available; therefore, no criterion calculated.

U – Non-detect.

J – Estimated Value.

Shading – Value exceeds criterion.

**Table 1 Sub-slab Data**

| Chemical Group | Analyte | CAS | EPA VISL Sub-slab Commercial | Units | Exceedances | | Address | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 3 US Ave | 3 US Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sample Location ID | Unit 2F_SS_003 | Unit 2F_SS_004 | Unit 2F_SS_005 | Unit 2F_SS_006 | Unit 2F_SS_007 | Unit 2F_SS_008 | Unit 3US_SS_001 | Unit 3US_SS_002 | Unit 4F_SS_001 | Unit 4F_SS_002 | Unit 4F_SS_003 | Unit 4F_SS_004 |
| | | | | | | | Sample Date | 41704 | 41704 | 41704 | 41704 | 41704 | 41704 | 41704 | 41704 | 41704 | 41704 | 41704 | 41704 |
| | | | | | | Min. Det. | Max. Det. | 2014 | 2014 | 2014 | 2014 | 2014 | 2014 | 2014 | 2014 | 2014 | 2014 | 2014 | 2014 |
| ALS SOP VOA-EPA3C (TCD) | Methane | 74-82-8 | - | %v/v | | 17 | 48 | | | | | | | | | | | | |
| ALS SOP VOA-S307M_SCD | Hydrogen Sulfide | 7783-06-4 | 292 | µg/m3 | | | | | | | | | | | | | | | |
| MADEP APH 1.0 | C5 - C8 Aliphatics | | - | µg/m3 | | 430000 | 69000000 | | | | | | | | | | | | |
| MADEP APH 1.0 | C9 - C10 Aromatics | | - | µg/m3 | | 870 | 590000 | | | | | | | | | | | | |
| MADEP APH 1.0 | C9 - C12 Aliphatics | | - | µg/m3 | | 260000 | 9600000 | | | | | | | | | | | | |
| VOC | 1,1,1,2-Tetrachloroethane | 630-20-6 | 55 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,1,1,2-Tetrafluoroethane | 811-97-2 | 11680000 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,1,1-Trichloroethane | 71-55-6 | 730000 | µg/m3 | 0 | 0.37 | 14 | 270 U | 270 U | 27 U | 270 U | 270 U | 270 U | 27 U | 27 U | 270 U | 270 U | 270 U | 270 U |
| VOC | 1,1,2,2-Tetrachloroethane | 79-34-5 | 7.0 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,1,2-Trichloroethane | 79-00-5 | 26 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,1,2-Trichlorotrifluoroethane | 76-13-1 | 4380000 | µg/m3 | 0 | 0.41 | 3 | 770 U | 770 U | 77 U | 770 U | 770 U | 770 U | 77 U | 77 U | 770 U | 770 U | 770 U | 770 U |
| VOC | 1,1-Dichloroethane | 75-34-3 | 256 | µg/m3 | 0 | 0.15 | 53.4 | 200 U | 200 U | 20 U | 200 U | 200 U | 200 U | 20 U | 20 U | 200 U | 200 U | 200 U | 200 U |
| VOC | 1,1-Dichloroethene | 75-35-4 | 29200 | µg/m3 | 0 | 2.5 | 14 | 200 U | 200 U | 20 U | 200 U | 200 U | 200 U | 20 U | 20 U | 200 U | 200 U | 200 U | 200 U |
| VOC | 1,1-Dichloropropene | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,1-Difluoroethane | 75-37-6 | 5840000 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,3,4-Tetramethylbenzene | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,3,5-Tetramethylbenzene | | - | µg/m3 | | 75 | 75 | | | | | | | | | | | | |
| VOC | 1,2,3-Trichlorobenzene | 87-61-6 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,3-Trichloropropane | 96-18-4 | 44 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,3-Trimethylbenzene | 526-73-8 | 730 | µg/m3 | 4 | 0.78 | 26000 | | | | | | | | | | | | |
| VOC | 1,2,4,5-Tetramethylbenzene | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,4-Trichlorobenzene | 120-82-1 | 292 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2,4-Trimethylbenzene | 95-63-6 | 1022 | µg/m3 | 38 | 0.35 | 130000 | 2700 | 48000 | 1100 | 17000 | 33000 | 15000 | 140 | 270 | 42000 | 490 U | 490 U | 260 J |
| VOC | 1,2-Dibromo 3-Chloropropane | 96-12-8 | 0.068 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2-Dibromoethane | 106-93-4 | 0.68 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2-Dichloro-1,1,2,2-tetrafluoroethane | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2-Dichlorobenzene | 95-50-1 | 29200 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,2-Dichloroethane | 107-06-2 | 16 | µg/m3 | 0 | 0.22 | 0.22 | | | | | | | | | | | | |
| VOC | 1,2-Dichloropropane | 78-87-5 | 41 | µg/m3 | 0 | 2.6 | 2.6 | 230 U | 230 U | 23 UJ | 230 U | 230 U | 230 UJ | 23 UJ | 23 UJ | 230 U | 230 U | 230 U | 230 U |
| VOC | 1,2-Dichlorotetrafluoroethane | 76-14-2 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,3,5-Trimethylbenzene | 108-67-8 | No Inh. Tox | µg/m3 | | 0.76 | 59000 | 19000 | 56000 | 550 | 8900 | 23000 | 6200 | 120 | 1300 | 16000 | 490 U | 490 U | 490 U |
| VOC | 1,3-Butadiene | 106-99-0 | 14 | µg/m3 | | | | 220 U | 220 U | 22 U | 220 U | 220 U | 220 U | 22 U | 22 U | 220 U | 220 U | 220 U | 220 U |
| VOC | 1,3-Dichlorobenzene | 541-73-1 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,3-Dichloropropane | | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,4-Dichlorobenzene | 106-46-7 | 37 | µg/m3 | 0 | 0.82 | 1.8 | 600 U | 600 U | 60 U | 600 U | 600 U | 600 U | 60 U | 60 U | 600 U | 600 U | 600 U | 600 U |
| VOC | 1,4-Dioxane | 123-91-1 | 82 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1-Butanol | 71-36-3 | No Inh. Tox | µg/m3 | | 1.6 | 2.6 | | | | | | | | | | | | |
| VOC | 1-Chloro-1,1-difluoroethane | 75-68-3 | 7300000 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1-Chlorohexane | 544-10-5 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 2,2,4-Trimethylpentane | 540-84-1 | - | µg/m3 | | 0.8 | 2100 | 1300 U | 1300 U | 2100 J | 1300 U | 1300 U | 1300 UJ | 130 UJ | 130 UJ | 1300 U | 1300 U | 1300 U | 1300 U |
| VOC | 2,2-Dichloro-1,1,1-trifluoroethane | 306-83-2 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 2,2-Dichloropropane | 594-20-7 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 2,3-Dimethylpentane | 565-59-3 | - | µg/m3 | | 700 | 480000 | | | | | | | | | | | | |
| VOC | 2-Butanone (MEK) | 78-93-3 | 730000 | µg/m3 | 0 | 0.78 | 1300 | 12000 U | 12000 U | 1200 U | 12000 U | 12000 U | 12000 U | 1200 U | 1200 U | 12000 U | 12000 U | 12000 U | 12000 U |
| VOC | 2-Chlorotoluene | 95-49-8 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 2-Ethyltoluene | 611-14-3 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 2-Hexanone | 591-78-6 | 4380 | µg/m3 | 0 | 0.37 | 1500 | 410 U | 410 U | 41 U | 410 U | 410 U | 410 U | 41 U | 41 U | 410 U | 410 U | 410 U | 1500 |
| VOC | 2-Methylbutane | 78-78-4 | - | µg/m3 | | 6200 | 54000 | | | | | | | | | | | | |
| VOC | 2-Methylpentane | 107-83-5 | - | µg/m3 | | 17000 | 180000 | | | | | | | | | | | | |
| VOC | 2-Propanol | 67-63-0 | 29200 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 3-Chloro-1-propene | 107-05-1 | 68 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 3-Ethyltoluene | 620-14-4 | - | µg/m3 | | 4900 | 21000 | | | | | | | | | | | | |
| VOC | 4-Chlorotoluene | 106-43-4 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 4-Ethyltoluene | 622-96-8 | - | µg/m3 | | 0.95 | 18000 | 1400 | 7200 | 49 U | 1400 | 2500 | 1700 | 49 U | 70 | 6400 | 490 U | 490 U | 490 U |
| VOC | 4-Isopropyltoluene | 99-87-6 | - | µg/m3 | | 9300 | 19000 | | | | | | | | | | | | |
| VOC | 4-Methyl-2-pentanone | 108-10-1 | 438000 | µg/m3 | 0 | 0.25 | 11 | 410 U | 410 U | 41 U | 410 U | 410 U | 410 U | 41 U | 41 U | 410 U | 410 U | 410 U | 410 U |
| VOC | Acetone | 67-64-1 | 4526000 | µg/m3 | 0 | 8 | 8500 | 9500 U | 8500 | 950 U | 9500 U | 9500 U | 9500 U | 950 U | 950 U | 9500 U | 9500 U | 9500 U | 9500 U |
| VOC | Acetonitrile | 75-05-8 | 8760 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Acrolein | 107-02-8 | 2.9 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Acrylonitrile | 107-13-1 | 6.0 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | alpha-Pinene | 80-56-8 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | a-Methylstyrene | 98-83-9 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Benzene | 71-43-2 | 52 | µg/m3 | 51 | 0.16 | 370000 | 39000 | 310000 | 34 | 1000 | 3200 | 19000 | 760 | 4500 | 5500 | 350 | 8200 | 190 J |
| VOC | Benzyl Chloride | 100-44-7 | 8.3 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Bromobenzene | 108-86-1 | 8760 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Bromodichloromethane | 75-27-4 | 11 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Bromoform | 75-25-2 | 372 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Bromomethane | 74-83-9 | 730 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Carbon Disulfide | 75-15-0 | 102200 | µg/m3 | 0 | 0.7 | 5000 | 3100 U | 3100 U | 310 U | 3100 U | 3100 U | 3100 U | 310 U | 310 U | 3100 U | 3100 U | 3100 U | 3100 U |
| VOC | Carbon Tetrachloride | 56-23-5 | 68 | µg/m3 | 0 | 0.16 | 1.6 | 310 U | 310 U | 63 U | 310 U | 310 U | 630 U | 31 U | 63 U | 310 U | 310 U | 310 U | 310 U |
| VOC | Chlorobenzene | 108-90-7 | 7300 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Chlorodifluoromethane | 75-45-6 | 7300000 | µg/m3 | | | | | | | | | | | | | | | |

**Table 1 Sub-slab Data**

| Chemical Group | Analyte | CAS | EPA VISL Sub-slab Commercial | Units | Exceedances | | Address | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 3 US Ave | 3 US Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sample Location ID | Unit 2F_SS_003 | Unit 2F_SS_004 | Unit 2F_SS_005 | Unit 2F_SS_006 | Unit 2F_SS_007 | Unit 2F_SS_008 | Unit 3US_SS_001 | Unit 3US_SS_002 | Unit 4F_SS_001 | Unit 4F_SS_002 | Unit 4F_SS_003 | Unit 4F_SS_004 |
| | | | | | | | Sample Date | 41704 | 41704 | 41704 | 41704 | 41704 | 41704 | 41704 | 41704 | 41704 | 41704 | 41704 | 41704 |
| | | | | | | Min. Det. | Max. Det. | 2014 | 2014 | 2014 | 2014 | 2014 | 2014 | 2014 | 2014 | 2014 | 2014 | 2014 | 2014 |
| VOC | Chloroethane | 75-00-3 | 1460000 | µg/m3 | 0 | 0.25 | 0.25 | | | | | | | | | | | | |
| VOC | Chloroform | 67-66-3 | 18 | µg/m3 | 0 | 0.12 | 12 | 240 U | 240 U | 49 U | 240 U | 240 U | 490 U | 24 U | 49 U | 240 U | 240 U | 240 U | 240 U |
| VOC | Chloromethane | 74-87-3 | 13140 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Chloropentafluoroethane | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | cis-1,2-Dichloroethene | 156-59-2 | No Inh. Tox | µg/m3 | | 6.4 | 16000 | 200 U | 250 | 40 U | 420 | 280 | 400 U | 20 U | 40 U | 540 | 200 U | 200 U | 200 U |
| VOC | cis-1,3-Dichloropropene | 10061-01-5 | 102.2 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Cyclohexane | 110-82-7 | 876000 | µg/m3 | 2 | 0.52 | 1100000 | 41000 | 120000 | 14000 | 140000 | 150000 | 79000 | 6700 | 12000 | 170000 | 130000 | 1100000 | 520 |
| VOC | Cyclohexanone | 108-94-1 | 102200 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Dibromochloromethane | 124-48-1 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Dibromomethane | 74-95-3 | 584 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Dichlorodifluoromethane | 75-71-8 | 14600 | µg/m3 | 0 | 1.6 | 330 | 250 U | 330 | 49 U | 250 U | 250 U | 490 U | 49 U | 49 U | 250 U | 250 U | 250 U | 250 U |
| VOC | Dichlorofluoromethane | 75-43-4 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Diisopropyl Ether | 108-20-3 | 102200 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | d-Limonene | | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Ethanol | 64-17-5 | - | µg/m3 | | 8.7 | 42 | | | | | | | | | | | | |
| VOC | Ethyl Acetate | 141-78-6 | 10220 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Ethyl tert-Butyl Ether | 637-92-3 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Ethylbenzene | 100-41-4 | 164 | µg/m3 | 43 | 0.24 | 460000 | 5900 | 240000 | 93 | 6000 | 14000 | 40000 | 570 | 1500 | 44000 | 430 U | 1400 | 190 J |
| VOC | Hexachlorobutadiene | 87-68-3 | 19 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Indan | 496-11-7 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Indene | 95-13-6 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Isopropyl Acetate | 108-21-4 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Isopropylbenzene | 98-82-8 | 58400 | µg/m3 | 0 | 6300 | 32000 | | | | | | | | | | | | |
| VOC | m,p-Xylenes | 1330-20-7 | 14600 | µg/m3 | 26 | 0.741 | 3000000 | 130000 | 1100000 | 87 U | 14000 | 8500 | 14000 | 1700 | 19000 | 8600 | 870 U | 2200 | 870 U |
| VOC | Methyl Acetate | 79-20-9 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Methyl Methacrylate | 80-62-6 | 102200 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Methyl tert-Butyl Ether | 1634-04-4 | 1572 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Methylcyclohexane | 108-87-2 | - | µg/m3 | | 0.88 | 10000000 | 120000 J | 330000 | 40000 | 2100000 | 1400000 | 1400000 J | 60000 J | 170000 J | 1200000 | 1300000 J | 10000000 J | 3100 J |
| VOC | Methylene Chloride | 75-09-2 | 40880 | µg/m3 | 0 | 3 | 33000 | 3500 U | 33000 | 350 U | 3500 U | 3500 U | 3200 J | 350 U | 350 U | 3500 U | 3500 U | 3500 U | 3500 U |
| VOC | Naphthalene | 91-20-3 | 12 | µg/m3 | 0 | 0.75 | 1.9 | | | | | | | | | | | | |
| VOC | n-Butyl Acetate | 123-86-4 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | n-Butylbenzene | 104-51-8 | No Inh. Tox | µg/m3 | | | | | | | | | | | | | | | |
| VOC | n-Decane | 124-18-5 | - | µg/m3 | | 0.76 | 66000 | | | | | | | | | | | | |
| VOC | n-Dodecane | 112-40-3 | - | µg/m3 | | 16 | 48 | | | | | | | | | | | | |
| VOC | n-Heptane | 142-82-5 | - | µg/m3 | | 0.2 | 1300000 | 28000 | 130000 | 1700 | 120000 | 180000 | 8000 | 520 | 1700 | 19000 | 410 U | 410 U | 420 |
| VOC | n-Hexane | 110-54-3 | 102200 | µg/m3 | 4 | 1 | 360000 | 12000 J | 43000 | 5200 | 35000 | 81000 | 13000 J | 1400 U | 1400 U | 15000 | 14000 U | 14000 U | 14000 U |
| VOC | n-Nonane | 111-84-2 | 2920 | µg/m3 | 4 | 4000 | 130000 | | | | | | | | | | | | |
| VOC | n-Octane | 111-65-9 | - | µg/m3 | | 20000 | 1200000 | | | | | | | | | | | | |
| VOC | n-Propylbenzene | 103-65-1 | 146000 | µg/m3 | 0 | 7000 | 45000 | | | | | | | | | | | | |
| VOC | n-Undecane | 1120-21-4 | - | µg/m3 | | 5.4 | 6200 | | | | | | | | | | | | |
| VOC | o-Xylene | 95-47-6 | 14600 | µg/m3 | 4 | 0.45 | 680000 | 470 | 640000 | 43 U | 430 U | 430 U | 430 U | 43 U | 230 | 430 U | 430 U | 480 | 430 U |
| VOC | Propene | 115-07-1 | 438000 | µg/m3 | 0 | 1.8 | 1.8 | | | | | | | | | | | | |
| VOC | sec-Butylbenzene | 135-98-8 | No Inh. Tox | µg/m3 | | 530 | 530 | | | | | | | | | | | | |
| VOC | Styrene | 100-42-5 | 146000 | µg/m3 | 0 | 0.24 | 5000 | 430 U | 5000 | 43 U | 430 U | 430 U | 430 U | 43 U | 43 U | 430 U | 430 U | 430 U | 430 U |
| VOC | tert-Amyl Methyl Ether | 994-05-8 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Tert-Butyl Alcohol | 75-65-0 | - | µg/m3 | | 540 | 540 | | | | | | | | | | | | |
| VOC | tert-Butylbenzene | 98-06-6 | No Inh. Tox | µg/m3 | | 780 | 780 | | | | | | | | | | | | |
| VOC | Tetrachloroethene | 127-18-4 | 1572 | µg/m3 | 2 | 0.21 | 2400 | 340 U | 340 U | 68 U | 340 U | 340 U | 680 U | 34 U | 68 U | 340 U | 340 U | 340 U | 340 U |
| VOC | Tetrahydrofuran | 109-99-9 | 292000 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Thiophene | 110-02-1 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Toluene | 108-88-3 | 730000 | µg/m3 | 0 | 0.37 | 10000 | 380 U | 8100 | 38 U | 380 U | 380 U | 380 U | 38 U | 38 U | 380 U | 380 U | 380 U | 380 U |
| VOC | trans-1,2-Dichloroethene | 156-60-5 | No Inh. Tox | µg/m3 | | 4 | 3000 | | | | | | | | | | | | |
| VOC | trans-1,3-Dichloropropene | 10061-02-6 | 102.2 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Trichloroethene | 79-01-6 | 100 | µg/m3 | 2 | 0.14 | 167 | 270 U | 270 U | 54 U | 270 U | 270 U | 540 U | 27 U | 54 U | 270 U | 270 U | 270 U | 270 U |
| VOC | Trichlorofluoromethane | 75-69-4 | No Inh. Tox | µg/m3 | | 0.84 | 12 | 560 U | 560 U | 56 U | 560 U | 560 U | 560 U | 56 U | 56 U | 560 U | 560 U | 560 U | 560 U |
| VOC | Vinyl Acetate | 108-05-4 | 29200 | µg/m3 | 0 | 11 | 12 | | | | | | | | | | | | |
| VOC | Vinyl Bromide | 593-60-2 | 13 | µg/m3 | | | | | | | | | | | | | | | |
| VOC | Vinyl Chloride | 75-01-4 | 93 | µg/m3 | 23 | 19.2 | 2110 | 130 U | 130 U | 61 | 780 | 540 | 260 U | 13 U | 26 U | 510 | 130 U | 130 U | 130 U |

Notes:

EPA criteria: May 2016 VISL Target Sub-Slab and Exterior Soil Gas Conc., TCR = 1E-06 or THQ = 1, Commercial scenario.

- = No criterion listed.

No Inh. Tox – No inhalation toxicity information available; therefore, no criterion calculated.

U – Non-detect.

J – Estimated Value.

Shading – Value exceeds criterion.

**Table 1 Sub-slab Data**

| Chemical Group | Analyte | CAS | EPA VISL Sub-slab Commercial | Units | Exceedances | | Address | 4 Foster Ave | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sample Location ID | Unit 4F_SS_005 | 1F_SS_002 | 1F_SS_002 | 1F_SS_007 | 1F_SS_007 | 2F_SS_001 | 2F_SS_001 | 2F_SS_001 | 2F_SS_002 | 2F_SS_002 | 2F_SS_003 | 2F_SS_003 |
| | | | | | | | Sample Date | 41704 | 42242 | 42243 | 42242 | 42243 | 42206 | 42242 | 42243 | 42242 | 42243 | 42242 | 42243 |
| | | | | | | Min. Det. | Max. Det. | 2014 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 |
| ALS SOP VOA-EPA3C (TCD) | Methane | 74-82-8 | - | %v/v | | 17 | 48 | | | | | | | | | | | | |
| ALS SOP VOA-S307M_SCD | Hydrogen Sulfide | 7783-06-4 | 292 | µg/m3 | | | | | | | | | | | | | | | |
| MADEP APH 1.0 | C5 - C8 Aliphatics | | - | µg/m3 | | 430000 | 69000000 | | | | | | | 32000000 J | | 4700000 J | | 7000000 J | |
| MADEP APH 1.0 | C9 - C10 Aromatics | | - | µg/m3 | | 870 | 590000 | | | | | | | 300000 | | 64000 | | 130000 | |
| MADEP APH 1.0 | C9 - C12 Aliphatics | | - | µg/m3 | | 260000 | 9600000 | | | | | | | 2400000 | | 3700000 J | | 2100000 | |
| VOC | 1,1,1,2-Tetrachloroethane | 630-20-6 | 55 | µg/m3 | | | | | | | | | | 14000 UJ | | 2300 UJ | | 2300 UJ | |
| VOC | 1,1,1,2-Tetrafluoroethane | 811-97-2 | 11680000 | µg/m3 | | | | | | | | | | 14000 UJ | | 2300 UJ | | 2300 UJ | |
| VOC | 1,1,1-Trichloroethane | 71-55-6 | 730000 | µg/m3 | 0 | 0.37 | 14 | 0.27 U | 0.15 U | 2.7 U | 0.37 | 2.7 U | 5.46 | 2700 U | 2.7 U | 460 U | 2.7 U | 460 U | 2.7 U |
| VOC | 1,1,2,2-Tetrachloroethane | 79-34-5 | 7.0 | µg/m3 | | | | | 0.15 U | | 0.15 U | | | 2700 U | | 460 U | | 460 U | |
| VOC | 1,1,2-Trichloroethane | 79-00-5 | 26 | µg/m3 | | | | | 0.15 U | | 0.15 U | | | 2700 U | | 460 U | | 460 U | |
| VOC | 1,1,2-Trichlorotrifluoroethane | 76-13-1 | 4380000 | µg/m3 | 0 | 0.41 | 3 | 0.77 U | 0.59 | | 0.59 | | | 2700 U | | 460 U | | 460 U | |
| VOC | 1,1-Dichloroethane | 75-34-3 | 256 | µg/m3 | 0 | 0.15 | 53.4 | 0.2 U | 0.15 U | 2 U | 0.15 U | 2 U | 53.4 | 2700 U | 2 U | 460 U | 2 U | 460 U | 2 U |
| VOC | 1,1-Dichloroethene | 75-35-4 | 29200 | µg/m3 | 0 | 2.5 | 14 | 0.2 U | 0.15 U | 2 U | 0.15 U | 2 U | 14 | 2700 U | 8.8 | 460 U | 2 U | 460 U | 2 U |
| VOC | 1,1-Dichloropropene | | - | µg/m3 | | | | | | | | | | 14000 UJ | | 2300 UJ | | 2300 UJ | |
| VOC | 1,1-Difluoroethane | 75-37-6 | 5840000 | µg/m3 | | | | | | | | | | 14000 UJ | | 2300 UJ | | 2300 UJ | |
| VOC | 1,2,3,4-Tetramethylbenzene | | - | µg/m3 | | | | | | | | | | 14000 UJ | | 2300 UJ | | 2300 UJ | |
| VOC | 1,2,3,5-Tetramethylbenzene | | - | µg/m3 | | 75 | 75 | | | | | | | 14000 UJ | | 2300 UJ | | 2300 UJ | |
| VOC | 1,2,3-Trichlorobenzene | 87-61-6 | No Inh. Tox | µg/m3 | | | | | | | | | | 14000 UJ | | 2300 UJ | | 2300 UJ | |
| VOC | 1,2,3-Trichloropropane | 96-18-4 | 44 | µg/m3 | | | | | | | | | | 14000 UJ | | 2300 UJ | | 2300 UJ | |
| VOC | 1,2,3-Trimethylbenzene | 526-73-8 | 730 | µg/m3 | 4 | 0.78 | 26000 | | 0.78 | | 0.74 U | | | 14000 U | | 2400 J | | 6600 | |
| VOC | 1,2,4,5-Tetramethylbenzene | | - | µg/m3 | | | | | | | | | | 14000 UJ | | 2300 UJ | | 2300 UJ | |
| VOC | 1,2,4-Trichlorobenzene | 120-82-1 | 292 | µg/m3 | | | | | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | 1,2,4-Trimethylbenzene | 95-63-6 | 1022 | µg/m3 | 38 | 0.35 | 130000 | 0.49 U | 0.73 U | | 0.74 U | | | 36000 | | 2600 J | | 11000 | |
| VOC | 1,2-Dibromo 3-Chloropropane | 96-12-8 | 0.068 | µg/m3 | | | | | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | 1,2-Dibromoethane | 106-93-4 | 0.68 | µg/m3 | | | | | 0.15 U | | 0.15 U | | | 2700 U | | 460 U | | 460 U | |
| VOC | 1,2-Dichloro-1,1,2,2-tetrafluoroethane | | - | µg/m3 | | | | | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | 1,2-Dichlorobenzene | 95-50-1 | 29200 | µg/m3 | | | | | 0.15 U | | 0.15 U | | | 2700 U | | 460 U | | 460 U | |
| VOC | 1,2-Dichloroethane | 107-06-2 | 16 | µg/m3 | 0 | 0.22 | 0.22 | | 0.22 | | 0.15 U | | | 2700 U | | 460 U | | 460 U | |
| VOC | 1,2-Dichloropropane | 78-87-5 | 41 | µg/m3 | 0 | 2.6 | 2.6 | 0.23 UJ | 0.15 U | | 0.15 U | | | 2700 U | | 460 U | | 460 U | |
| VOC | 1,2-Dichlorotetrafluoroethane | 76-14-2 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,3,5-Trimethylbenzene | 108-67-8 | No Inh. Tox | µg/m3 | | 0.76 | 59000 | 0.49 U | 0.76 | | 0.74 U | | | 25000 | | 3900 J | | 18000 | |
| VOC | 1,3-Butadiene | 106-99-0 | 14 | µg/m3 | | | | 0.22 U | 0.29 U | | 0.29 U | | | 5400 U | | 920 U | | 930 U | |
| VOC | 1,3-Dichlorobenzene | 541-73-1 | - | µg/m3 | | | | | 0.15 U | | 0.15 U | | | 2700 U | | 460 U | | 460 U | |
| VOC | 1,3-Dichloropropane | | No Inh. Tox | µg/m3 | | | | | | | | | | 14000 UJ | | 2300 UJ | | 2300 UJ | |
| VOC | 1,4-Dichlorobenzene | 106-46-7 | 37 | µg/m3 | 0 | 0.82 | 1.8 | 0.6 U | 0.15 U | | 0.15 U | | | 2700 U | | 460 U | | 460 U | |
| VOC | 1,4-Dioxane | 123-91-1 | 82 | µg/m3 | | | | | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | 1-Butanol | 71-36-3 | No Inh. Tox | µg/m3 | | 1.6 | 2.6 | | 2.4 | | 1.5 U | | | 27000 U | | 4600 U | | 4600 U | |
| VOC | 1-Chloro-1,1-difluoroethane | 75-68-3 | 7300000 | µg/m3 | | | | | | | | | | 27000 UJ | | 4600 UJ | | 4600 UJ | |
| VOC | 1-Chlorohexane | 544-10-5 | - | µg/m3 | | | | | | | | | | 14000 UJ | | 2300 UJ | | 2300 UJ | |
| VOC | 2,2,4-Trimethylpentane | 540-84-1 | - | µg/m3 | | 0.8 | 2100 | 1.3 UJ | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | 2,2-Dichloro-1,1,1-trifluoroethane | 306-83-2 | - | µg/m3 | | | | | | | | | | 14000 UJ | | 2300 UJ | | 2300 UJ | |
| VOC | 2,2-Dichloropropane | 594-20-7 | - | µg/m3 | | | | | | | | | | 14000 UJ | | 2300 UJ | | 2300 UJ | |
| VOC | 2,3-Dimethylpentane | 565-59-3 | - | µg/m3 | | 700 | 480000 | | | | | | | 150000 J | | 39000 J | | 30000 J | |
| VOC | 2-Butanone (MEK) | 78-93-3 | 730000 | µg/m3 | 0 | 0.78 | 1300 | 12 U | 7.3 U | | 7.4 U | | | 140000 U | | 23000 U | | 23000 U | |
| VOC | 2-Chlorotoluene | 95-49-8 | No Inh. Tox | µg/m3 | | | | | | | | | | 14000 UJ | | 2300 UJ | | 2300 UJ | |
| VOC | 2-Ethyltoluene | 611-14-3 | - | µg/m3 | | | | | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | 2-Hexanone | 591-78-6 | 4380 | µg/m3 | 0 | 0.37 | 1500 | 0.61 J | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | 2-Methylbutane | 78-78-4 | - | µg/m3 | | 6200 | 54000 | | | | | | | 14000 J | | 6200 J | | 6500 J | |
| VOC | 2-Methylpentane | 107-83-5 | - | µg/m3 | | 17000 | 180000 | | | | | | | 120000 J | | 40000 J | | 25000 J | |
| VOC | 2-Propanol | 67-63-0 | 29200 | µg/m3 | | | | | 7.3 U | | 7.4 U | | | 140000 U | | 23000 U | | 23000 U | |
| VOC | 3-Chloro-1-propene | 107-05-1 | 68 | µg/m3 | | | | | 0.15 U | | 0.15 U | | | 2700 U | | 460 U | | 460 U | |
| VOC | 3-Ethyltoluene | 620-14-4 | - | µg/m3 | | 4900 | 21000 | | 0.73 U | | 0.74 U | | | 21000 | | 2300 U | | 4900 | |
| VOC | 4-Chlorotoluene | 106-43-4 | No Inh. Tox | µg/m3 | | | | | | | | | | 14000 UJ | | 2300 UJ | | 2300 UJ | |
| VOC | 4-Ethyltoluene | 622-96-8 | - | µg/m3 | | 0.95 | 18000 | 0.49 U | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | 4-Isopropyltoluene | 99-87-6 | - | µg/m3 | | 9300 | 19000 | | 0.73 U | | 0.74 U | | | 14000 | | 2300 U | | 2300 U | |
| VOC | 4-Methyl-2-pentanone | 108-10-1 | 438000 | µg/m3 | 0 | 0.25 | 11 | 0.41 U | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | Acetone | 67-64-1 | 4526000 | µg/m3 | 0 | 8 | 8500 | 88 | 10 | | 9.9 | | | 140000 U | | 23000 U | | 23000 U | |
| VOC | Acetonitrile | 75-05-8 | 8760 | µg/m3 | | | | | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | Acrolein | 107-02-8 | 2.9 | µg/m3 | | | | | 2.9 U | | 2.9 U | | | 54000 U | | 9200 U | | 9300 U | |
| VOC | Acrylonitrile | 107-13-1 | 6.0 | µg/m3 | | | | | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | alpha-Pinene | 80-56-8 | - | µg/m3 | | | | | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | a-Methylstyrene | 98-83-9 | No Inh. Tox | µg/m3 | | | | | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | Benzene | 71-43-2 | 52 | µg/m3 | 51 | 0.16 | 370000 | 0.32 U | 0.4 | | 0.15 U | | | 29000 | | 8000 | | 69000 | |
| VOC | Benzyl Chloride | 100-44-7 | 8.3 | µg/m3 | | | | | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | Bromobenzene | 108-86-1 | 8760 | µg/m3 | | | | | | | | | | 14000 UJ | | 2300 UJ | | 2300 UJ | |
| VOC | Bromodichloromethane | 75-27-4 | 11 | µg/m3 | | | | | 0.15 U | | 0.15 U | | | 2700 U | | 460 U | | 460 U | |
| VOC | Bromoform | 75-25-2 | 372 | µg/m3 | | | | | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | Bromomethane | 74-83-9 | 730 | µg/m3 | | | | | 0.15 U | | 0.15 U | | | 2700 U | | 460 U | | 460 U | |
| VOC | Carbon Disulfide | 75-15-0 | 102200 | µg/m3 | 0 | 0.7 | 5000 | 3.1 U | 7.3 U | | 7.4 U | | | 140000 U | | 23000 U | | 23000 U | |
| VOC | Carbon Tetrachloride | 56-23-5 | 68 | µg/m3 | 0 | 0.16 | 1.6 | 0.63 U | 0.2 | | 0.24 | | | 2700 U | | 460 U | | 460 U | |
| VOC | Chlorobenzene | 108-90-7 | 7300 | µg/m3 | | | | | 0.15 U | | 0.15 U | | | 2700 U | | 460 U | | 460 U | |
| VOC | Chlorodifluoromethane | 75-45-6 | 7300000 | µg/m3 | | | | | | | | | | 14000 UJ | | 2300 UJ | | 2300 UJ | |

**Table 1 Sub-slab Data**

| Chemical Group | Analyte | CAS | EPA VISL Sub-slab Commercial | Units | Exceedances | | Address | 4 Foster Ave | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 1 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sample Location ID | Unit 4F_SS_005 | 1F_SS_002 | 1F_SS_002 | 1F_SS_007 | 1F_SS_007 | 2F_SS_001 | 2F_SS_001 | 2F_SS_001 | 2F_SS_002 | 2F_SS_002 | 2F_SS_003 | 2F_SS_003 |
| | | | | | | | Sample Date | 41704 | 42242 | 42243 | 42242 | 42243 | 42206 | 42242 | 42243 | 42242 | 42243 | 42242 | 42243 |
| | | | | | | Min. Det. | Max. Det. | 2014 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 |
| VOC | Chloroethane | 75-00-3 | 1460000 | µg/m3 | 0 | 0.25 | 0.25 | | 0.15 U | | 0.15 U | | | 2700 U | | 460 U | | 460 U | |
| VOC | Chloroform | 67-66-3 | 18 | µg/m3 | 0 | 0.12 | 12 | 1.6 | 0.64 | | 0.2 | | | 2700 U | | 460 U | | 460 U | |
| VOC | Chloromethane | 74-87-3 | 13140 | µg/m3 | | | | | 0.29 U | | 0.29 U | | | 5400 U | | 920 U | | 930 U | |
| VOC | Chloropentafluoroethane | | - | µg/m3 | | | | | | | | | | 14000 UJ | | 2300 UJ | | 2300 UJ | |
| VOC | cis-1,2-Dichloroethene | 156-59-2 | No Inh. Tox | µg/m3 | | 6.4 | 16000 | 0.4 U | 0.15 U | 2.1 U | 0.15 U | 2.1 U | 16000 | 8100 | 8900 | 460 U | 380 | 460 U | 320 |
| VOC | cis-1,3-Dichloropropene | 10061-01-5 | 102.2 | µg/m3 | | | | | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | Cyclohexane | 110-82-7 | 876000 | µg/m3 | 2 | 0.52 | 1100000 | 0.34 U | 1.5 U | | 1.5 U | | | 330000 | | 79000 | | 56000 | |
| VOC | Cyclohexanone | 108-94-1 | 102200 | µg/m3 | | | | | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | Dibromochloromethane | 124-48-1 | No Inh. Tox | µg/m3 | | | | | 0.15 U | | 0.15 U | | | 2700 U | | 460 U | | 460 U | |
| VOC | Dibromomethane | 74-95-3 | 584 | µg/m3 | | | | | | | | | | 14000 UJ | | 2300 UJ | | 2300 UJ | |
| VOC | Dichlorodifluoromethane | 75-71-8 | 14600 | µg/m3 | 0 | 1.6 | 330 | 2.5 | 7.4 | | 2.3 | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | Dichlorofluoromethane | 75-43-4 | - | µg/m3 | | | | | | | | | | 14000 UJ | | 2300 UJ | | 2300 UJ | |
| VOC | Diisopropyl Ether | 108-20-3 | 102200 | µg/m3 | | | | | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | d-Limonene | | - | µg/m3 | | | | | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | Ethanol | 64-17-5 | - | µg/m3 | | 8.7 | 42 | | 7.3 U | | 7.4 U | | | 140000 U | | 23000 U | | 23000 U | |
| VOC | Ethyl Acetate | 141-78-6 | 10220 | µg/m3 | | | | | 5.9 U | | 3.4 U | | | 27000 U | | 4600 U | | 4600 U | |
| VOC | Ethyl tert-Butyl Ether | 637-92-3 | - | µg/m3 | | | | | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | Ethylbenzene | 100-41-4 | 164 | µg/m3 | 43 | 0.24 | 460000 | 0.43 U | 0.73 U | | 0.74 U | | | 130000 | | 2300 U | | 44000 | |
| VOC | Hexachlorobutadiene | 87-68-3 | 19 | µg/m3 | | | | | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | Indan | 496-11-7 | - | µg/m3 | | | | | | | | | | 14000 UJ | | 2300 UJ | | 2300 UJ | |
| VOC | Indene | 95-13-6 | - | µg/m3 | | | | | | | | | | 14000 UJ | | 2300 UJ | | 2300 UJ | |
| VOC | Isopropyl Acetate | 108-21-4 | - | µg/m3 | | | | | 1.5 U | | 1.5 U | | | 27000 U | | 4600 U | | 4600 U | |
| VOC | Isopropylbenzene | 98-82-8 | 58400 | µg/m3 | 0 | 6300 | 32000 | | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | m,p-Xylenes | 1330-20-7 | 14600 | µg/m3 | 26 | 0.741 | 3000000 | 0.87 U | 0.84 | | 0.74 U | | | 500000 | | 2300 U | | 370000 | |
| VOC | Methyl Acetate | 79-20-9 | No Inh. Tox | µg/m3 | | | | | | | | | | 14000 UJ | | 2300 UJ | | 2300 UJ | |
| VOC | Methyl Methacrylate | 80-62-6 | 102200 | µg/m3 | | | | | 1.5 U | | 1.5 U | | | 27000 U | | 4600 U | | 4600 U | |
| VOC | Methyl tert-Butyl Ether | 1634-04-4 | 1572 | µg/m3 | | | | | 0.15 U | | 0.15 U | | | 2700 U | | 460 U | | 460 U | |
| VOC | Methylcyclohexane | 108-87-2 | - | µg/m3 | | 0.88 | 10000000 | 1.2 U | | | | | | 2700000 J | | 370000 J | | 400000 J | |
| VOC | Methylene Chloride | 75-09-2 | 40880 | µg/m3 | 0 | 3 | 33000 | 3.5 U | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | Naphthalene | 91-20-3 | 12 | µg/m3 | 0 | 0.75 | 1.9 | | 0.98 | | 0.75 | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | n-Butyl Acetate | 123-86-4 | - | µg/m3 | | | | | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | n-Butylbenzene | 104-51-8 | No Inh. Tox | µg/m3 | | | | | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | n-Decane | 124-18-5 | - | µg/m3 | | 0.76 | 66000 | | 2 | | 1 | | | 32000 | | 2300 U | | 2300 U | |
| VOC | n-Dodecane | 112-40-3 | - | µg/m3 | | 16 | 48 | | 31 | | 22 | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | n-Heptane | 142-82-5 | - | µg/m3 | | 0.2 | 1300000 | 0.41 U | 0.73 U | | 0.74 U | | | 1100000 | | 22000 | | 34000 | |
| VOC | n-Hexane | 110-54-3 | 102200 | µg/m3 | 4 | 1 | 360000 | 14 U | 1 | | 0.74 U | | | 240000 | | 39000 | | 13000 | |
| VOC | n-Nonane | 111-84-2 | 2920 | µg/m3 | 4 | 4000 | 130000 | | 0.73 U | | 0.74 U | | | 130000 | | 2300 U | | 2300 U | |
| VOC | n-Octane | 111-65-9 | - | µg/m3 | | 20000 | 1200000 | | 0.73 U | | 0.74 U | | | 1200000 | | 2300 U | | 20000 | |
| VOC | n-Propylbenzene | 103-65-1 | 146000 | µg/m3 | 0 | 7000 | 45000 | | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | n-Undecane | 1120-21-4 | - | µg/m3 | | 5.4 | 6200 | | 14 | | 7.5 | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | o-Xylene | 95-47-6 | 14600 | µg/m3 | 4 | 0.45 | 680000 | 0.43 U | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | Propene | 115-07-1 | 438000 | µg/m3 | 0 | 1.8 | 1.8 | | 1.8 | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | sec-Butylbenzene | 135-98-8 | No Inh. Tox | µg/m3 | | 530 | 530 | | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | Styrene | 100-42-5 | 146000 | µg/m3 | 0 | 0.24 | 5000 | 0.43 U | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | tert-Amyl Methyl Ether | 994-05-8 | - | µg/m3 | | | | | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | Tert-Butyl Alcohol | 75-65-0 | - | µg/m3 | | 540 | 540 | | 1.5 U | | 1.5 U | | | 27000 U | | 4600 U | | 4600 U | |
| VOC | tert-Butylbenzene | 98-06-6 | No Inh. Tox | µg/m3 | | 780 | 780 | | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | Tetrachloroethene | 127-18-4 | 1572 | µg/m3 | 2 | 0.21 | 2400 | 0.68 U | 10 | 12 | 3.3 | 3.5 | 6.78 U | 2700 U | 3.5 U | 460 U | 3.5 U | 460 U | 7.9 |
| VOC | Tetrahydrofuran | 109-99-9 | 292000 | µg/m3 | | | | | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | Thiophene | 110-02-1 | - | µg/m3 | | | | | | | | | | 14000 UJ | | 2300 UJ | | 2300 UJ | |
| VOC | Toluene | 108-88-3 | 730000 | µg/m3 | 0 | 0.37 | 10000 | 0.5 | 4.5 U | | 3.2 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | trans-1,2-Dichloroethene | 156-60-5 | No Inh. Tox | µg/m3 | | 4 | 3000 | | 0.15 U | 2.1 U | 0.15 U | 2.1 U | 3000 | 2700 U | 1800 | 460 U | 39 | 460 U | 24 |
| VOC | trans-1,3-Dichloropropene | 10061-02-6 | 102.2 | µg/m3 | | | | | 0.73 U | | 0.74 U | | | 14000 U | | 2300 U | | 2300 U | |
| VOC | Trichloroethene | 79-01-6 | 100 | µg/m3 | 2 | 0.14 | 167 | 0.54 U | 0.15 U | 2.7 U | 0.15 U | 2.7 U | 167 | 2700 U | 100 | 460 U | 32 | 460 U | 66 |
| VOC | Trichlorofluoromethane | 75-69-4 | No Inh. Tox | µg/m3 | | 0.84 | 12 | 2.2 | 1.3 | | 1.5 | | | 2700 U | | 460 U | | 460 U | |
| VOC | Vinyl Acetate | 108-05-4 | 29200 | µg/m3 | 0 | 11 | 12 | | 7.3 U | | 7.4 U | | | 140000 U | | 23000 U | | 23000 U | |
| VOC | Vinyl Bromide | 593-60-2 | 13 | µg/m3 | | | | | | | | | | 14000 UJ | | 2300 UJ | | 2300 UJ | |
| VOC | Vinyl Chloride | 75-01-4 | 93 | µg/m3 | 23 | 19.2 | 2110 | 0.26 U | 0.15 U | 1.3 U | 0.15 U | 1.3 U | 2.56 U | 2700 U | 1400 | 460 U | 220 | 460 U | 34 |

Notes:

EPA criteria: May 2016 VISL Target Sub-Slab and Exterior Soil Gas Conc., TCR = 1E-06 or THQ = 1, Commercial scenario.

- = No criterion listed.

No Inh. Tox – No inhalation toxicity information available; therefore, no criterion calculated.

U – Non-detect.

J – Estimated Value.

Shading – Value exceeds criterion.

**Table 1 Sub-slab Data**

| Chemical Group | Analyte | CAS | EPA VISL Sub-slab Commercial | Units | Exceedances | | Address | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sample Location ID | 2F_SS_004 | 2F_SS_004 | 2F_SS_004 | 2F_SS_005 | 2F_SS_005 | 2F_SS_006 | 2F_SS_006 | 2F_SS_006 | 2F_SS_007 | 2F_SS_007 | 2F_SS_007 | 2F_SS_008 |
| | | | | | | | Sample Date | 42206 | 42242 | 42243 | 42242 | 42243 | 42206 | 42242 | 42243 | 42206 | 42242 | 42243 | 42242 |
| | | | | | | Min. Det. | Max. Det. | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 |
| ALS SOP VOA-EPA3C (TCD) | Methane | 74-82-8 | - | %v/v | | 17 | 48 | | | | | | | | | | | | |
| ALS SOP VOA-S307M_SCD | Hydrogen Sulfide | 7783-06-4 | 292 | µg/m3 | | | | | | | | | | | | | | | |
| MADEP APH 1.0 | C5 - C8 Aliphatics | | - | µg/m3 | | 430000 | 69000000 | | 15000000 J | | | | | 21000000 J | | | 11000000 J | | |
| MADEP APH 1.0 | C9 - C10 Aromatics | | - | µg/m3 | | 870 | 590000 | | 330000 | | | | | 190000 | | | 150000 | | |
| MADEP APH 1.0 | C9 - C12 Aliphatics | | - | µg/m3 | | 260000 | 9600000 | | 3000000 | | | | | 5300000 J | | | 2800000 | | |
| VOC | 1,1,1,2-Tetrachloroethane | 630-20-6 | 55 | µg/m3 | | | | | 7500 UJ | | | | | 13000 UJ | | | | | |
| VOC | 1,1,1,2-Tetrafluoroethane | 811-97-2 | 11680000 | µg/m3 | | | | | 7500 UJ | | | | | 13000 UJ | | | | | |
| VOC | 1,1,1-Trichloroethane | 71-55-6 | 730000 | µg/m3 | 0 | 0.37 | 14 | 5.46 U | 1500 U | 2.7 U | 95 U | 2.7 U | 5.46 U | 2500 U | 2.7 U | 5.46 U | 1300 U | 2.7 U | 1000 U |
| VOC | 1,1,2,2-Tetrachloroethane | 79-34-5 | 7.0 | µg/m3 | | | | | 1500 U | | 95 U | | | 2500 U | | | 1300 U | | 1000 U |
| VOC | 1,1,2-Trichloroethane | 79-00-5 | 26 | µg/m3 | | | | | 1500 U | | 95 U | | | 2500 U | | | 1300 U | | 1000 U |
| VOC | 1,1,2-Trichlorotrifluoroethane | 76-13-1 | 4380000 | µg/m3 | 0 | 0.41 | 3 | | 1500 U | | 95 U | | | 2500 U | | | 1300 U | | 1000 U |
| VOC | 1,1-Dichloroethane | 75-34-3 | 256 | µg/m3 | 0 | 0.15 | 53.4 | 27.9 | 1500 U | 21 | 95 U | 2 U | 20.3 | 2500 U | 2 U | 4.05 U | 1300 U | 2 U | 1000 U |
| VOC | 1,1-Dichloroethene | 75-35-4 | 29200 | µg/m3 | 0 | 2.5 | 14 | 3.96 U | 1500 U | 2 U | 95 U | 2 U | 3.96 U | 2500 U | 2.9 | 3.96 U | 1300 U | 3.1 | 1000 U |
| VOC | 1,1-Dichloropropene | | - | µg/m3 | | | | | 7500 UJ | | | | | 13000 UJ | | | | | |
| VOC | 1,1-Difluoroethane | 75-37-6 | 5840000 | µg/m3 | | | | | 7500 UJ | | | | | 13000 UJ | | | | | |
| VOC | 1,2,3,4-Tetramethylbenzene | | - | µg/m3 | | | | | 7500 UJ | | | | | 13000 UJ | | | | | |
| VOC | 1,2,3,5-Tetramethylbenzene | | - | µg/m3 | | 75 | 75 | | 7500 UJ | | | | | 13000 UJ | | | | | |
| VOC | 1,2,3-Trichlorobenzene | 87-61-6 | No Inh. Tox | µg/m3 | | | | | 7500 UJ | | | | | 13000 UJ | | | | | |
| VOC | 1,2,3-Trichloropropane | 96-18-4 | 44 | µg/m3 | | | | | 7500 UJ | | | | | 13000 UJ | | | | | |
| VOC | 1,2,3-Trimethylbenzene | 526-73-8 | 730 | µg/m3 | 4 | 0.78 | 26000 | | 12000 | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | 1,2,4,5-Tetramethylbenzene | | - | µg/m3 | | | | | 7500 UJ | | | | | 13000 UJ | | | | | |
| VOC | 1,2,4-Trichlorobenzene | 120-82-1 | 292 | µg/m3 | | | | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | 1,2,4-Trimethylbenzene | 95-63-6 | 1022 | µg/m3 | 38 | 0.35 | 130000 | | 36000 | | 2800 | | | 20000 | | | 44000 | | 11000 |
| VOC | 1,2-Dibromo 3-Chloropropane | 96-12-8 | 0.068 | µg/m3 | | | | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | 1,2-Dibromoethane | 106-93-4 | 0.68 | µg/m3 | | | | | 1500 U | | 95 U | | | 2500 U | | | 1300 U | | 1000 U |
| VOC | 1,2-Dichloro-1,1,2,2-tetrafluoroethane | | - | µg/m3 | | | | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | 1,2-Dichlorobenzene | 95-50-1 | 29200 | µg/m3 | | | | | 1500 U | | 95 U | | | 2500 U | | | 1300 U | | 1000 U |
| VOC | 1,2-Dichloroethane | 107-06-2 | 16 | µg/m3 | 0 | 0.22 | 0.22 | | 1500 U | | 95 U | | | 2500 U | | | 1300 U | | 1000 U |
| VOC | 1,2-Dichloropropane | 78-87-5 | 41 | µg/m3 | 0 | 2.6 | 2.6 | | 1500 U | | 95 U | | | 2500 U | | | 1300 U | | 1000 U |
| VOC | 1,2-Dichlorotetrafluoroethane | 76-14-2 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,3,5-Trimethylbenzene | 108-67-8 | No Inh. Tox | µg/m3 | | 0.76 | 59000 | | 36000 | | 660 | | | 16000 | | | 24000 | | 5000 U |
| VOC | 1,3-Butadiene | 106-99-0 | 14 | µg/m3 | | | | | 3000 U | | 190 U | | | 5100 U | | | 2600 U | | 2000 U |
| VOC | 1,3-Dichlorobenzene | 541-73-1 | - | µg/m3 | | | | | 1500 U | | 95 U | | | 2500 U | | | 1300 U | | 1000 U |
| VOC | 1,3-Dichloropropane | | No Inh. Tox | µg/m3 | | | | | 7500 UJ | | | | | 13000 UJ | | | | | |
| VOC | 1,4-Dichlorobenzene | 106-46-7 | 37 | µg/m3 | 0 | 0.82 | 1.8 | | 1500 U | | 95 U | | | 2500 U | | | 1300 U | | 1000 U |
| VOC | 1,4-Dioxane | 123-91-1 | 82 | µg/m3 | | | | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | 1-Butanol | 71-36-3 | No Inh. Tox | µg/m3 | | 1.6 | 2.6 | | 15000 U | | 950 U | | | 25000 U | | | 13000 U | | 10000 U |
| VOC | 1-Chloro-1,1-difluoroethane | 75-68-3 | 7300000 | µg/m3 | | | | | 15000 UJ | | | | | 25000 UJ | | | | | |
| VOC | 1-Chlorohexane | 544-10-5 | - | µg/m3 | | | | | 7500 UJ | | | | | 13000 UJ | | | | | |
| VOC | 2,2,4-Trimethylpentane | 540-84-1 | - | µg/m3 | | 0.8 | 2100 | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | 2,2-Dichloro-1,1,1-trifluoroethane | 306-83-2 | - | µg/m3 | | | | | 7500 UJ | | | | | 13000 UJ | | | | | |
| VOC | 2,2-Dichloropropane | 594-20-7 | - | µg/m3 | | | | | 7500 UJ | | | | | 13000 UJ | | | | | |
| VOC | 2,3-Dimethylpentane | 565-59-3 | - | µg/m3 | | 700 | 480000 | | 46000 J | | | | | 110000 J | | | | | |
| VOC | 2-Butanone (MEK) | 78-93-3 | 730000 | µg/m3 | 0 | 0.78 | 1300 | | 75000 U | | 4800 U | | | 130000 U | | | 66000 U | | 50000 U |
| VOC | 2-Chlorotoluene | 95-49-8 | No Inh. Tox | µg/m3 | | | | | 7500 UJ | | | | | 13000 UJ | | | | | |
| VOC | 2-Ethyltoluene | 611-14-3 | - | µg/m3 | | | | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | 2-Hexanone | 591-78-6 | 4380 | µg/m3 | 0 | 0.37 | 1500 | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | 2-Methylbutane | 78-78-4 | - | µg/m3 | | 6200 | 54000 | | 11000 J | | | | | 13000 UJ | | | | | |
| VOC | 2-Methylpentane | 107-83-5 | - | µg/m3 | | 17000 | 180000 | | 38000 J | | | | | 67000 J | | | | | |
| VOC | 2-Propanol | 67-63-0 | 29200 | µg/m3 | | | | | 75000 U | | 4800 U | | | 130000 U | | | 66000 U | | 50000 U |
| VOC | 3-Chloro-1-propene | 107-05-1 | 68 | µg/m3 | | | | | 1500 U | | 95 U | | | 2500 U | | | 1300 U | | 1000 U |
| VOC | 3-Ethyltoluene | 620-14-4 | - | µg/m3 | | 4900 | 21000 | | 21000 | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | 4-Chlorotoluene | 106-43-4 | No Inh. Tox | µg/m3 | | | | | 7500 UJ | | | | | 13000 UJ | | | | | |
| VOC | 4-Ethyltoluene | 622-96-8 | - | µg/m3 | | 0.95 | 18000 | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | 4-Isopropyltoluene | 99-87-6 | - | µg/m3 | | 9300 | 19000 | | 9300 | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | 4-Methyl-2-pentanone | 108-10-1 | 438000 | µg/m3 | 0 | 0.25 | 11 | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | Acetone | 67-64-1 | 4526000 | µg/m3 | 0 | 8 | 8500 | | 75000 U | | 4800 U | | | 130000 U | | | 66000 U | | 50000 U |
| VOC | Acetonitrile | 75-05-8 | 8760 | µg/m3 | | | | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | Acrolein | 107-02-8 | 2.9 | µg/m3 | | | | | 30000 U | | 1900 U | | | 51000 U | | | 26000 U | | 20000 U |
| VOC | Acrylonitrile | 107-13-1 | 6.0 | µg/m3 | | | | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | alpha-Pinene | 80-56-8 | - | µg/m3 | | | | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | a-Methylstyrene | 98-83-9 | No Inh. Tox | µg/m3 | | | | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | Benzene | 71-43-2 | 52 | µg/m3 | 51 | 0.16 | 370000 | | 300000 | | 510 | | | 2500 U | | | 4900 | | 36000 |
| VOC | Benzyl Chloride | 100-44-7 | 8.3 | µg/m3 | | | | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | Bromobenzene | 108-86-1 | 8760 | µg/m3 | | | | | 7500 UJ | | | | | 13000 UJ | | | | | |
| VOC | Bromodichloromethane | 75-27-4 | 11 | µg/m3 | | | | | 1500 U | | 95 U | | | 2500 U | | | 1300 U | | 1000 U |
| VOC | Bromoform | 75-25-2 | 372 | µg/m3 | | | | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | Bromomethane | 74-83-9 | 730 | µg/m3 | | | | | 1500 U | | 95 U | | | 2500 U | | | 1300 U | | 1000 U |
| VOC | Carbon Disulfide | 75-15-0 | 102200 | µg/m3 | 0 | 0.7 | 5000 | | 75000 U | | 4800 U | | | 130000 U | | | 66000 U | | 50000 U |
| VOC | Carbon Tetrachloride | 56-23-5 | 68 | µg/m3 | 0 | 0.16 | 1.6 | | 1500 U | | 95 U | | | 2500 U | | | 1300 U | | 1000 U |
| VOC | Chlorobenzene | 108-90-7 | 7300 | µg/m3 | | | | | 1500 U | | 95 U | | | 2500 U | | | 1300 U | | 1000 U |
| VOC | Chlorodifluoromethane | 75-45-6 | 7300000 | µg/m3 | | | | | 7500 UJ | | | | | 13000 UJ | | | | | |

**Table 1 Sub-slab Data**

| Chemical Group | Analyte | CAS | EPA VISL Sub-slab Commercial | Units | Exceedances | | Address | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sample Location ID | 2F_SS_004 | 2F_SS_004 | 2F_SS_004 | 2F_SS_005 | 2F_SS_005 | 2F_SS_006 | 2F_SS_006 | 2F_SS_006 | 2F_SS_007 | 2F_SS_007 | 2F_SS_007 | 2F_SS_008 |
| | | | | | | | Sample Date | 42206 | 42242 | 42243 | 42242 | 42243 | 42206 | 42242 | 42243 | 42206 | 42242 | 42243 | 42242 |
| | | | | | | Min. Det. | Max. Det. | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 |
| VOC | Chloroethane | 75-00-3 | 1460000 | µg/m3 | 0 | 0.25 | 0.25 | | 1500 U | | 95 U | | | 2500 U | | | 1300 U | | 1000 U |
| VOC | Chloroform | 67-66-3 | 18 | µg/m3 | 0 | 0.12 | 12 | | 1500 U | | 95 U | | | 2500 U | | | 1300 U | | 1000 U |
| VOC | Chloromethane | 74-87-3 | 13140 | µg/m3 | | | | | 3000 U | | 190 U | | | 5100 U | | | 2600 U | | 2000 U |
| VOC | Chloropentafluoroethane | | - | µg/m3 | | | | | 7500 UJ | | | | | 13000 UJ | | | | | |
| VOC | cis-1,2-Dichloroethene | 156-59-2 | No Inh. Tox | µg/m3 | | 6.4 | 16000 | 536 | 1500 U | 440 | 95 U | 2.1 U | 1680 | 2500 U | 1700 | 1100 | 1300 U | 1200 | 1000 U |
| VOC | cis-1,3-Dichloropropene | 10061-01-5 | 102.2 | µg/m3 | | | | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | Cyclohexane | 110-82-7 | 876000 | µg/m3 | 2 | 0.52 | 1100000 | | 94000 | | 17000 | | | 230000 | | | 170000 | | 93000 |
| VOC | Cyclohexanone | 108-94-1 | 102200 | µg/m3 | | | | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | Dibromochloromethane | 124-48-1 | No Inh. Tox | µg/m3 | | | | | 1500 U | | 95 U | | | 2500 U | | | 1300 U | | 1000 U |
| VOC | Dibromomethane | 74-95-3 | 584 | µg/m3 | | | | | 7500 UJ | | | | | 13000 UJ | | | | | |
| VOC | Dichlorodifluoromethane | 75-71-8 | 14600 | µg/m3 | 0 | 1.6 | 330 | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | Dichlorofluoromethane | 75-43-4 | - | µg/m3 | | | | | 7500 UJ | | | | | 13000 UJ | | | | | |
| VOC | Diisopropyl Ether | 108-20-3 | 102200 | µg/m3 | | | | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | d-Limonene | | - | µg/m3 | | | | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | Ethanol | 64-17-5 | - | µg/m3 | | 8.7 | 42 | | 75000 U | | 4800 U | | | 130000 U | | | 66000 U | | 50000 U |
| VOC | Ethyl Acetate | 141-78-6 | 10220 | µg/m3 | | | | | 15000 U | | 950 U | | | 25000 U | | | 13000 U | | 10000 U |
| VOC | Ethyl tert-Butyl Ether | 637-92-3 | - | µg/m3 | | | | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | Ethylbenzene | 100-41-4 | 164 | µg/m3 | 43 | 0.24 | 460000 | | 460000 | | 480 U | | | 13000 U | | | 23000 | | 51000 |
| VOC | Hexachlorobutadiene | 87-68-3 | 19 | µg/m3 | | | | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | Indan | 496-11-7 | - | µg/m3 | | | | | 7500 UJ | | | | | 13000 UJ | | | | | |
| VOC | Indene | 95-13-6 | - | µg/m3 | | | | | 7500 UJ | | | | | 13000 UJ | | | | | |
| VOC | Isopropyl Acetate | 108-21-4 | - | µg/m3 | | | | | 15000 U | | 950 U | | | 25000 U | | | 13000 U | | 10000 U |
| VOC | Isopropylbenzene | 98-82-8 | 58400 | µg/m3 | 0 | 6300 | 32000 | | 8200 | | 480 U | | | 13000 U | | | 7000 | | 6300 |
| VOC | m,p-Xylenes | 1330-20-7 | 14600 | µg/m3 | 26 | 0.741 | 3000000 | | 2500000 | | 480 U | | | 13000 U | | | 6600 U | | 16000 |
| VOC | Methyl Acetate | 79-20-9 | No Inh. Tox | µg/m3 | | | | | 7500 UJ | | | | | 13000 UJ | | | | | |
| VOC | Methyl Methacrylate | 80-62-6 | 102200 | µg/m3 | | | | | 15000 U | | 950 U | | | 25000 U | | | 13000 U | | 10000 U |
| VOC | Methyl tert-Butyl Ether | 1634-04-4 | 1572 | µg/m3 | | | | | 1500 U | | 95 U | | | 2500 U | | | 1300 U | | 1000 U |
| VOC | Methylcyclohexane | 108-87-2 | - | µg/m3 | | 0.88 | 10000000 | | 680000 J | | | | | 2200000 J | | | | | |
| VOC | Methylene Chloride | 75-09-2 | 40880 | µg/m3 | 0 | 3 | 33000 | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | Naphthalene | 91-20-3 | 12 | µg/m3 | 0 | 0.75 | 1.9 | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | n-Butyl Acetate | 123-86-4 | - | µg/m3 | | | | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | n-Butylbenzene | 104-51-8 | No Inh. Tox | µg/m3 | | | | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | n-Decane | 124-18-5 | - | µg/m3 | | 0.76 | 66000 | | 24000 | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | n-Dodecane | 112-40-3 | - | µg/m3 | | 16 | 48 | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | n-Heptane | 142-82-5 | - | µg/m3 | | 0.2 | 1300000 | | 140000 | | 5200 | | | 310000 | | | 280000 | | 8200 |
| VOC | n-Hexane | 110-54-3 | 102200 | µg/m3 | 4 | 1 | 360000 | | 33000 | | 12000 | | | 76000 | | | 86000 | | 5000 U |
| VOC | n-Nonane | 111-84-2 | 2920 | µg/m3 | 4 | 4000 | 130000 | | 82000 | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | n-Octane | 111-65-9 | - | µg/m3 | | 20000 | 1200000 | | 490000 | | 480 U | | | 55000 | | | 36000 | | 5000 U |
| VOC | n-Propylbenzene | 103-65-1 | 146000 | µg/m3 | 0 | 7000 | 45000 | | 7500 U | | 480 U | | | 13000 U | | | 7000 | | 7300 |
| VOC | n-Undecane | 1120-21-4 | - | µg/m3 | | 5.4 | 6200 | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 6200 |
| VOC | o-Xylene | 95-47-6 | 14600 | µg/m3 | 4 | 0.45 | 680000 | | 650000 | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | Propene | 115-07-1 | 438000 | µg/m3 | 0 | 1.8 | 1.8 | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | sec-Butylbenzene | 135-98-8 | No Inh. Tox | µg/m3 | | 530 | 530 | | 7500 U | | 530 | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | Styrene | 100-42-5 | 146000 | µg/m3 | 0 | 0.24 | 5000 | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | tert-Amyl Methyl Ether | 994-05-8 | - | µg/m3 | | | | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | Tert-Butyl Alcohol | 75-65-0 | - | µg/m3 | | 540 | 540 | | 15000 U | | 950 U | | | 25000 U | | | 13000 U | | 10000 U |
| VOC | tert-Butylbenzene | 98-06-6 | No Inh. Tox | µg/m3 | | 780 | 780 | | 7500 U | | 780 | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | Tetrachloroethene | 127-18-4 | 1572 | µg/m3 | 2 | 0.21 | 2400 | 15.1 | 1500 U | 14 | 95 U | 3.5 U | 6.78 U | 2500 U | 3.5 U | 6.78 U | 2400 | 3.5 U | 1600 |
| VOC | Tetrahydrofuran | 109-99-9 | 292000 | µg/m3 | | | | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | Thiophene | 110-02-1 | - | µg/m3 | | | | | 7500 UJ | | | | | 13000 UJ | | | | | |
| VOC | Toluene | 108-88-3 | 730000 | µg/m3 | 0 | 0.37 | 10000 | | 7500 | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | trans-1,2-Dichloroethene | 156-60-5 | No Inh. Tox | µg/m3 | | 4 | 3000 | 14.6 | 1500 U | 12 | 95 U | 36 | 113 | 2500 U | 120 | 195 | 1300 U | 230 | 1000 U |
| VOC | trans-1,3-Dichloropropene | 10061-02-6 | 102.2 | µg/m3 | | | | | 7500 U | | 480 U | | | 13000 U | | | 6600 U | | 5000 U |
| VOC | Trichloroethene | 79-01-6 | 100 | µg/m3 | 2 | 0.14 | 167 | 67.5 | 1500 U | 51 | 95 U | 35 | 55.8 | 2500 U | 39 | 63.1 | 1300 U | 67 | 1000 U |
| VOC | Trichlorofluoromethane | 75-69-4 | No Inh. Tox | µg/m3 | | 0.84 | 12 | | 1500 U | | 95 U | | | 2500 U | | | 1300 U | | 1000 U |
| VOC | Vinyl Acetate | 108-05-4 | 29200 | µg/m3 | 0 | 11 | 12 | | 75000 U | | 4800 U | | | 130000 U | | | 66000 U | | 50000 U |
| VOC | Vinyl Bromide | 593-60-2 | 13 | µg/m3 | | | | | 7500 UJ | | | | | 13000 UJ | | | | | |
| VOC | Vinyl Chloride | 75-01-4 | 93 | µg/m3 | 23 | 19.2 | 2110 | 25.3 | 1500 U | 22 | 95 U | 150 | 1200 | 2500 U | 1600 | 551 | 1300 U | 610 | 1000 U |

Notes:

EPA criteria: May 2016 VISL Target Sub-Slab and Exterior Soil Gas Conc., TCR = 1E-06 or THQ = 1, Commercial scenario.

- = No criterion listed.

No Inh. Tox – No inhalation toxicity information available; therefore, no criterion calculated.

U – Non-detect.

J – Estimated Value.

Shading – Value exceeds criterion.

**Table 1 Sub-slab Data**

| Chemical Group | Analyte | CAS | EPA VISL Sub-slab Commercial | Units | Exceedances | | Address | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 3 US Ave | 3 US Ave | 3 US Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sample Location ID | 2F_SS_008 | 2F-SS-001 | 2F-SS-003 | 2F-SS-006 | 3US_SS_002 | 3US_SS_002 | 3US-SS-002 | 4F_SS_001 | 4F_SS_001 | 4F_SS_002 | 4F_SS_002 | 4F_SS_003 |
| | | | | | | | Sample Date | 42243 | 42214 | 42214 | 42214 | 42242 | 42243 | 42214 | 42242 | 42243 | 42242 | 42243 | 42206 |
| | | | | | | Min. Det. | Max. Det. | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 |
| ALS SOP VOA-EPA3C (TCD) | Methane | 74-82-8 | - | %v/v | | 17 | 48 | | 17 | 27.9 | 18.3 | | | 42 | | | | | |
| ALS SOP VOA-S307M_SCD | Hydrogen Sulfide | 7783-06-4 | 292 | µg/m3 | | | | | 10 U | 8.7 U | 8.8 U | | | 9.1 U | | | | | |
| MADEP APH 1.0 | C5 - C8 Aliphatics | | - | µg/m3 | | 430000 | 69000000 | | | | | 9600000 J | | | 49000000 J | | 40000000 J | | |
| MADEP APH 1.0 | C9 - C10 Aromatics | | - | µg/m3 | | 870 | 590000 | | | | | 67000 | | | 590000 | | 43000 U | | |
| MADEP APH 1.0 | C9 - C12 Aliphatics | | - | µg/m3 | | 260000 | 9600000 | | | | | 3100000 | | | 9600000 | | 4700000 | | |
| VOC | 1,1,1,2-Tetrachloroethane | 630-20-6 | 55 | µg/m3 | | | | | | | | 3300 UJ | | | 15000 UJ | | 8700 UJ | | |
| VOC | 1,1,1,2-Tetrafluoroethane | 811-97-2 | 11680000 | µg/m3 | | | | | | | | 3300 UJ | | | 15000 UJ | | 8700 UJ | | |
| VOC | 1,1,1-Trichloroethane | 71-55-6 | 730000 | µg/m3 | 0 | 0.37 | 14 | 2.7 U | | | | 650 U | 2.7 U | | 3000 U | 2.7 U | 1700 U | 2.7 U | 5.46 U |
| VOC | 1,1,2,2-Tetrachloroethane | 79-34-5 | 7.0 | µg/m3 | | | | | | | | 650 U | | | 3000 U | | 1700 U | | |
| VOC | 1,1,2-Trichloroethane | 79-00-5 | 26 | µg/m3 | | | | | | | | 650 U | | | 3000 U | | 1700 U | | |
| VOC | 1,1,2-Trichlorotrifluoroethane | 76-13-1 | 4380000 | µg/m3 | 0 | 0.41 | 3 | | | | | 650 U | | | 3000 U | | 1700 U | | |
| VOC | 1,1-Dichloroethane | 75-34-3 | 256 | µg/m3 | 0 | 0.15 | 53.4 | 2 U | | | | 650 U | 2 U | | 3000 U | 2 U | 1700 U | 2 U | 4.05 U |
| VOC | 1,1-Dichloroethene | 75-35-4 | 29200 | µg/m3 | 0 | 2.5 | 14 | 2.5 | | | | 650 U | 5.9 | | 3000 U | 5 | 1700 U | 3.4 | 3.96 U |
| VOC | 1,1-Dichloropropene | | - | µg/m3 | | | | | | | | 3300 UJ | | | 15000 UJ | | 8700 UJ | | |
| VOC | 1,1-Difluoroethane | 75-37-6 | 5840000 | µg/m3 | | | | | | | | 3300 UJ | | | 15000 UJ | | 8700 UJ | | |
| VOC | 1,2,3,4-Tetramethylbenzene | | - | µg/m3 | | | | | | | | 3300 UJ | | | 15000 UJ | | 8700 UJ | | |
| VOC | 1,2,3,5-Tetramethylbenzene | | - | µg/m3 | | 75 | 75 | | | | | 3300 UJ | | | 15000 UJ | | 8700 UJ | | |
| VOC | 1,2,3-Trichlorobenzene | 87-61-6 | No Inh. Tox | µg/m3 | | | | | | | | 3300 UJ | | | 15000 UJ | | 8700 UJ | | |
| VOC | 1,2,3-Trichloropropane | 96-18-4 | 44 | µg/m3 | | | | | | | | 3300 UJ | | | 15000 UJ | | 8700 UJ | | |
| VOC | 1,2,3-Trimethylbenzene | 526-73-8 | 730 | µg/m3 | 4 | 0.78 | 26000 | | | | | 3300 U | | | 26000 | | 8700 U | | |
| VOC | 1,2,4,5-Tetramethylbenzene | | - | µg/m3 | | | | | | | | 3300 UJ | | | 15000 UJ | | 8700 UJ | | |
| VOC | 1,2,4-Trichlorobenzene | 120-82-1 | 292 | µg/m3 | | | | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | 1,2,4-Trimethylbenzene | 95-63-6 | 1022 | µg/m3 | 38 | 0.35 | 130000 | | | | | 6500 | | | 130000 | | 8700 U | | |
| VOC | 1,2-Dibromo 3-Chloropropane | 96-12-8 | 0.068 | µg/m3 | | | | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | 1,2-Dibromoethane | 106-93-4 | 0.68 | µg/m3 | | | | | | | | 650 U | | | 3000 U | | 1700 U | | |
| VOC | 1,2-Dichloro-1,1,2,2-tetrafluoroethane | | - | µg/m3 | | | | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | 1,2-Dichlorobenzene | 95-50-1 | 29200 | µg/m3 | | | | | | | | 650 U | | | 3000 U | | 1700 U | | |
| VOC | 1,2-Dichloroethane | 107-06-2 | 16 | µg/m3 | 0 | 0.22 | 0.22 | | | | | 650 U | | | 3000 U | | 1700 U | | |
| VOC | 1,2-Dichloropropane | 78-87-5 | 41 | µg/m3 | 0 | 2.6 | 2.6 | | | | | 650 U | | | 3000 U | | 1700 U | | |
| VOC | 1,2-Dichlorotetrafluoroethane | 76-14-2 | - | µg/m3 | | | | | | | | | | | | | | | |
| VOC | 1,3,5-Trimethylbenzene | 108-67-8 | No Inh. Tox | µg/m3 | | 0.76 | 59000 | | | | | 7200 | | | 45000 | | 8700 U | | |
| VOC | 1,3-Butadiene | 106-99-0 | 14 | µg/m3 | | | | | | | | 1300 U | | | 5900 U | | 3500 U | | |
| VOC | 1,3-Dichlorobenzene | 541-73-1 | - | µg/m3 | | | | | | | | 650 U | | | 3000 U | | 1700 U | | |
| VOC | 1,3-Dichloropropane | | No Inh. Tox | µg/m3 | | | | | | | | 3300 UJ | | | 15000 UJ | | 8700 UJ | | |
| VOC | 1,4-Dichlorobenzene | 106-46-7 | 37 | µg/m3 | 0 | 0.82 | 1.8 | | | | | 650 U | | | 3000 U | | 1700 U | | |
| VOC | 1,4-Dioxane | 123-91-1 | 82 | µg/m3 | | | | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | 1-Butanol | 71-36-3 | No Inh. Tox | µg/m3 | | 1.6 | 2.6 | | | | | 6500 U | | | 30000 U | | 17000 U | | |
| VOC | 1-Chloro-1,1-difluoroethane | 75-68-3 | 7300000 | µg/m3 | | | | | | | | 6500 UJ | | | 30000 UJ | | 17000 UJ | | |
| VOC | 1-Chlorohexane | 544-10-5 | - | µg/m3 | | | | | | | | 3300 UJ | | | 15000 UJ | | 8700 UJ | | |
| VOC | 2,2,4-Trimethylpentane | 540-84-1 | - | µg/m3 | | 0.8 | 2100 | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | 2,2-Dichloro-1,1,1-trifluoroethane | 306-83-2 | - | µg/m3 | | | | | | | | 3300 UJ | | | 15000 UJ | | 8700 UJ | | |
| VOC | 2,2-Dichloropropane | 594-20-7 | - | µg/m3 | | | | | | | | 3300 UJ | | | 15000 UJ | | 8700 UJ | | |
| VOC | 2,3-Dimethylpentane | 565-59-3 | - | µg/m3 | | 700 | 480000 | | | | | 34000 J | | | 230000 J | | 280000 J | | |
| VOC | 2-Butanone (MEK) | 78-93-3 | 730000 | µg/m3 | 0 | 0.78 | 1300 | | | | | 33000 U | | | 150000 U | | 87000 U | | |
| VOC | 2-Chlorotoluene | 95-49-8 | No Inh. Tox | µg/m3 | | | | | | | | 3300 UJ | | | 15000 UJ | | 8700 UJ | | |
| VOC | 2-Ethyltoluene | 611-14-3 | - | µg/m3 | | | | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | 2-Hexanone | 591-78-6 | 4380 | µg/m3 | 0 | 0.37 | 1500 | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | 2-Methylbutane | 78-78-4 | - | µg/m3 | | 6200 | 54000 | | | | | 9100 J | | | 16000 J | | 54000 J | | |
| VOC | 2-Methylpentane | 107-83-5 | - | µg/m3 | | 17000 | 180000 | | | | | 17000 J | | | 88000 J | | 180000 J | | |
| VOC | 2-Propanol | 67-63-0 | 29200 | µg/m3 | | | | | | | | 33000 U | | | 150000 U | | 87000 U | | |
| VOC | 3-Chloro-1-propene | 107-05-1 | 68 | µg/m3 | | | | | | | | 650 U | | | 3000 U | | 1700 U | | |
| VOC | 3-Ethyltoluene | 620-14-4 | - | µg/m3 | | 4900 | 21000 | | | | | 3300 U | | | 15000 | | 8700 U | | |
| VOC | 4-Chlorotoluene | 106-43-4 | No Inh. Tox | µg/m3 | | | | | | | | 3300 UJ | | | 15000 UJ | | 8700 UJ | | |
| VOC | 4-Ethyltoluene | 622-96-8 | - | µg/m3 | | 0.95 | 18000 | | | | | 3300 U | | | 18000 | | 8700 U | | |
| VOC | 4-Isopropyltoluene | 99-87-6 | - | µg/m3 | | 9300 | 19000 | | | | | 3300 U | | | 19000 | | 8700 U | | |
| VOC | 4-Methyl-2-pentanone | 108-10-1 | 438000 | µg/m3 | 0 | 0.25 | 11 | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | Acetone | 67-64-1 | 4526000 | µg/m3 | 0 | 8 | 8500 | | | | | 33000 U | | | 150000 U | | 87000 U | | |
| VOC | Acetonitrile | 75-05-8 | 8760 | µg/m3 | | | | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | Acrolein | 107-02-8 | 2.9 | µg/m3 | | | | | | | | 13000 U | | | 59000 U | | 35000 U | | |
| VOC | Acrylonitrile | 107-13-1 | 6.0 | µg/m3 | | | | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | alpha-Pinene | 80-56-8 | - | µg/m3 | | | | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | a-Methylstyrene | 98-83-9 | No Inh. Tox | µg/m3 | | | | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | Benzene | 71-43-2 | 52 | µg/m3 | 51 | 0.16 | 370000 | | | | | 45000 | | | 13000 | | 2000 | | |
| VOC | Benzyl Chloride | 100-44-7 | 8.3 | µg/m3 | | | | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | Bromobenzene | 108-86-1 | 8760 | µg/m3 | | | | | | | | 3300 UJ | | | 15000 UJ | | 8700 UJ | | |
| VOC | Bromodichloromethane | 75-27-4 | 11 | µg/m3 | | | | | | | | 650 U | | | 3000 U | | 1700 U | | |
| VOC | Bromoform | 75-25-2 | 372 | µg/m3 | | | | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | Bromomethane | 74-83-9 | 730 | µg/m3 | | | | | | | | 650 U | | | 3000 U | | 1700 U | | |
| VOC | Carbon Disulfide | 75-15-0 | 102200 | µg/m3 | 0 | 0.7 | 5000 | | | | | 33000 U | | | 150000 U | | 87000 U | | |
| VOC | Carbon Tetrachloride | 56-23-5 | 68 | µg/m3 | 0 | 0.16 | 1.6 | | | | | 650 U | | | 3000 U | | 1700 U | | |
| VOC | Chlorobenzene | 108-90-7 | 7300 | µg/m3 | | | | | | | | 650 U | | | 3000 U | | 1700 U | | |
| VOC | Chlorodifluoromethane | 75-45-6 | 7300000 | µg/m3 | | | | | | | | 3300 UJ | | | 15000 UJ | | 8700 UJ | | |

**Table 1 Sub-slab Data**

| Chemical Group | Analyte | CAS | EPA VISL Sub-slab Commercial | Units | Exceedances | Min. Det. | Max. Det. | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 3 US Ave | 3 US Ave | 3 US Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Address | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 3 US Ave | 3 US Ave | 3 US Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave |
| | | | | | | | Sample Location ID | 2F_SS_008 | 2F-SS-001 | 2F-SS-003 | 2F-SS-006 | 3US_SS_002 | 3US_SS_002 | 3US-SS-002 | 4F_SS_001 | 4F_SS_001 | 4F_SS_002 | 4F_SS_002 | 4F_SS_003 |
| | | | | | | | Sample Date | 42243 | 42214 | 42214 | 42214 | 42242 | 42243 | 42214 | 42242 | 42243 | 42242 | 42243 | 42206 |
| | | | | | | Min. Det. | Max. Det. | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 |
| VOC | Chloroethane | 75-00-3 | 1460000 | µg/m3 | 0 | 0.25 | 0.25 | | | | | 650 U | | | 3000 U | | 1700 U | | |
| VOC | Chloroform | 67-66-3 | 18 | µg/m3 | 0 | 0.12 | 12 | | | | | 650 U | | | 3000 U | | 1700 U | | |
| VOC | Chloromethane | 74-87-3 | 13140 | µg/m3 | | | | | | | | 1300 U | | | 5900 U | | 3500 U | | |
| VOC | Chloropentafluoroethane | | - | µg/m3 | | | | | | | | 3300 UJ | | | 15000 UJ | | 8700 UJ | | |
| VOC | cis-1,2-Dichloroethene | 156-59-2 | No Inh. Tox | µg/m3 | | 6.4 | 16000 | 230 | | | | 650 U | 270 | | 3000 U | 2900 | 1700 U | 2.1 U | 3.96 U |
| VOC | cis-1,3-Dichloropropene | 10061-01-5 | 102.2 | µg/m3 | | | | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | Cyclohexane | 110-82-7 | 876000 | µg/m3 | 2 | 0.52 | 1100000 | | | | | 73000 | | | 450000 | | 440000 | | |
| VOC | Cyclohexanone | 108-94-1 | 102200 | µg/m3 | | | | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | Dibromochloromethane | 124-48-1 | No Inh. Tox | µg/m3 | | | | | | | | 650 U | | | 3000 U | | 1700 U | | |
| VOC | Dibromomethane | 74-95-3 | 584 | µg/m3 | | | | | | | | 3300 UJ | | | 15000 UJ | | 8700 UJ | | |
| VOC | Dichlorodifluoromethane | 75-71-8 | 14600 | µg/m3 | 0 | 1.6 | 330 | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | Dichlorofluoromethane | 75-43-4 | - | µg/m3 | | | | | | | | 3300 UJ | | | 15000 UJ | | 8700 UJ | | |
| VOC | Diisopropyl Ether | 108-20-3 | 102200 | µg/m3 | | | | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | d-Limonene | | - | µg/m3 | | | | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | Ethanol | 64-17-5 | - | µg/m3 | | 8.7 | 42 | | | | | 33000 U | | | 150000 U | | 87000 U | | |
| VOC | Ethyl Acetate | 141-78-6 | 10220 | µg/m3 | | | | | | | | 6500 U | | | 30000 U | | 17000 U | | |
| VOC | Ethyl tert-Butyl Ether | 637-92-3 | - | µg/m3 | | | | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | Ethylbenzene | 100-41-4 | 164 | µg/m3 | 43 | 0.24 | 460000 | | | | | 140000 | | | 110000 | | 8700 U | | |
| VOC | Hexachlorobutadiene | 87-68-3 | 19 | µg/m3 | | | | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | Indan | 496-11-7 | - | µg/m3 | | | | | | | | 3300 UJ | | | 15000 UJ | | 8700 UJ | | |
| VOC | Indene | 95-13-6 | - | µg/m3 | | | | | | | | 3300 UJ | | | 15000 UJ | | 8700 UJ | | |
| VOC | Isopropyl Acetate | 108-21-4 | - | µg/m3 | | | | | | | | 6500 U | | | 30000 U | | 17000 U | | |
| VOC | Isopropylbenzene | 98-82-8 | 58400 | µg/m3 | 0 | 6300 | 32000 | | | | | 3300 U | | | 32000 | | 8700 U | | |
| VOC | m,p-Xylenes | 1330-20-7 | 14600 | µg/m3 | 26 | 0.741 | 3000000 | | | | | 430000 | | | 15000 | | 8700 U | | |
| VOC | Methyl Acetate | 79-20-9 | No Inh. Tox | µg/m3 | | | | | | | | 3300 UJ | | | 15000 UJ | | 8700 UJ | | |
| VOC | Methyl Methacrylate | 80-62-6 | 102200 | µg/m3 | | | | | | | | 6500 U | | | 30000 U | | 17000 U | | |
| VOC | Methyl tert-Butyl Ether | 1634-04-4 | 1572 | µg/m3 | | | | | | | | 650 U | | | 3000 U | | 1700 U | | |
| VOC | Methylcyclohexane | 108-87-2 | - | µg/m3 | | 0.88 | 10000000 | | | | | 530000 J | | | 3500000 J | | 2300000 J | | |
| VOC | Methylene Chloride | 75-09-2 | 40880 | µg/m3 | 0 | 3 | 33000 | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | Naphthalene | 91-20-3 | 12 | µg/m3 | 0 | 0.75 | 1.9 | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | n-Butyl Acetate | 123-86-4 | - | µg/m3 | | | | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | n-Butylbenzene | 104-51-8 | No Inh. Tox | µg/m3 | | | | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | n-Decane | 124-18-5 | - | µg/m3 | | 0.76 | 66000 | | | | | 3300 U | | | 66000 | | 8700 U | | |
| VOC | n-Dodecane | 112-40-3 | - | µg/m3 | | 16 | 48 | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | n-Heptane | 142-82-5 | - | µg/m3 | | 0.2 | 1300000 | | | | | 32000 | | | 28000 | | 8700 U | | |
| VOC | n-Hexane | 110-54-3 | 102200 | µg/m3 | 4 | 1 | 360000 | | | | | 9100 | | | 21000 | | 34000 | | |
| VOC | n-Nonane | 111-84-2 | 2920 | µg/m3 | 4 | 4000 | 130000 | | | | | 4000 | | | 56000 | | 8700 U | | |
| VOC | n-Octane | 111-65-9 | - | µg/m3 | | 20000 | 1200000 | | | | | 50000 | | | 27000 | | 8700 U | | |
| VOC | n-Propylbenzene | 103-65-1 | 146000 | µg/m3 | 0 | 7000 | 45000 | | | | | 3300 U | | | 45000 | | 8700 U | | |
| VOC | n-Undecane | 1120-21-4 | - | µg/m3 | | 5.4 | 6200 | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | o-Xylene | 95-47-6 | 14600 | µg/m3 | 4 | 0.45 | 680000 | | | | | 3600 | | | 15000 U | | 8700 U | | |
| VOC | Propene | 115-07-1 | 438000 | µg/m3 | 0 | 1.8 | 1.8 | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | sec-Butylbenzene | 135-98-8 | No Inh. Tox | µg/m3 | | 530 | 530 | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | Styrene | 100-42-5 | 146000 | µg/m3 | 0 | 0.24 | 5000 | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | tert-Amyl Methyl Ether | 994-05-8 | - | µg/m3 | | | | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | Tert-Butyl Alcohol | 75-65-0 | - | µg/m3 | | 540 | 540 | | | | | 6500 U | | | 30000 U | | 17000 U | | |
| VOC | tert-Butylbenzene | 98-06-6 | No Inh. Tox | µg/m3 | | 780 | 780 | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | Tetrachloroethene | 127-18-4 | 1572 | µg/m3 | 2 | 0.21 | 2400 | 3.5 U | | | | 650 U | 3.5 U | | 3000 U | 3.5 U | 1700 U | 3.5 U | 6.78 U |
| VOC | Tetrahydrofuran | 109-99-9 | 292000 | µg/m3 | | | | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | Thiophene | 110-02-1 | - | µg/m3 | | | | | | | | 3300 UJ | | | 15000 UJ | | 8700 UJ | | |
| VOC | Toluene | 108-88-3 | 730000 | µg/m3 | 0 | 0.37 | 10000 | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | trans-1,2-Dichloroethene | 156-60-5 | No Inh. Tox | µg/m3 | | 4 | 3000 | 26 | | | | 650 U | 25 | | 3000 U | 940 | 1700 U | 25 | 4 |
| VOC | trans-1,3-Dichloropropene | 10061-02-6 | 102.2 | µg/m3 | | | | | | | | 3300 U | | | 15000 U | | 8700 U | | |
| VOC | Trichloroethene | 79-01-6 | 100 | µg/m3 | 2 | 0.14 | 167 | 49 | | | | 650 U | 55 | | 3000 U | 76 | 1700 U | 36 | 12.4 |
| VOC | Trichlorofluoromethane | 75-69-4 | No Inh. Tox | µg/m3 | | 0.84 | 12 | | | | | 650 U | | | 3000 U | | 1700 U | | |
| VOC | Vinyl Acetate | 108-05-4 | 29200 | µg/m3 | 0 | 11 | 12 | | | | | 33000 U | | | 150000 U | | 87000 U | | |
| VOC | Vinyl Bromide | 593-60-2 | 13 | µg/m3 | | | | | | | | 3300 UJ | | | 15000 UJ | | 8700 UJ | | |
| VOC | Vinyl Chloride | 75-01-4 | 93 | µg/m3 | 23 | 19.2 | 2110 | 31 | | | | 650 U | 44 | | 3000 U | 1700 | 1700 U | 130 | 19.2 |

Notes:

EPA criteria: May 2016 VISL Target Sub-Slab and Exterior Soil Gas Conc., TCR = 1E-06 or THQ = 1, Commercial scenario.

- = No criterion listed.

No Inh. Tox – No inhalation toxicity information available; therefore, no criterion calculated.

U – Non-detect.

J – Estimated Value.

Shading – Value exceeds criterion.

**Table 1 Sub-slab Data**

| Chemical Group | Analyte | CAS | EPA VISL Sub-slab Commercial | Units | Exceedances | | | Address | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave | 5 Foster Ave | 5 Foster Ave | 5 Foster Ave |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Sample Location ID | 4F_SS_003 | 4F_SS_003 | 4F_SS_004 | 4F_SS_004 | 4F_SS_005 | 4F_SS_005 | 4F-SS-001 | 4F-SS-003 | 4F-SS-004 | 5F_SS_001 | 5F_SS_001 | 5F-SS-001 |
| | | | | | | | | Sample Date | 42242 | 42243 | 42242 | 42243 | 42242 | 42243 | 42214 | 42214 | 42214 | 42242 | 42243 | 42214 |
| | | | | | | Min. Det. | Max. Det. | | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 |
| ALS SOP VOA-EPA3C (TCD) | Methane | 74-82-8 | - | %v/v | | 17 | 48 | | | | | | | | 48 | 37.1 | | | | |
| ALS SOP VOA-S307M_SCD | Hydrogen Sulfide | 7783-06-4 | 292 | µg/m3 | | | | | | | | | | | 9.1 U | 9 U | 8.8 U | | | 8.8 U |
| MADEP APH 1.0 | C5 - C8 Aliphatics | | - | µg/m3 | | 430000 | 69000000 | 69000000 J | | | 430000 J | | | | | | | | | |
| MADEP APH 1.0 | C9 - C10 Aromatics | | - | µg/m3 | | 870 | 590000 | 110000 U | | | 870 | | | | | | | | | |
| MADEP APH 1.0 | C9 - C12 Aliphatics | | - | µg/m3 | | 260000 | 9600000 | 5200000 | | | 260000 J | | | | | | | | | |
| VOC | 1,1,1,2-Tetrachloroethane | 630-20-6 | 55 | µg/m3 | | | | 22000 UJ | | | 72 UJ | | | | | | | | | |
| VOC | 1,1,1,2-Tetrafluoroethane | 811-97-2 | 11680000 | µg/m3 | | | | 22000 UJ | | | 72 UJ | | | | | | | | | |
| VOC | 1,1,1-Trichloroethane | 71-55-6 | 730000 | µg/m3 | 0 | 0.37 | 14 | 4500 U | 2.7 U | | 14 U | 2.7 U | 0.16 U | 2.7 U | | | | 0.59 | 2.7 U | |
| VOC | 1,1,2,2-Tetrachloroethane | 79-34-5 | 7.0 | µg/m3 | | | | 4500 U | | | 14 U | | 0.16 U | | | | | 0.15 U | | |
| VOC | 1,1,2-Trichloroethane | 79-00-5 | 26 | µg/m3 | | | | 4500 U | | | 14 U | | 0.16 U | | | | | 0.15 U | | |
| VOC | 1,1,2-Trichlorotrifluoroethane | 76-13-1 | 4380000 | µg/m3 | 0 | 0.41 | 3 | 4500 U | | | 14 U | | 0.5 | | | | | 3 | | |
| VOC | 1,1-Dichloroethane | 75-34-3 | 256 | µg/m3 | 0 | 0.15 | 53.4 | 4500 U | 2 U | | 14 U | 3.7 | 0.16 U | 2 U | | | | 0.15 U | 2 U | |
| VOC | 1,1-Dichloroethene | 75-35-4 | 29200 | µg/m3 | 0 | 2.5 | 14 | 4500 U | 2 U | | 14 U | 2 U | 0.16 U | 2 U | | | | 0.15 U | 2 U | |
| VOC | 1,1-Dichloropropene | | - | µg/m3 | | | | 22000 UJ | | | 72 UJ | | | | | | | | | |
| VOC | 1,1-Difluoroethane | 75-37-6 | 5840000 | µg/m3 | | | | 22000 UJ | | | 72 UJ | | | | | | | | | |
| VOC | 1,2,3,4-Tetramethylbenzene | | - | µg/m3 | | | | 22000 UJ | | | 72 UJ | | | | | | | | | |
| VOC | 1,2,3,5-Tetramethylbenzene | | - | µg/m3 | | 75 | 75 | 22000 UJ | | | 75 J | | | | | | | | | |
| VOC | 1,2,3-Trichlorobenzene | 87-61-6 | No Inh. Tox | µg/m3 | | | | 22000 UJ | | | 72 UJ | | | | | | | | | |
| VOC | 1,2,3-Trichloropropane | 96-18-4 | 44 | µg/m3 | | | | 22000 UJ | | | 72 UJ | | | | | | | | | |
| VOC | 1,2,3-Trimethylbenzene | 526-73-8 | 730 | µg/m3 | 4 | 0.78 | 26000 | 22000 U | | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | 1,2,4,5-Tetramethylbenzene | | - | µg/m3 | | | | 22000 UJ | | | 72 UJ | | | | | | | | | |
| VOC | 1,2,4-Trichlorobenzene | 120-82-1 | 292 | µg/m3 | | | | 22000 U | | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | 1,2,4-Trimethylbenzene | 95-63-6 | 1022 | µg/m3 | 38 | 0.35 | 130000 | 22000 U | | | 72 U | | 2 | | | | | 0.73 U | | |
| VOC | 1,2-Dibromo 3-Chloropropane | 96-12-8 | 0.068 | µg/m3 | | | | 22000 U | | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | 1,2-Dibromoethane | 106-93-4 | 0.68 | µg/m3 | | | | 4500 U | | | 14 U | | 0.16 U | | | | | 0.15 U | | |
| VOC | 1,2-Dichloro-1,1,2,2-tetrafluoroethane | | - | µg/m3 | | | | 22000 U | | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | 1,2-Dichlorobenzene | 95-50-1 | 29200 | µg/m3 | | | | 4500 U | | | 14 U | | 0.16 U | | | | | 0.15 U | | |
| VOC | 1,2-Dichloroethane | 107-06-2 | 16 | µg/m3 | 0 | 0.22 | 0.22 | 4500 U | | | 14 U | | 0.16 U | | | | | 0.15 U | | |
| VOC | 1,2-Dichloropropane | 78-87-5 | 41 | µg/m3 | 0 | 2.6 | 2.6 | 4500 U | | | 14 U | | 0.16 U | | | | | 0.15 U | | |
| VOC | 1,2-Dichlorotetrafluoroethane | 76-14-2 | - | µg/m3 | | | | | | | | | | | | | | | | |
| VOC | 1,3,5-Trimethylbenzene | 108-67-8 | No Inh. Tox | µg/m3 | | 0.76 | 59000 | 22000 U | | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | 1,3-Butadiene | 106-99-0 | 14 | µg/m3 | | | | 8900 U | | | 29 U | | 0.32 U | | | | | 0.29 U | | |
| VOC | 1,3-Dichlorobenzene | 541-73-1 | - | µg/m3 | | | | 4500 U | | | 14 U | | 0.16 U | | | | | 0.15 U | | |
| VOC | 1,3-Dichloropropane | | No Inh. Tox | µg/m3 | | | | 22000 UJ | | | 72 UJ | | | | | | | | | |
| VOC | 1,4-Dichlorobenzene | 106-46-7 | 37 | µg/m3 | 0 | 0.82 | 1.8 | 4500 U | | | 14 U | | 0.16 U | | | | | 0.15 U | | |
| VOC | 1,4-Dioxane | 123-91-1 | 82 | µg/m3 | | | | 22000 U | | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | 1-Butanol | 71-36-3 | No Inh. Tox | µg/m3 | | 1.6 | 2.6 | 45000 U | | | 140 U | | 2.6 | | | | | 1.6 | | |
| VOC | 1-Chloro-1,1-difluoroethane | 75-68-3 | 7300000 | µg/m3 | | | | 45000 UJ | | | 140 UJ | | | | | | | | | |
| VOC | 1-Chlorohexane | 544-10-5 | - | µg/m3 | | | | 22000 UJ | | | 72 UJ | | | | | | | | | |
| VOC | 2,2,4-Trimethylpentane | 540-84-1 | - | µg/m3 | | 0.8 | 2100 | 22000 U | | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | 2,2-Dichloro-1,1,1-trifluoroethane | 306-83-2 | - | µg/m3 | | | | 22000 UJ | | | 72 UJ | | | | | | | | | |
| VOC | 2,2-Dichloropropane | 594-20-7 | - | µg/m3 | | | | 22000 UJ | | | 72 UJ | | | | | | | | | |
| VOC | 2,3-Dimethylpentane | 565-59-3 | - | µg/m3 | | 700 | 480000 | 480000 J | | | 700 J | | | | | | | | | |
| VOC | 2-Butanone (MEK) | 78-93-3 | 730000 | µg/m3 | 0 | 0.78 | 1300 | 220000 U | | | 720 U | | 8 U | | | | | 7.3 U | | |
| VOC | 2-Chlorotoluene | 95-49-8 | No Inh. Tox | µg/m3 | | | | 22000 UJ | | | 72 UJ | | | | | | | | | |
| VOC | 2-Ethyltoluene | 611-14-3 | - | µg/m3 | | | | 22000 U | | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | 2-Hexanone | 591-78-6 | 4380 | µg/m3 | 0 | 0.37 | 1500 | 22000 U | | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | 2-Methylbutane | 78-78-4 | - | µg/m3 | | 6200 | 54000 | 22000 UJ | | | 72 UJ | | | | | | | | | |
| VOC | 2-Methylpentane | 107-83-5 | - | µg/m3 | | 17000 | 180000 | 89000 J | | | 72 UJ | | | | | | | | | |
| VOC | 2-Propanol | 67-63-0 | 29200 | µg/m3 | | | | 220000 U | | | 720 U | | 8 U | | | | | 7.3 U | | |
| VOC | 3-Chloro-1-propene | 107-05-1 | 68 | µg/m3 | | | | 4500 U | | | 14 U | | 0.16 U | | | | | 0.15 U | | |
| VOC | 3-Ethyltoluene | 620-14-4 | - | µg/m3 | | 4900 | 21000 | 22000 U | | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | 4-Chlorotoluene | 106-43-4 | No Inh. Tox | µg/m3 | | | | 22000 UJ | | | 72 UJ | | | | | | | | | |
| VOC | 4-Ethyltoluene | 622-96-8 | - | µg/m3 | | 0.95 | 18000 | 22000 U | | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | 4-Isopropyltoluene | 99-87-6 | - | µg/m3 | | 9300 | 19000 | 22000 U | | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | 4-Methyl-2-pentanone | 108-10-1 | 438000 | µg/m3 | 0 | 0.25 | 11 | 22000 U | | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | Acetone | 67-64-1 | 4526000 | µg/m3 | 0 | 8 | 8500 | 220000 U | | | 720 U | | 14 | | | | | 13 | | |
| VOC | Acetonitrile | 75-05-8 | 8760 | µg/m3 | | | | 22000 U | | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | Acrolein | 107-02-8 | 2.9 | µg/m3 | | | | 89000 U | | | 290 U | | 3.2 U | | | | | 2.9 U | | |
| VOC | Acrylonitrile | 107-13-1 | 6.0 | µg/m3 | | | | 22000 U | | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | alpha-Pinene | 80-56-8 | - | µg/m3 | | | | 22000 U | | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | a-Methylstyrene | 98-83-9 | No Inh. Tox | µg/m3 | | | | 22000 U | | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | Benzene | 71-43-2 | 52 | µg/m3 | 51 | 0.16 | 370000 | 14000 | | | 17 | | 0.24 | | | | | 0.15 U | | |
| VOC | Benzyl Chloride | 100-44-7 | 8.3 | µg/m3 | | | | 22000 U | | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | Bromobenzene | 108-86-1 | 8760 | µg/m3 | | | | 22000 UJ | | | 72 UJ | | | | | | | | | |
| VOC | Bromodichloromethane | 75-27-4 | 11 | µg/m3 | | | | 4500 U | | | 14 U | | 0.16 U | | | | | 0.15 U | | |
| VOC | Bromoform | 75-25-2 | 372 | µg/m3 | | | | 22000 U | | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | Bromomethane | 74-83-9 | 730 | µg/m3 | | | | 4500 U | | | 14 U | | 0.16 U | | | | | 0.15 U | | |
| VOC | Carbon Disulfide | 75-15-0 | 102200 | µg/m3 | 0 | 0.7 | 5000 | 220000 U | | | 720 U | | 8 U | | | | | 7.3 U | | |
| VOC | Carbon Tetrachloride | 56-23-5 | 68 | µg/m3 | 0 | 0.16 | 1.6 | 4500 U | | | 14 U | | 0.2 | | | | | 0.15 U | | |
| VOC | Chlorobenzene | 108-90-7 | 7300 | µg/m3 | | | | 4500 U | | | 14 U | | 0.16 U | | | | | 0.15 U | | |
| VOC | Chlorodifluoromethane | 75-45-6 | 7300000 | µg/m3 | | | | 22000 UJ | | | 72 UJ | | | | | | | | | |

**Table 1 Sub-slab Data**

| Chemical Group | Analyte | CAS | EPA VISL Sub-slab Commercial | Units | Exceedances | | Address | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave | 4 Foster Ave | 5 Foster Ave | 5 Foster Ave | 5 Foster Ave |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sample Location ID | 4F_SS_003 | 4F_SS_003 | 4F_SS_004 | 4F_SS_004 | 4F_SS_005 | 4F_SS_005 | 4F-SS-001 | 4F-SS-003 | 4F-SS-004 | 5F_SS_001 | 5F_SS_001 | 5F-SS-001 |
| | | | | | | | Sample Date | 42242 | 42243 | 42242 | 42243 | 42242 | 42243 | 42214 | 42214 | 42214 | 42242 | 42243 | 42214 |
| | | | | | | Min. Det. | Max. Det. | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 | 2015 |
| VOC | Chloroethane | 75-00-3 | 1460000 | µg/m3 | 0 | 0.25 | 0.25 | 4500 U | | 14 U | | 0.25 | | | | | 0.15 U | | |
| VOC | Chloroform | 67-66-3 | 18 | µg/m3 | 0 | 0.12 | 12 | 4500 U | | 14 U | | 3.3 | | | | | 1 | | |
| VOC | Chloromethane | 74-87-3 | 13140 | µg/m3 | | | | 8900 U | | 29 U | | 0.32 U | | | | | 0.29 U | | |
| VOC | Chloropentafluoroethane | | - | µg/m3 | | | | 22000 UJ | | 72 UJ | | | | | | | | | |
| VOC | cis-1,2-Dichloroethene | 156-59-2 | No Inh. Tox | µg/m3 | | 6.4 | 16000 | 4500 U | 2.1 U | 14 U | 6.4 | 0.16 U | 2.1 U | | | | 0.15 U | 2.1 U | |
| VOC | cis-1,3-Dichloropropene | 10061-01-5 | 102.2 | µg/m3 | | | | 22000 U | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | Cyclohexane | 110-82-7 | 876000 | µg/m3 | 2 | 0.52 | 1100000 | 980000 | | 700 | | 1.6 U | | | | | 1.5 U | | |
| VOC | Cyclohexanone | 108-94-1 | 102200 | µg/m3 | | | | 22000 U | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | Dibromochloromethane | 124-48-1 | No Inh. Tox | µg/m3 | | | | 4500 U | | 14 U | | 0.16 U | | | | | 0.15 U | | |
| VOC | Dibromomethane | 74-95-3 | 584 | µg/m3 | | | | 22000 UJ | | 72 UJ | | | | | | | | | |
| VOC | Dichlorodifluoromethane | 75-71-8 | 14600 | µg/m3 | 0 | 1.6 | 330 | 22000 U | | 72 U | | 2.1 | | | | | 2.4 | | |
| VOC | Dichlorofluoromethane | 75-43-4 | - | µg/m3 | | | | 22000 UJ | | 72 UJ | | | | | | | | | |
| VOC | Diisopropyl Ether | 108-20-3 | 102200 | µg/m3 | | | | 22000 U | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | d-Limonene | | - | µg/m3 | | | | 22000 U | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | Ethanol | 64-17-5 | - | µg/m3 | | 8.7 | 42 | 220000 U | | 720 U | | 8.7 | | | | | 42 | | |
| VOC | Ethyl Acetate | 141-78-6 | 10220 | µg/m3 | | | | 45000 U | | 140 U | | 4.5 U | | | | | 6.1 U | | |
| VOC | Ethyl tert-Butyl Ether | 637-92-3 | - | µg/m3 | | | | 22000 U | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | Ethylbenzene | 100-41-4 | 164 | µg/m3 | 43 | 0.24 | 460000 | 22000 U | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | Hexachlorobutadiene | 87-68-3 | 19 | µg/m3 | | | | 22000 U | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | Indan | 496-11-7 | - | µg/m3 | | | | 22000 UJ | | 72 UJ | | | | | | | | | |
| VOC | Indene | 95-13-6 | - | µg/m3 | | | | 22000 UJ | | 72 UJ | | | | | | | | | |
| VOC | Isopropyl Acetate | 108-21-4 | - | µg/m3 | | | | 45000 U | | 140 U | | 1.6 U | | | | | 1.5 U | | |
| VOC | Isopropylbenzene | 98-82-8 | 58400 | µg/m3 | 0 | 6300 | 32000 | 26000 | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | m,p-Xylenes | 1330-20-7 | 14600 | µg/m3 | 26 | 0.741 | 3000000 | 22000 U | | 72 U | | 2.3 | | | | | 0.73 U | | |
| VOC | Methyl Acetate | 79-20-9 | No Inh. Tox | µg/m3 | | | | 22000 UJ | | 72 UJ | | | | | | | | | |
| VOC | Methyl Methacrylate | 80-62-6 | 102200 | µg/m3 | | | | 45000 U | | 140 U | | 1.6 U | | | | | 1.5 U | | |
| VOC | Methyl tert-Butyl Ether | 1634-04-4 | 1572 | µg/m3 | | | | 4500 U | | 14 U | | 0.16 U | | | | | 0.15 U | | |
| VOC | Methylcyclohexane | 108-87-2 | - | µg/m3 | | 0.88 | 10000000 | 6400000 J | | 4700 J | | | | | | | | | |
| VOC | Methylene Chloride | 75-09-2 | 40880 | µg/m3 | 0 | 3 | 33000 | 22000 U | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | Naphthalene | 91-20-3 | 12 | µg/m3 | 0 | 0.75 | 1.9 | 22000 U | | 72 U | | 1.9 | | | | | 1.2 | | |
| VOC | n-Butyl Acetate | 123-86-4 | - | µg/m3 | | | | 22000 U | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | n-Butylbenzene | 104-51-8 | No Inh. Tox | µg/m3 | | | | 22000 U | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | n-Decane | 124-18-5 | - | µg/m3 | | 0.76 | 66000 | 22000 U | | 72 U | | 1 | | | | | 0.76 | | |
| VOC | n-Dodecane | 112-40-3 | - | µg/m3 | | 16 | 48 | 22000 U | | 72 U | | 48 | | | | | 16 | | |
| VOC | n-Heptane | 142-82-5 | - | µg/m3 | | 0.2 | 1300000 | 22000 U | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | n-Hexane | 110-54-3 | 102200 | µg/m3 | 4 | 1 | 360000 | 22000 U | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | n-Nonane | 111-84-2 | 2920 | µg/m3 | 4 | 4000 | 130000 | 22000 U | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | n-Octane | 111-65-9 | - | µg/m3 | | 20000 | 1200000 | 22000 U | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | n-Propylbenzene | 103-65-1 | 146000 | µg/m3 | 0 | 7000 | 45000 | 22000 U | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | n-Undecane | 1120-21-4 | - | µg/m3 | | 5.4 | 6200 | 22000 U | | 72 U | | 15 | | | | | 5.4 | | |
| VOC | o-Xylene | 95-47-6 | 14600 | µg/m3 | 4 | 0.45 | 680000 | 22000 U | | 72 U | | 0.99 | | | | | 0.73 U | | |
| VOC | Propene | 115-07-1 | 438000 | µg/m3 | 0 | 1.8 | 1.8 | 22000 U | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | sec-Butylbenzene | 135-98-8 | No Inh. Tox | µg/m3 | | 530 | 530 | 22000 U | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | Styrene | 100-42-5 | 146000 | µg/m3 | 0 | 0.24 | 5000 | 22000 U | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | tert-Amyl Methyl Ether | 994-05-8 | - | µg/m3 | | | | 22000 U | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | Tert-Butyl Alcohol | 75-65-0 | - | µg/m3 | | 540 | 540 | 45000 U | | 540 | | 1.6 U | | | | | 1.5 U | | |
| VOC | tert-Butylbenzene | 98-06-6 | No Inh. Tox | µg/m3 | | 780 | 780 | 22000 U | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | Tetrachloroethene | 127-18-4 | 1572 | µg/m3 | 2 | 0.21 | 2400 | 4500 U | 3.5 | 14 U | 3.5 U | 0.83 | 3.5 U | | | | 0.37 U | 3.5 U | |
| VOC | Tetrahydrofuran | 109-99-9 | 292000 | µg/m3 | | | | 22000 U | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | Thiophene | 110-02-1 | - | µg/m3 | | | | 22000 UJ | | 72 UJ | | | | | | | | | |
| VOC | Toluene | 108-88-3 | 730000 | µg/m3 | 0 | 0.37 | 10000 | 22000 U | | 72 U | | 1.7 U | | | | | 0.77 U | | |
| VOC | trans-1,2-Dichloroethene | 156-60-5 | No Inh. Tox | µg/m3 | | 4 | 3000 | 4500 U | 7.5 | 14 U | 2.1 U | 0.16 U | 2.1 U | | | | 0.15 U | 2.1 U | |
| VOC | trans-1,3-Dichloropropene | 10061-02-6 | 102.2 | µg/m3 | | | | 22000 U | | 72 U | | 0.8 U | | | | | 0.73 U | | |
| VOC | Trichloroethene | 79-01-6 | 100 | µg/m3 | 2 | 0.14 | 167 | 4500 U | 2.7 U | 14 U | 9.1 | 0.58 | 2.7 U | | | | 0.15 U | 2.7 U | |
| VOC | Trichlorofluoromethane | 75-69-4 | No Inh. Tox | µg/m3 | | 0.84 | 12 | 4500 U | | 14 U | | 12 | | | | | 1.5 | | |
| VOC | Vinyl Acetate | 108-05-4 | 29200 | µg/m3 | 0 | 11 | 12 | 220000 U | | 720 U | | 12 | | | | | 11 | | |
| VOC | Vinyl Bromide | 593-60-2 | 13 | µg/m3 | | | | 22000 UJ | | 72 UJ | | | | | | | | | |
| VOC | Vinyl Chloride | 75-01-4 | 93 | µg/m3 | 23 | 19.2 | 2110 | 4500 U | 24 | 14 U | 1.3 U | 0.16 U | 1.3 U | | | | 0.15 U | 1.3 U | |

Notes:

EPA criteria: May 2016 VISL Target Sub-Slab and Exterior Soil Gas Conc., TCR = 1E-06 or THQ = 1, Commercial scenario.

- = No criterion listed.

No Inh. Tox – No inhalation toxicity information available; therefore, no criterion calculated.

U – Non-detect.

J – Estimated Value.

Shading – Value exceeds criterion.

**Table 2 FMP Sub-slab Screening Exceedances**

| | Analyte | 1,2,3-Trimethylbenzene | 1,2,4-Trimethylbenzene | Benzene | Cyclohexane | Ethylbenzene | m,p-Xylenes | n-Hexane | n-Nonane | o-Xylene | Tetrachloroethene | Trichloroethene | Vinyl Chloride |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EPA VISL Commercial (µg/m$^3$)** | | **730** | **1,022** | **52** | **876,000** | **164** | **14,600** | **102,200** | **2,920** | **14,600** | **1,572** | **100** | **93** |
| **Year** | **Address** | | | | | | | | | | | | |
| 2008 | 2 Foster Ave. | | 8 | 8 | | 8 | 6 | 1 | | 1 | | | 4 |
| 2009 | 2 Foster Ave. | | 8 | 8 | | 8 | 6 | 1 | | 1 | | | 4 |
| 2014 | 2 Foster Ave. | | 8 | 7 | | 7 | 3 | 1 | | 1 | | | 3 |
| 2015 | 2 Foster Ave. | 3 | 8 | 7 | | 5 | 4 | 1 | 2 | 1 | 2 | 2 | 7 |
| 2008 | 3 US Ave. | | | 2 | | 2 | 1 | | | | | | |
| 2009 | 3 US Ave. | | | 2 | | 1 | 1 | | | | | | |
| 2014 | 3 US Ave. | | | 2 | | 2 | 1 | | | | | | |
| 2015 | 3 US Ave. | | 1 | 1 | | 1 | 1 | | 1 | | | | |
| 2008 | 4 Foster Ave. | | 2 | 4 | | 2 | 1 | | | | | | |
| 2009 | 4 Foster Ave. | | 1 | 3 | | 3 | 1 | | | | | | 2 |
| 2014 | 4 Foster Ave. | | 1 | 4 | 1 | 3 | | | | | | | 1 |
| 2015 | 4 Foster Ave. | 1 | 1 | 3 | 1 | 1 | 1 | | 1 | | | | 2 |

Notes:

Blank – No exceedances.

Buildings with no exceedances and are therefore not shown: 1 Foster Ave., 10 Foster Ave., 5 Foster Ave., 6 Clementon Ave., and 7 Foster Ave.

**Table 3 FMP Indoor Air Data Collected 8/27/15**

| Analyte | NJDEP VI Non-residential Indoor Air Screening Level ($\mu g/m^3$) | EPA VISL Commercial Worker Air – THQ 1.0 ($\mu g/m^3$) | Address | 2 Foster Ave., Office | | 2 Foster Ave., Warehouse | | 3 United States Ave. | 4 Foster Ave., Warehouse | 4 Foster Ave., Vector | | 4 Foster Ave., Praxis |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | SW-UNIT2F-IA1 | SW-UNIT2F-IA2 | SW-UNIT2F-IA3 | SW-UNIT2F-IA6 | SW-UNIT3-IA2 | SW-UNIT4F-IA2 | SW-UNIT4F-IA4 | SW-UNIT4F-IA4 | SW-UNIT4F-IA5 |
| | | | Field Sample ID | SW-UNIT2F-IA1-2 | SW-UNIT2F-IA2-2 | SW-UNIT2F-IA3-2 | SW-UNIT2F-IA6-2 | SW-UNIT3-IA2-2 | SW-UNIT4F-IA2-2 | SW-UNIT4F-IA4-2 | SW-DUP-2 | SW-UNIT4F-IA5-2 |
| | | | Date Collected | 08/27/2015 | 08/27/2015 | 08/27/2015 | 08/27/2015 | 08/27/2015 | 08/27/2015 | 08/27/2015 | 08/27/2015 | 08/27/2015 |
| **EPA TO-3** | | | | | | | | | | | | |
| METHANE | - | - | $mg/m^3$ | **13.2** | 0.31 U | **5.2** | 0.32 U | **4.8** | **6.3** | **0.29 U** | **0.22 U** | **0.24 U** |
| **MADEP AP** | | | | | | | | | | | | |
| 1,3-BUTADIENE | 1 | 0.41 | $\mu g/m^3$ | 0.88 U | 0.88 U | 0.88 U | 0.88 U | 0.88 U | 0.88 U | 0.88 U | 0.88 U | 0.88 U |
| BENZENE | 2 | 1.6 | $\mu g/m^3$ | **0.77** | **0.73** | **1.4** | **3.5** | **2.2** | **3.8** | **5.4** | **3.8** | **1.6** |
| C5-C8 ALIPHATICS (APH) | - | - | $\mu g/m^3$ | **467** | **383** | **490** | **793** | **399** | **873** | **774 J** | **600 J** | **657** |
| C5-C8 ALIPHATICS (Unadj.) | - | - | $\mu g/m^3$ | **478** | **402** | **516** | **824** | **455** | **911** | **877 J** | **668 J** | **679** |
| C9-C10 AROMATICS (APH) | - | - | $\mu g/m^3$ | **4.2** | **3.4** | **4.8** | **4.5** | **8.5** | **11** | **16** | **13** | **10 U** |
| C9-C12 ALIPHATICS (APH) | - | - | $\mu g/m^3$ | **74.9** | **81.4** | **84.3** | **89.6** | **129** | **173** | **70.8** | **61.3** | **159** |
| C9-C12 ALIPHATICS (Unadj.) | - | - | $\mu g/m^3$ | **88.5** | **96.7** | **103** | **98.5** | **165** | **213** | **174** | **152** | **240** |
| ETHYLBENZENE | 5 | 4.9 | $\mu g/m^3$ | **1.1** | **1.3** | **2.5** | **2.9** | **3.7** | **4.8** | **13 J** | **8.7 J** | **2.6** |
| M,P-XYLENE | 440 | 438 | $\mu g/m^3$ | **7.4** | **9.6** | **17** | **17** | **48.2** | **27** | **63.9 J** | **42 J** | **14** |
| METHYL-TERT-BUTYL-ETHER (MTBE) | 47 | 47 | $\mu g/m^3$ | 1.4 U | 1.4 U | 1.4 U | 1.4 U | 1.4 U | 1.4 U | 0.65 | 0.5 | 1.4 U |
| NAPHTHALENE | 3 | 0.36 | $\mu g/m^3$ | **7.9** | **10** | **12** | **3.4** | **23** | **24** | **75.5** | **66.6** | **71.8** |
| O-XYLENE | 440 | 438 | $\mu g/m^3$ | **1.4** | **1.7** | **3.2** | **3.2** | **6.1** | **4.8** | **14 J** | **9.1 J** | **2.3** |
| TOLUENE | 22000 | 21900 | $\mu g/m^3$ | **4.1** | **3.8** | **4.5** | **4.9** | **4.5** | **17** | **17 J** | **11 J** | **5.3** |
| **VOLATILES** | | | | | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 22000 | 21900 | $\mu g/m^3$ | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U |
| 1,1,2,2-TETRACHLOROETHANE | 3 | 0.21 | $\mu g/m^3$ | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U |
| 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE | 130000 | 131400 | $\mu g/m^3$ | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U |
| 1,1,2-TRICHLOROETHANE | 3 | 0.77 | $\mu g/m^3$ | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U |
| 1,1-DICHLOROETHANE | 8 | 7.7 | $\mu g/m^3$ | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U |
| 1,1-DICHLOROETHENE | 880 | 876 | $\mu g/m^3$ | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U |
| 1,2,4-TRICHLOROBENZENE | 9 | 8.8 | $\mu g/m^3$ | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U |
| 1,2,4-TRIMETHYLBENZENE | - | 31 | $\mu g/m^3$ | **1.7** | **0.88** | **1.2** | **1.3** | **2.2** | **2.4** | **1.7** | **1.5** | **1.1** |
| 1,2-DIBROMOETHANE | 4 | 0.020 | $\mu g/m^3$ | 0.27 U | 0.27 U | 0.27 U | 0.27 U | 0.27 U | 0.27 U | 0.27 U | 0.27 U | 0.27 U |
| 1,2-DICHLOROBENZENE | 880 | 876 | $\mu g/m^3$ | 0.18 U | 0.18 U | 0.18 U | 0.18 U | 0.18 U | 0.18 U | 0.18 U | 0.18 U | 0.18 U |
| 1,2-DICHLOROETHANE | 2 | 0.47 | $\mu g/m^3$ | **0.73** | 0.11 U | 0.11 U | 0.11 U | **0.85** | **6.9** | **3.3** | **2.7** | **3.4** |
| 1,2-DICHLOROPROPANE | 2 | 1.2 | $\mu g/m^3$ | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 0.23 U |
| 1,2-DICHLOROTETRAFLUOROETHANE | - | - | $\mu g/m^3$ | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U |
| 1,3,5-TRIMETHYLBENZENE (MESITYLENE) | - | No Inh. Tox | $\mu g/m^3$ | **0.74** | 0.15 U | **0.54** | **0.54** | **1.1** | **0.84** | **0.64** | **0.59** | **0.42** |
| 1,3-BUTADIENE | 1 | 0.41 | $\mu g/m^3$ | 0.069 U | 0.069 U | 0.069 U | 0.069 U | 0.069 U | 0.069 U | 0.069 U | 0.069 U | 0.069 U |
| 1,3-DICHLOROBENZENE | 3 | - | $\mu g/m^3$ | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U |
| 1,4-DICHLOROBENZENE | - | 1.1 | $\mu g/m^3$ | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U |
| 1,4-DIOXANE (P-DIOXANE) | - | 2.5 | $\mu g/m^3$ | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 1 |
| 2,2,4-TRIMETHYLPENTANE | - | No Inh. Tox | $\mu g/m^3$ | **0.98** | **0.7** | **0.93** | **0.79** | **0.93** | **2** | **1.1** | **0.098 U** | **0.098 U** |
| 2-BUTANONE | 22000 | 21900 | $\mu g/m^3$ | **2.2** | **2.3** | **2.9** | **2.1** | **5.6** | **2.7** | **2.9** | **2.9** | **3.2** |
| 2-CHLOROTOLUENE | - | No Inh. Tox | $\mu g/m^3$ | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U |
| 2-HEXANONE | - | 131 | $\mu g/m^3$ | 0.18 U | 0.18 U | 0.18 U | 0.18 U | 0.18 U | 0.18 U | 0.18 U | 0.18 U | 0.41 |
| 2-PROPANOL | - | 876 | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 3-CHLOROPROPENE | 2 | 2.0 | $\mu g/m^3$ | 0.088 U | 0.088 U | 0.088 U | 0.088 U | 0.088 U | 0.088 U | 0.088 U | 0.088 U | 0.088 U |
| 4-CHLOROPHENYL-PHENYL ETHER | - | - | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-ETHYLTOLUENE | - | - | $\mu g/m^3$ | **0.44** | 0.11 U | 0.11 U | 0.11 U | 0.11 U | **0.45** | **0.11 U** | **0.11 U** | **0.11 U** |
| 4-METHYL-2-PENTANONE | 13000 | 13140 | $\mu g/m^3$ | 0.11 U | 0.11 U | 0.11 U | 0.11 U | **5.3** | 0.11 U | 0.11 U | 0.11 U | 4 |
| ACETONE | 140000 | 135780 | $\mu g/m^3$ | **41.1** | **32.5** | **37.3** | **28.3** | **57.7** | **35.6** | **46.3** | **45.8** | **74.6** |
| ACETONITRILE | - | 260 | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| ACROLEIN | - | 0.088 | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| ACRYLONITRILE | - | 8.8 | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| BENZENE | 2 | 1.6 | $\mu g/m^3$ | **0.67** | **0.67** | **0.7** | **0.73** | **1.6** | **1.3** | **0.86** | **0.77** | **1.3** |
| BENZYL CHLORIDE | - | 0.25 | $\mu g/m^3$ | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U |
| BROMODICHLOROMETHANE | 3 | 0.33 | $\mu g/m^3$ | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U |
| BROMOETHENE | 2 | 0.38 | $\mu g/m^3$ | 0.087 U | 0.087 U | 0.087 U | 0.087 U | 0.087 U | 0.087 U | 0.087 U | 0.087 U | 0.087 U |

**Table 3 FMP Indoor Air Data Collected 8/27/15**

| Analyte | NJDEP VI Non-residential Indoor Air Screening Level (µg/m³) | EPA VISL Commercial Worker Air – THQ 1.0 (µg/m³) | Address | 2 Foster Ave., Office | | 2 Foster Ave., Warehouse | | 3 United States Ave. | 4 Foster Ave., Warehouse | 4 Foster Ave., Vector | | 4 Foster Ave., Praxis |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | SW-UNIT2F-IA1 | SW-UNIT2F-IA2 | SW-UNIT2F-IA3 | SW-UNIT2F-IA6 | SW-UNIT3-IA2 | SW-UNIT4F-IA2 | SW-UNIT4F-IA4 | SW-UNIT4F-IA4 | SW-UNIT4F-IA5 |
| | | | Field Sample ID | SW-UNIT2F-IA1-2 | SW-UNIT2F-IA2-2 | SW-UNIT2F-IA3-2 | SW-UNIT2F-IA6-2 | SW-UNIT3-IA2-2 | SW-UNIT4F-IA2-2 | SW-UNIT4F-IA4-2 | SW-DUP-2 | SW-UNIT4F-IA5-2 |
| | | | Date Collected | 08/27/2015 | 08/27/2015 | 08/27/2015 | 08/27/2015 | 08/27/2015 | 08/27/2015 | 08/27/2015 | 08/27/2015 | 08/27/2015 |
| BROMOFORM | 11 | 11 | µg/m³ | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U |
| BROMOMETHANE | 22 | 22 | µg/m³ | 0.085 U | 0.085 U | 0.085 U | 0.085 U | 0.085 U | 0.085 U | 0.085 U | 0.085 U | 0.085 U |
| CARBON DISULFIDE | 3100 | 3066 | µg/m³ | 0.09 U | 0.09 U | 0.09 U | 0.09 U | **0.72** | 0.09 U | 0.31 | 0.09 U | 0.09 U |
| CARBON TETRACHLORIDE | 3 | 2.0 | µg/m³ | 0.16 U | 0.16 U | **0.6** | 0.16 U | 0.16 U | 0.16 U | 0.16 U | 0.16 U | 0.16 U |
| CHLOROBENZENE | 220 | 219 | µg/m³ | 0.15 U | 0.15 U | 0.15 U | 0.15 U | 0.15 U | 0.15 U | 0.15 U | 0.15 U | 0.15 U |
| CHLOROETHANE | 44000 | 43800 | µg/m³ | 0.058 U | 0.058 U | 0.058 U | 0.058 U | 0.058 U | 0.058 U | 0.058 U | 0.058 U | 0.058 U |
| CHLOROFORM | 2 | 0.53 | µg/m³ | **0.59** | **0.54** | **0.68** | **0.73** | **0.93** | **2.6** | **2.1** | **2** | **2.8** |
| CHLOROMETHANE | 390 | 394 | µg/m³ | **1.2** | **1.2** | **1.1** | **1.2** | **1.4** | **1.3** | **1.3** | **1.3** | **1.2** |
| CIS-1,2-DICHLOROETHENE | - | No Inh. Tox | µg/m³ | 0.099 U | 0.099 U | 0.099 U | 0.099 U | 0.099 U | 0.099 U | 0.099 U | 0.099 U | 0.099 U |
| CIS-1,3-DICHLOROPROPENE | - | 88 | µg/m³ | 0.16 U | 0.16 U | 0.16 U | 0.16 U | 0.16 U | 0.16 U | 0.16 U | 0.16 U | 0.16 U |
| CYCLOHEXANE | 26000 | 26280 | µg/m³ | **3** | **1.8** | **2.5** | **2** | **3.8** | **10** | **5.5** | **4.8** | **4.5** |
| DIBROMOCHLOROMETHANE | 4 | 0.45 | µg/m³ | 0.35 U | 0.35 U | 0.35 U | 0.35 U | 0.35 U | 0.35 U | 0.35 U | 0.35 U | 0.35 U |
| DICHLORODIFLUOROMETHANE | 440 | 438 | µg/m³ | **2.6** | **2.6** | **2.6** | **2.6** | **2.8** | **2.6** | **2.7** | **2.7** | **2.7** |
| DICHLOROMETHANE | 1200 | 1226 | µg/m³ | **1.1** | 0.45 U | 0.45 U | 0.45 U | 0.45 U | 0.45 U | 0.45 U | 0.45 U | 0.45 U |
| ETHYL ACETATE | - | 307 | µg/m³ | 0.23 U | **11** | 0.23 U | **5.4** | **10** | 0.23 U | 0.23 U | 0.23 U | 0.23 U |
| ETHYL ALCOHOL | - | - | µg/m³ | **251 J** | **117 J** | **118 J** | **79.9 J** | **41.5** | **77.6 J** | **178 J** | **198 J** | **275 J** |
| ETHYL TERT BUTYL ETHER | - | - | µg/m³ | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| ETHYLBENZENE | 5 | 4.9 | µg/m³ | **1.3** | **1.4** | **1.5** | **1.7** | **4.3** | **3.2** | **2.2** | **1.9** | **3** |
| HEXACHLOROBUTADIENE | 5 | 0.56 | µg/m³ | 0.35 U | 0.35 U | 0.35 U | 0.35 U | 0.35 U | 0.35 U | 0.35 U | 0.35 U | 0.35 U |
| ISOPROPANOL | - | 876 | µg/m³ | **8.8** | **9.1** | **7.1** | **5.2** | **5.2** | **6.4** | **13** | **13** | **25.8** |
| ISOPROPYL ACETATE | - | - | µg/m³ | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| ISOPROPYL ETHER | - | - | µg/m³ | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| M,P-XYLENE | 440 | 438 | µg/m³ | **4.8** | **5.2** | **6.1** | **6.5** | **34** | **12** | **7.4** | **6.1** | **9.1** |
| METHYL METHACRYLATE | - | 3066 | µg/m³ | 0.12 U | 0.12 U | 0.12 U | 0.12 U | 0.12 U | 0.12 U | 0.12 U | 0.12 U | 0.12 U |
| METHYL-TERT-BUTYL-ETHER (MTBE) | 47 | 47 | µg/m³ | 0.094 U | 0.094 U | 0.094 U | 0.094 U | 0.094 U | 0.094 U | 0.094 U | 0.094 U | 0.094 U |
| N-HEPTANE | - | - | µg/m³ | **2.8** | **1.4** | **1.4** | **1.4** | **2.6** | **1.2** | **1.1** | **0.98** | **0.53** |
| N-HEXANE | 3100 | 3066 | µg/m³ | **1.7** | **1.1** | **1.2** | **1.1** | **1.6** | **1.3** | **0.99** | **0.85** | **0.95** |
| O-XYLENE | 440 | 438 | µg/m³ | **1.8** | **1.8** | **2.1** | **2.2** | **8.3** | **3.9** | **2.5** | **2.1** | **2.7** |
| PROPYLENE | - | 13140 | µg/m³ | 0.14 U | 0.14 U | 0.14 U | 0.14 U | 0.14 U | 0.14 U | 0.14 U | 0.14 U | 0.14 U |
| STYRENE | 4400 | 4380 | µg/m³ | **0.47** | 0.11 U | **0.4** | **0.47** | **0.98** | **2** | **2** | **1.7** | **1.5** |
| T-AMYL METHYL ETHER | - | - | µg/m³ | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| t-BUTANOL | - | - | µg/m³ | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| TERT-BUTYL ALCOHOL | - | - | µg/m³ | **0.85** | **0.58** | **0.73** | **0.76** | **1.3** | **0.88** | **0.82** | **0.82** | **4.2** |
| TETRACHLOROETHENE | 47 | 47 | µg/m³ | **2** | **2.2** | **2.6** | **2.7** | **3.1** | **6.8** | **4.3** | **3.3** | **3.3** |
| TETRAHYDROFURAN | - | 8760 | µg/m³ | **5.6** | **7.7** | **20** | **4.4** | **3.2** | **2.9** | **1.4** | **1.1** | **0.13 U** |
| TOLUENE | 22000 | 21900 | µg/m³ | **4.5** | **3.6** | **4.1** | **3.8** | **5.7** | **15** | **9.4** | **8.3** | **6.8** |
| TRANS-1,2-DICHLOROETHENE | 260 | No Inh. Tox | µg/m³ | 0.079 U | 0.079 U | 0.079 U | 0.079 U | 0.079 U | 0.079 U | 0.079 U | 0.079 U | 0.079 U |
| TRANS-1,3-DICHLOROPROPENE | - | 88 | µg/m³ | 0.091 U | 0.091 U | 0.091 U | 0.091 U | 0.091 U | 0.091 U | 0.091 U | 0.091 U | 0.091 U |
| TRICHLOROETHENE | 3.0 | 3.0 | µg/m³ | **1.3** | **1.4** | **1.8** | **1.7** | **3.3** | **9.1** | **5.9** | **4.9** | **3.9** |
| TRICHLOROFLUOROMETHANE | 3100 | 3066 | µg/m³ | **1.7** | **1.7** | **1.9** | **1.8** | **50** | **5.2** | **21** | **21** | **19** |
| VINYL ACETATE | - | 876 | µg/m³ | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U |
| VINYL CHLORIDE | 3 | 2.8 | µg/m³ | 0.082 U | 0.082 U | 0.082 U | 0.082 U | 0.082 U | 0.082 U | 0.082 U | 0.082 U | 0.082 U |
| XYLENES (TOTAL) | 440 | 438 | µg/m³ | **6.5** | **6.9** | **8.3** | **8.7** | **42** | **16** | **10** | **8.3** | **12** |

Notes:
EPA – Environmental Protection Agency; NJDEP – New Jersey Department of Environmental Protection; THQ – Target Hazard Quotient; VI – Vapor Intrusion; VISL – Vapor Intrusion Screening Level .
- = No criterion listed.
No Inh. Tox – No inhalation toxicity information available; therefore, no criterion calculated.
U – Non-detect.
J – Estimated Value.
Shading – Value exceeds criterion.
**Bold cells indicates a detected concentration.**

**Table 4 FMP Indoor Air Data Collected 12/16/15**

| Analyte | NJDEP VI Non-residential Indoor Air Screening Level ($\mu g/m^3$) | EPA VISL Commercial Worker Air – THQ 1.0 ($\mu g/m^3$) | Address | 2 Foster Ave., Office | | | 2 Foster Ave., Office Mezzanine | 2 Foster Ave., Warehouse | | | 3 United States Ave. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | SW-UNIT2F-IA1 | SW-UNIT2F-IA1A | SW-UNIT2F-IA2 | SW-UNIT2F-IA9 | SW-UNIT2F-IA3 | SW-UNIT2F-IA4 | SW-UNIT2F-IA6 | SW-UNIT3-IA1 | SW-UNIT3-IA2 |
| | | | Field Sample ID | SW-UNIT2F-IA1-4 | SW-UNIT2F-IA1A-4 | SW-UNIT2F-IA2-4 | SW-UNIT2F-IA9-4 | SW-UNIT2F-IA3-4 | SW-UNIT2F-IA4-4 | SW-UNIT2F-IA6-4 | SW-UNIT3-IA1-4 | SW-UNIT3-IA2-4 |
| | | | Date Collected | 12/16/2015 | 12/16/2015 | 12/16/2015 | 12/16/2015 | 12/16/2015 | 12/16/2015 | 12/16/2015 | 12/16/2015 | 12/16/2015 |
| **EPA TO-3** | | | | | | | | | | | | |
| METHANE | - | - | $mg/m^3$ | **10** J | 0.33 U | **13.7** | 0.32 U | **4.8** | **3.5** J | **2.6** J | **137** | **59** |
| **MADEP AP** | | | | | | | | | | | | |
| 1,3-BUTADIENE | 1 | 0.41 | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| BENZENE | 2 | 1.57 | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| C5-C8 ALIPHATICS (APH) | - | - | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| C5-C8 ALIPHATICS (Unadj.) | - | - | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| C9-C10 AROMATICS (APH) | - | - | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| C9-C12 ALIPHATICS (APH) | - | - | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| C9-C12 ALIPHATICS (Unadj.) | - | - | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| ETHYLBENZENE | 5 | 4.91 | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| M,P-XYLENE | 440 | 438 | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| METHYL-TERT-BUTYL-ETHER (MTBE) | 47 | 47.17 | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| NAPHTHALENE | 3 | 0.36 | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| O-XYLENE | 440 | 438 | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| TOLUENE | 22000 | 21900 | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| **VOLATILES** | | | | | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 22000 | 21900 | $\mu g/m^3$ | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U |
| 1,1,2,2-TETRACHLOROETHANE | 3 | 0.21 | $\mu g/m^3$ | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U |
| 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE | 130000 | 131400 | $\mu g/m^3$ | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U |
| 1,1,2-TRICHLOROETHANE | 3 | 0.77 | $\mu g/m^3$ | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U |
| 1,1-DICHLOROETHANE | 8 | 7.7 | $\mu g/m^3$ | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U |
| 1,1-DICHLOROETHENE | 880 | 876 | $\mu g/m^3$ | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U |
| 1,2,4-TRICHLOROBENZENE | 9 | 8.8 | $\mu g/m^3$ | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U |
| 1,2,4-TRIMETHYLBENZENE | - | 31 | $\mu g/m^3$ | **3.3** | **2.9** | 0.11 U | **2.1** | **1.2** | **2.3** | **1.2** | **6.9** | **3.1** |
| 1,2-DIBROMOETHANE | 4 | 0.020 | $\mu g/m^3$ | 0.27 U | 0.27 U | 0.27 U | 0.27 U | 0.27 U | 0.27 U | 0.27 U | 0.27 U | 0.27 U |
| 1,2-DICHLOROBENZENE | 880 | 876 | $\mu g/m^3$ | 0.18 U | 0.18 U | 0.18 U | 0.18 U | 0.18 U | 0.18 U | 0.18 U | 0.18 U | 0.18 U |
| 1,2-DICHLOROETHANE | 2 | 0.47 | $\mu g/m^3$ | 0.11 U | **2.3** | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U |
| 1,2-DICHLOROPROPANE | 2 | 1.2 | $\mu g/m^3$ | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 0.23 U |
| 1,2-DICHLOROTETRAFLUOROETHANE | - | - | $\mu g/m^3$ | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U |
| 1,3,5-TRIMETHYLBENZENE (MESITYLENE) | - | No Inh. Tox | $\mu g/m^3$ | **1.5** | **1.2** | 0.15 U | **0.93** J | **0.54** J | **0.98** | **0.54** | **3.8** | **1.6** |
| 1,3-BUTADIENE | 1 | 0.41 | $\mu g/m^3$ | 0.069 U | 0.069 U | 0.069 U | 0.069 U | 0.069 U | 0.069 U | 0.069 U | 0.069 U | 0.069 U |
| 1,3-DICHLOROBENZENE | 3 | - | $\mu g/m^3$ | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U |
| 1,4-DICHLOROBENZENE | - | 1.1 | $\mu g/m^3$ | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U |
| 1,4-DIOXANE (P-DIOXANE) | - | 2.5 | $\mu g/m^3$ | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 0.23 U |
| 2,2,4-TRIMETHYLPENTANE | - | No Inh. Tox | $\mu g/m^3$ | 0.098 U | 0.098 U | 0.098 U | 0.098 U | 0.098 U | **0.51** | 0.098 U | 0.098 U | 0.098 U |
| 2-BUTANONE | 22000 | 21900 | $\mu g/m^3$ | **2.5** | **2.4** | 0.14 U | **1.3** | **0.94** | **1.6** | **1.1** | **7.1** | **3.2** |
| 2-CHLOROTOLUENE | - | No Inh. Tox | $\mu g/m^3$ | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U |
| 2-HEXANONE | - | 131 | $\mu g/m^3$ | 0.18 U | 0.18 U | 0.18 U | 0.18 U | 0.18 U | 0.18 U | 0.18 U | 0.18 U | 0.18 U |
| 3-CHLOROPROPENE | 2 | 2.0 | $\mu g/m^3$ | 0.088 U | 0.088 U | 0.088 U | 0.088 U | 0.088 U | 0.088 U | 0.088 U | 0.088 U | 0.088 U |
| 4-ETHYLTOLUENE | - | - | $\mu g/m^3$ | **0.74** J | **0.54** J | 0.11 U | **0.54** J | 0.11 U | 0.11 U | 0.11 U | **1.5** | **0.54** J |
| 4-METHYL-2-PENTANONE | 13000 | 13140 | $\mu g/m^3$ | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U |
| ACETONE | 140000 | 135780 | $\mu g/m^3$ | **95** | **71.3** | **161** | **67** | **29.9** | **72** | **48.9** | **77.2** | **78.2** |
| BENZENE | 2 | 1.6 | $\mu g/m^3$ | **3.8** | **0.99** | **0.64** | **1.9** | **1** | **1.2** | **0.83** | **17** J | **8.9** |
| BENZYL CHLORIDE | - | 0.25 | $\mu g/m^3$ | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U |
| BROMODICHLOROMETHANE | 3 | 0.33 | $\mu g/m^3$ | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U |
| BROMOETHENE | 2 | 0.38 | $\mu g/m^3$ | 0.087 U | 0.087 U | 0.087 U | 0.087 U | 0.087 U | 0.087 U | 0.087 U | 0.087 U | 0.087 U |
| BROMOFORM | 11 | 11 | $\mu g/m^3$ | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U |
| BROMOMETHANE | 22 | 22 | $\mu g/m^3$ | 0.085 U | 0.085 U | 0.085 U | 0.085 U | 0.085 U | 0.085 U | 0.085 U | 0.085 U | 0.085 U |
| CARBON DISULFIDE | 3100 | 3066 | $\mu g/m^3$ | 0.09 U | 0.09 U | 0.09 U | 0.09 U | 0.09 U | 0.09 U | 0.09 U | 0.09 U | **0.31** J |

**Table 4 FMP Indoor Air Data Collected 12/16/15**

| Analyte | NJDEP VI Non-residential Indoor Air Screening Level ($\mu g/m^3$) | EPA VISL Commercial Worker Air – THQ 1.0 ($\mu g/m^3$) | Address | 2 Foster Ave., Office | | | 2 Foster Ave., Office Mezzanine | 2 Foster Ave., Warehouse | | | 3 United States Ave. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | SW-UNIT2F-IA1 | SW-UNIT2F-IA1A | SW-UNIT2F-IA2 | SW-UNIT2F-IA9 | SW-UNIT2F-IA3 | SW-UNIT2F-IA4 | SW-UNIT2F-IA6 | SW-UNIT3-IA1 | SW-UNIT3-IA2 |
| | | | Field Sample ID | SW-UNIT2F-IA1-4 | SW-UNIT2F-IA1A-4 | SW-UNIT2F-IA2-4 | SW-UNIT2F-IA9-4 | SW-UNIT2F-IA3-4 | SW-UNIT2F-IA4-4 | SW-UNIT2F-IA6-4 | SW-UNIT3-IA1-4 | SW-UNIT3-IA2-4 |
| | | | Date Collected | 12/16/2015 | 12/16/2015 | 12/16/2015 | 12/16/2015 | 12/16/2015 | 12/16/2015 | 12/16/2015 | 12/16/2015 | 12/16/2015 |
| CARBON TETRACHLORIDE | 3 | 2.0 | $\mu g/m^3$ | 0.16 U | 0.16 U | 0.16 U | 0.16 U | 0.16 U | 0.16 U | 0.16 U | 0.16 U | 0.16 U |
| CHLOROBENZENE | 220 | 219 | $\mu g/m^3$ | 0.15 U | 0.15 U | 0.15 U | 0.15 U | 0.15 U | 0.15 U | 0.15 U | 0.15 U | 0.15 U |
| CHLOROETHANE | 44000 | 43800 | $\mu g/m^3$ | 0.058 U | 0.058 U | 0.058 U | 0.058 U | 0.058 U | 0.058 U | 0.058 U | 0.058 U | 0.058 U |
| CHLOROFORM | 2 | 0.53 | $\mu g/m^3$ | 0.15 U | 0.15 U | 0.15 U | 0.15 U | 0.15 U | 0.15 U | 0.15 U | 0.15 U | 0.15 U |
| CHLOROMETHANE | 390 | 394 | $\mu g/m^3$ | **0.95** | **0.91** | **1.2** | **0.95** | **0.85** | **1.1** | **0.91** | **1.1 J** | **1** |
| CIS-1,2-DICHLOROETHENE | - | No Inh. Tox | $\mu g/m^3$ | 0.099 U | 0.099 U | 0.099 U | 0.099 U | 0.099 U | 0.099 U | 0.099 U | 0.099 U | 0.099 U |
| CIS-1,3-DICHLOROPROPENE | - | 88 | $\mu g/m^3$ | 0.16 U | 0.16 U | 0.16 U | 0.16 U | 0.16 U | 0.16 U | 0.16 U | 0.16 U | 0.16 U |
| CYCLOHEXANE | 26000 | 26280 | $\mu g/m^3$ | **7.9** | **4.5** | **11** | **2.3** | **3.1** | **3.2** | **1.9** | **58.9 J** | **28** |
| DIBROMOCHLOROMETHANE | 4 | 0.45 | $\mu g/m^3$ | 0.35 U | 0.35 U | 0.35 U | 0.35 U | 0.35 U | 0.35 U | 0.35 U | 0.35 U | 0.35 U |
| DICHLORODIFLUOROMETHANE | 440 | 438 | $\mu g/m^3$ | **2** | **2** | **2.4** | **2.4** | **1.9** | **2.5** | **2.2** | **2.3 J** | **2.5** |
| DICHLOROMETHANE | 1200 | 1226 | $\mu g/m^3$ | **0.63 J** | **0.76** | 0.45 U | **0.66 J** | 0.45 U | **0.76** | 0.45 U | 0.45 U | **0.56 J** |
| ETHYL ACETATE | - | 307 | $\mu g/m^3$ | **16** | **19** | **6.8** | **16** | **5** | **12** | **10** | **8.3 J** | **6.1** |
| ETHYL ALCOHOL | - | - | $\mu g/m^3$ | **354 J** | **187 J** | **458 J** | **90.3 J** | **52.6** | **103 J** | **84 J** | **60.1 J** | **61.4** |
| ETHYLBENZENE | 5 | 4.9 | $\mu g/m^3$ | **7.4** | **0.69 J** | 0.21 U | **4** | **0.69 J** | **1** | **0.56 J** | **17 J** | **4** |
| HEXACHLOROBUTADIENE | 5 | 0.56 | $\mu g/m^3$ | 0.35 U | 0.35 U | 0.35 U | 0.35 U | 0.35 U | 0.35 U | 0.35 U | 0.35 U | 0.35 U |
| ISOPROPANOL | - | 876 | $\mu g/m^3$ | **27.5** | **23** | **21** | **12** | **6.9** | **14** | **8.6** | **15 J** | **13** |
| M,P-XYLENE | 440 | 438 | $\mu g/m^3$ | **25** | **4.8** | 0.19 U | **15** | **5.6** | **8.3** | **3.6** | **176 J** | **39** |
| METHYL METHACRYLATE | - | 3066 | $\mu g/m^3$ | 0.12 U | 0.12 U | 0.12 U | 0.12 U | 0.12 U | 0.12 U | 0.12 U | 0.12 U | 0.12 U |
| METHYL-TERT-BUTYL-ETHER (MTBE) | 47 | 47 | $\mu g/m^3$ | **0.47 J** | 0.094 U | 0.094 U | 0.094 U | 0.094 U | 0.094 U | 0.094 U | 0.094 U | 0.094 U |
| NAPHTHALENE | 3 | 0.36 | $\mu g/m^3$ | **1.9** | **2** | 0.28 U | **2.6** | 0.28 U | **5** | **2.6** | **5.8 J** | **3.1** |
| N-HEPTANE | - | - | $\mu g/m^3$ | **8.2** | **4.9** | **0.7 J** | **2.4** | **2.3** | **2.6** | **1.9** | **25 J** | **13** |
| N-HEXANE | 3100 | 3066 | $\mu g/m^3$ | **4.6** | **3.5** | **2.1** | **3.5** | **2.3** | **2.4** | **2** | **13 J** | **8.1** |
| O-XYLENE | 440 | 438 | $\mu g/m^3$ | **9.1** | **1.3** | 0.11 U | **5.2** | **1.4** | **2.2** | **1** | **33 J** | **7.8** |
| PROPYLENE | - | 13140 | $\mu g/m^3$ | 0.14 U | 0.14 U | 0.14 U | 0.14 U | 0.14 U | 0.14 U | 0.14 U | 0.14 U | 0.14 U |
| STYRENE | 4400 | 4380 | $\mu g/m^3$ | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U |
| TERT-BUTYL ALCOHOL | - | - | $\mu g/m^3$ | **1.1** | **0.45 J** | **0.42 J** | 0.15 U | 0.15 U | 0.15 U | 0.15 U | **0.85 J** | **0.61** |
| TETRACHLOROETHENE | 47 | 47 | $\mu g/m^3$ | **0.48** | **0.29** | 0.16 U | **0.51** | **0.3** | **0.54** | **0.25 J** | **0.64 J** | **0.29** |
| TETRAHYDROFURAN | - | 8760 | $\mu g/m^3$ | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U |
| TOLUENE | 22000 | 21900 | $\mu g/m^3$ | **17** | **5.7** | 0.075 U | **5.7** | **1.7** | **3.8** | **2** | **4.5 J** | **3.8** |
| TRANS-1,2-DICHLOROETHENE | 260 | No Inh. Tox | $\mu g/m^3$ | 0.079 U | 0.079 U | 0.079 U | 0.079 U | 0.079 U | 0.079 U | 0.079 U | 0.079 U | 0.079 U |
| TRANS-1,3-DICHLOROPROPENE | - | 88 | $\mu g/m^3$ | 0.091 U | 0.091 U | 0.091 U | 0.091 U | 0.091 U | 0.091 U | 0.091 U | 0.091 U | 0.091 U |
| TRICHLOROETHENE | 3 | 3.0 | $\mu g/m^3$ | 0.13 U | 0.13 U | 0.13 U | **0.17 J** | 0.13 U | **0.19 J** | 0.13 U | 0.13 U | **1.2** |
| TRICHLOROFLUOROMETHANE | 3100 | 3066 | $\mu g/m^3$ | **1.6** | **1.5** | **1.7** | **1.7** | **1.4** | **1.9** | **1.6** | **46 J** | **29** |
| VINYL ACETATE | - | 876 | $\mu g/m^3$ | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U |
| VINYL CHLORIDE | 3 | 2.8 | $\mu g/m^3$ | 0.082 U | 0.082 U | 0.082 U | 0.082 U | 0.082 U | 0.082 U | 0.082 U | 0.082 U | 0.082 U |
| XYLENES (TOTAL) | 440 | 438 | $\mu g/m^3$ | **34** | **6.1** | 0.11 U | **20** | **6.9** | **10** | **4.8** | **210 J** | **46.9** |

Notes:
EPA – Environmental Protection Agency; NJDEP – New Jersey Department of Environmental Protection; THQ – Target Hazard Quotient; VI – Vapor Intrusion; VISL – Vapor Intrusion Screening Level.
- = No criterion listed.
No Inh. Tox – No inhalation toxicity information available; therefore, no criterion calculated.
U – Non-detect.
J – Estimated Value.
Shading – Value exceeds criterion.
**Bold – Detected concentration.**

**Table 4 FMP Indoor Air Data Collected 12/16/15**

| Analyte | NJDEP VI Non-residential Indoor Air Screening Level ($\mu g/m^3$) | EPA VISL Commercial Worker Air – THQ 1.0 ($\mu g/m^3$) | Address | 4 Foster Ave., Warehouse | | 4 Foster Ave., Vector | | 4 Foster Ave., Vector Dup | 4 Foster Ave., Praxis | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | SW-UNIT4F-IA1 | SW-UNIT4F-IA3 | SW-UNIT4F-IA4 | SW-UNIT4F-IA4A | SW-DUP4 | SW-UNIT4F-IA5 | SW-UNIT4F-IA5A |
| | | | Field Sample ID | SW-UNIT4F-IA1-4 | SW-UNIT4F-IA3-4 | SW-UNIT4F-IA4-4 | SW-UNIT4F-IA4A-4 | SW-DUP-4 | SW-UNIT4F-IA5-4 | SW-UNIT4F-IA5A-4 |
| | | | Date Collected | 12/16/2015 | 12/16/2015 | 12/16/2015 | 12/16/2015 | 12/16/2015 | 12/16/2015 | 12/16/2015 |
| **EPA TO-3** | | | | | | | | | | |
| METHANE | - | - | $mg/m^3$ | **4.9** | **5.7** | **3.3 J** | **3.7 J** | **4.3** | **5.3** | **4.7** |
| **MADEP AP** | | | | | | | | | | |
| 1,3-BUTADIENE | 1 | 0.41 | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA |
| BENZENE | 2 | 1.57 | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA |
| C5-C8 ALIPHATICS (APH) | - | - | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA |
| C5-C8 ALIPHATICS (Unadj.) | - | - | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA |
| C9-C10 AROMATICS (APH) | - | - | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA |
| C9-C12 ALIPHATICS (APH) | - | - | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA |
| C9-C12 ALIPHATICS (Unadj.) | - | - | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA |
| ETHYLBENZENE | 5 | 4.91 | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA |
| M,P-XYLENE | 440 | 438 | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA |
| METHYL-TERT-BUTYL-ETHER (MTBE) | 47 | 47.17 | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA |
| NAPHTHALENE | 3 | 0.36 | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA |
| O-XYLENE | 440 | 438 | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA |
| TOLUENE | 22000 | 21900 | $\mu g/m^3$ | NA | NA | NA | NA | NA | NA | NA |
| **VOLATILES** | | | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 22000 | 21900 | $\mu g/m^3$ | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U |
| 1,1,2,2-TETRACHLOROETHANE | 3 | 0.21 | $\mu g/m^3$ | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U |
| 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE | 130000 | 131400 | $\mu g/m^3$ | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U |
| 1,1,2-TRICHLOROETHANE | 3 | 0.77 | $\mu g/m^3$ | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U |
| 1,1-DICHLOROETHANE | 8 | 7.7 | $\mu g/m^3$ | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U |
| 1,1-DICHLOROETHENE | 880 | 876 | $\mu g/m^3$ | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U |
| 1,2,4-TRICHLOROBENZENE | 9 | 8.8 | $\mu g/m^3$ | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U |
| 1,2,4-TRIMETHYLBENZENE | - | 31 | $\mu g/m^3$ | 0.11 U | **1.8** | **2** | **1** | **1.9** | **1.6** | **1.9** |
| 1,2-DIBROMOETHANE | 4 | 0.020 | $\mu g/m^3$ | 0.27 U | 0.27 U | 0.27 U | 0.27 U | 0.27 U | 0.27 U | 0.27 U |
| 1,2-DICHLOROBENZENE | 880 | 876 | $\mu g/m^3$ | 0.18 U | 0.18 U | 0.18 U | 0.18 U | 0.18 U | 0.18 U | 0.18 U |
| 1,2-DICHLOROETHANE | 2 | 0.47 | $\mu g/m^3$ | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 1.7 | 1.4 |
| 1,2-DICHLOROPROPANE | 2 | 1.2 | $\mu g/m^3$ | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 0.23 U |
| 1,2-DICHLOROTETRAFLUOROETHANE | - | - | $\mu g/m^3$ | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U |
| 1,3,5-TRIMETHYLBENZENE (MESITYLENE) | - | No Inh. Tox | $\mu g/m^3$ | 0.15 U | **0.74 J** | **0.98** | **0.15 U** | **0.74 J** | **0.59 J** | **0.74 J** |
| 1,3-BUTADIENE | 1 | 0.41 | $\mu g/m^3$ | 0.069 U | 0.069 U | 0.069 U | 0.069 U | 0.069 U | 0.069 U | 0.069 U |
| 1,3-DICHLOROBENZENE | 3 | - | $\mu g/m^3$ | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U |
| 1,4-DICHLOROBENZENE | - | 1.1 | $\mu g/m^3$ | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U |
| 1,4-DIOXANE (P-DIOXANE) | - | 2.5 | $\mu g/m^3$ | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 0.23 U |
| 2,2,4-TRIMETHYLPENTANE | - | No Inh. Tox | $\mu g/m^3$ | 0.098 U | 0.098 U | 0.79 J | 0.098 U | 0.098 U | 0.098 U | 0.098 U |
| 2-BUTANONE | 22000 | 21900 | $\mu g/m^3$ | **2.9** | **2.5** | **2.7 J** | **1.8** | **4.4 J** | **4.1** | **4.1** |
| 2-CHLOROTOLUENE | - | No Inh. Tox | $\mu g/m^3$ | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U |
| 2-HEXANONE | - | 131 | $\mu g/m^3$ | 0.18 U | 0.18 U | 0.18 U | 0.18 U | 0.18 U | 0.18 U | 0.18 U |
| 3-CHLOROPROPENE | 2 | 2.0 | $\mu g/m^3$ | 0.088 U | 0.088 U | 0.088 U | 0.088 U | 0.088 U | 0.088 U | 0.088 U |
| 4-ETHYLTOLUENE | - | - | $\mu g/m^3$ | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.41 J | 0.11 U | 0.49 J |
| 4-METHYL-2-PENTANONE | 13000 | 13140 | $\mu g/m^3$ | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U |
| ACETONE | 140000 | 135780 | $\mu g/m^3$ | **55.8** | **51.5** | **41.8 J** | **33.3** | **34 J** | **36.8** | **42.8** |
| BENZENE | 2 | 1.6 | $\mu g/m^3$ | **0.8** | **0.89** | **0.67** | **0.61 J** | **0.64** | **1.2** | **9.6** |
| BENZYL CHLORIDE | - | 0.25 | $\mu g/m^3$ | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U |
| BROMODICHLOROMETHANE | 3 | 0.33 | $\mu g/m^3$ | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U |
| BROMOETHENE | 2 | 0.38 | $\mu g/m^3$ | 0.087 U | 0.087 U | 0.087 U | 0.087 U | 0.087 U | 0.087 U | 0.087 U |
| BROMOFORM | 11 | 11 | $\mu g/m^3$ | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U |
| BROMOMETHANE | 22 | 22 | $\mu g/m^3$ | 0.085 U | 0.085 U | 0.085 U | 0.085 U | 0.085 U | 0.085 U | 0.085 U |
| CARBON DISULFIDE | 3100 | 3066 | $\mu g/m^3$ | 0.09 U | 0.09 U | 0.09 U | 0.09 U | 0.09 U | 0.09 U | 0.59 J |

**Table 4 FMP Indoor Air Data Collected 12/16/15**

| Analyte | NJDEP VI Non-residential Indoor Air Screening Level (µg/m³) | EPA VISL Commercial Worker Air – THQ 1.0 (µg/m³) | Address | 4 Foster Ave., Warehouse | | | | 4 Foster Ave., Vector | | | | 4 Foster Ave., Vector Dup | | 4 Foster Ave., Praxis | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | SW-UNIT4F-IA1 | | SW-UNIT4F-IA3 | | SW-UNIT4F-IA4 | | SW-UNIT4F-IA4A | | SW-DUP4 | | SW-UNIT4F-IA5 | | SW-UNIT4F-IA5A | |
| | | | Field Sample ID | SW-UNIT4F-IA1-4 | | SW-UNIT4F-IA3-4 | | SW-UNIT4F-IA4-4 | | SW-UNIT4F-IA4A-4 | | SW-DUP-4 | | SW-UNIT4F-IA5-4 | | SW-UNIT4F-IA5A-4 | |
| | | | Date Collected | 12/16/2015 | | 12/16/2015 | | 12/16/2015 | | 12/16/2015 | | 12/16/2015 | | 12/16/2015 | | 12/16/2015 | |
| CARBON TETRACHLORIDE | 3 | 2.0 | µg/m³ | 0.16 | U | 0.16 | U | 0.16 | U | 0.16 | U | 0.16 | U | 0.16 | U | 0.16 | U |
| CHLOROBENZENE | 220 | 219 | µg/m³ | 0.15 | U | 0.15 | U | 0.15 | U | 0.15 | U | 0.15 | U | 0.15 | U | 0.15 | U |
| CHLOROETHANE | 44000 | 43800 | µg/m³ | 0.058 | U | 0.058 | U | 0.058 | U | 0.058 | U | 0.058 | U | 0.058 | U | 0.058 | U |
| CHLOROFORM | 2 | 0.53 | µg/m³ | 0.15 | U | 0.15 | U | 0.15 | U | 0.15 | U | 0.15 | U | 0.15 | U | 0.15 | U |
| CHLOROMETHANE | 390 | 394 | µg/m³ | **1** | | **0.97** | | **1.1** | | **0.89** | | **1** | | **0.93** | | **1.1** | |
| CIS-1,2-DICHLOROETHENE | - | No Inh. Tox | µg/m³ | 0.099 | U | 0.099 | U | 0.099 | U | 0.099 | U | 0.099 | U | 0.099 | U | 0.099 | U |
| CIS-1,3-DICHLOROPROPENE | - | 88 | µg/m³ | 0.16 | U | 0.16 | U | 0.16 | U | 0.16 | U | 0.16 | U | 0.16 | U | 0.16 | U |
| CYCLOHEXANE | 26000 | 26280 | µg/m³ | **3.4** | | **3.8** | | **4.1** | | **3.2** | | **3.8** | | **6.2** | | **7.6** | |
| DIBROMOCHLOROMETHANE | 4 | 0.45 | µg/m³ | 0.35 | U | 0.35 | U | 0.35 | U | 0.35 | U | 0.35 | U | 0.35 | U | 0.35 | U |
| DICHLORODIFLUOROMETHANE | 440 | 438 | µg/m³ | **2.2** | | **2.3** | | **2.2** | | **2** | | **2.1** | | **2.1** | | **2.5** | |
| DICHLOROMETHANE | 1200 | 1226 | µg/m³ | 0.45 | U | 0.45 | U | 0.45 | U | 0.66 | J | 0.66 | J | 1.5 | | 0.83 | |
| ETHYL ACETATE | - | 307 | µg/m³ | **12** | | **33** | | **7.2** | **J** | **11** | | **12** | **J** | **22** | | **22** | |
| ETHYL ALCOHOL | - | - | µg/m³ | **94.6** | **J** | **95** | **J** | **622** | **J** | **505** | **J** | **546** | **J** | **163** | **J** | **177** | **J** |
| ETHYLBENZENE | 5 | 4.9 | µg/m³ | 0.21 | U | **0.96** | | **0.91** | | **0.83** | **J** | **0.96** | | **2.5** | | **22** | |
| HEXACHLOROBUTADIENE | 5 | 0.56 | µg/m³ | 0.35 | U | 0.35 | U | 0.35 | U | 0.35 | U | 0.35 | U | 0.35 | U | 0.35 | U |
| ISOPROPANOL | - | 876 | µg/m³ | **9.6** | | **12** | | **26.3** | | **25** | | **23** | | **17** | | **20** | |
| M,P-XYLENE | 440 | 438 | µg/m³ | 0.19 | U | **4.8** | | **3.4** | **J** | **2.9** | | **4.3** | **J** | **6.9** | | **58.2** | |
| METHYL METHACRYLATE | - | 3066 | µg/m³ | 0.12 | U | 0.12 | U | 0.12 | U | 0.12 | U | 0.12 | U | 0.12 | U | 0.12 | U |
| METHYL-TERT-BUTYL-ETHER (MTBE) | 47 | 47 | µg/m³ | 0.094 | U | 0.094 | U | 0.094 | U | 0.094 | U | 0.094 | U | 0.094 | U | 1.4 | |
| NAPHTHALENE | 3 | 0.36 | µg/m³ | 0.28 | U | **8.9** | | **16** | | **2.4** | | **16** | | **18** | | **17** | |
| N-HEPTANE | - | - | µg/m³ | **1.3** | | **1.6** | | **1.4** | **J** | **1.3** | | **1.1** | **J** | **1** | | **1.6** | |
| N-HEXANE | 3100 | 3066 | µg/m³ | **2.4** | | **2.5** | | **2** | **J** | **6** | | **1.5** | **J** | **3** | | **8.1** | |
| O-XYLENE | 440 | 438 | µg/m³ | 0.11 | U | **1.3** | | **1** | **J** | **0.91** | | **2.3** | **J** | **2** | | **23** | |
| PROPYLENE | - | 13140 | µg/m³ | 0.14 | U | 0.14 | U | 0.14 | U | 0.14 | U | 0.14 | U | 0.14 | U | 0.14 | U |
| STYRENE | 4400 | 4380 | µg/m³ | 0.11 | U | 0.11 | U | 0.72 | J | 0.64 | J | 0.64 | J | 0.98 | | 1 | |
| TERT-BUTYL ALCOHOL | - | - | µg/m³ | **1** | | **0.94** | | **1.2** | | **0.79** | | **1.2** | | **0.15** | **U** | **0.97** | |
| TETRACHLOROETHENE | 47 | 47 | µg/m³ | **0.28** | | **0.33** | | **0.16** | **UJ** | **0.16** | **U** | **0.67** | **J** | **0.24** | **J** | **0.33** | |
| TETRAHYDROFURAN | - | 8760 | µg/m³ | 0.13 | U | 0.13 | U | 0.28 | J | 0.13 | U | 0.13 | U | 3.2 | | 2.9 | |
| TOLUENE | 22000 | 21900 | µg/m³ | **1.5** | | **4.1** | | **6.4** | | **5.7** | | **6** | | **15** | | **33** | |
| TRANS-1,2-DICHLOROETHENE | 260 | No Inh. Tox | µg/m³ | 0.079 | U | 0.079 | U | 0.079 | U | 0.079 | U | 0.079 | U | 0.079 | U | 0.079 | U |
| TRANS-1,3-DICHLOROPROPENE | - | 88 | µg/m³ | 0.091 | U | 0.091 | U | 0.091 | U | 0.091 | U | 0.091 | U | 0.091 | U | 0.091 | U |
| TRICHLOROETHENE | 3 | 3.0 | µg/m³ | **0.42** | | **0.81** | | **2.7** | | **2.3** | | **2.4** | | **0.59** | | **0.7** | |
| TRICHLOROFLUOROMETHANE | 3100 | 3066 | µg/m³ | **3.8** | | **4** | | **16** | | **15** | | **15** | | **22** | | **25** | |
| VINYL ACETATE | - | 876 | µg/m³ | 0.19 | U | 0.19 | U | 0.19 | U | 0.19 | U | 0.19 | U | 0.19 | U | 0.19 | U |
| VINYL CHLORIDE | 3 | 2.8 | µg/m³ | 0.082 | U | 0.082 | U | 0.082 | U | 0.082 | U | 0.082 | U | 0.082 | U | 0.082 | U |
| XYLENES (TOTAL) | 440 | 438 | µg/m³ | 0.11 | U | **6.1** | | **4.3** | **J** | **3.8** | | **6.9** | **J** | **8.7** | | **81.7** | |

Notes:
EPA – Environmental Protection Agency; NJDEP – New Jersey Department of Environmental Protection; THQ – Target Hazard Quotient; VI – Vapor Intrusion; VISL – Vapor Intrusion Screening Level.
- = No criterion listed.
No Inh. Tox – No inhalation toxicity information available; therefore, no criterion calculated.
U – Non-detect.
J – Estimated Value.
Shading – Value exceeds criterion.
**Bold – Detected concentration.**

**Table 5 FMP Indoor Air Data October 2016**

| Group | Analyte | CAS No | NJDEP VI Non-residential Indoor Air Screening Level | EPA VISL Commercial Worker Air – THQ 1.0 | | | Address | | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 3 US Ave | 4 Foster Ave |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sample ID | SW-AMBIENT-01_101216 | SW-UNIT2F-IA001_101216 | SW-UNIT2F-IA002_101216 | SW-UNIT2F-IA003_101216 | SW-UNIT2F-IA004_101216 | SW-UNIT2F-IA005_101216 | SW-UNIT2F-IA006_101216 | SW-UNIT2F-IA007_101216 | SW-UNIT2F-IA008_101216 | SW-UNIT3F-IA001_101216 | SW-DUP_101216 (4F_IA005) |
| | | | | | | | Sample Date | 10/13/2016 | 10/13/2016 | 10/13/2016 | 10/13/2016 | 10/13/2016 | 10/13/2016 | 10/13/2016 | 10/13/2016 | 10/13/2016 | 10/13/2016 | 10/13/2016 |
| | | | | | Units | Min. Det. | Max. Det. | | | | | | | | | | | |
| INORG | METHANE | 74-82-8 | - | - | % | 0.00041 | 0.02 | 0.0008 | 0.0048 | 0.0056 | 0.0081 | 0.008 | 0.0063 | 0.0066 | 0.0074 | 0.0086 | 0.02 | 0.00041 |
| VOC | 1,1,1-TRICHLOROETHANE | 71-55-6 | 22000 | 21900 | µg/m³ | | | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U |
| VOC | 1,1,2,2-TETRACHLOROETHANE | 79-34-5 | 3 | 0.21 | µg/m³ | 0.24 | 0.9 | 0.64 U | 0.73 U | 0.31 | 0.24 | 0.69 U | 0.9 | 0.53 J | 0.62 U | 0.38 J | 0.55 J | 0.34 JD |
| VOC | 1,1,2-TRICHLOROETHANE | 79-00-5 | 3 | 0.77 | µg/m³ | | | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | 76-13-1 | 130000 | 131400 | µg/m³ | 0.58 | 0.63 | 1.5 U | 0.58 J | 0.63 J | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U |
| VOC | 1,1-DICHLOROETHANE | 75-34-3 | 8 | 7.7 | µg/m³ | | | 0.81 U | 0.81 U | 0.81 U | 0.81 U | 0.81 U | 0.81 U | 0.81 U | 0.81 U | 0.81 U | 0.81 U | 0.81 U |
| VOC | 1,1-DICHLOROETHENE | 75-35-4 | 880 | 876 | µg/m³ | | | 0.79 U | 0.79 U | 0.79 U | 0.79 U | 0.79 U | 0.79 U | 0.79 U | 0.79 U | 0.79 U | 0.79 U | 0.79 U |
| VOC | 1,2,4-TRICHLOROBENZENE | 120-82-1 | 9 | 8.8 | µg/m³ | | | 3.7 U | 3.7 U | 3.7 U | 3.7 U | 3.7 U | 3.7 U | 3.7 U | 3.7 U | 3.7 U | 3.7 U | 3.7 U |
| VOC | 1,2,4-TRIMETHYLBENZENE | 95-63-6 | - | 31 | µg/m³ | 0.39 | 2.7 | 0.98 U | 0.69 J | 0.8 J | 1.3 | 0.98 U | 1 | 1 | 0.98 U | 1.3 | 2.7 | 0.39 J |
| VOC | 1,2-DIBROMOETHANE | 106-93-4 | 4 | 0.020 | µg/m³ | | | 0.25 U | 0.29 U | 0.054 U | 0.054 U | 0.27 U | 0.054 U | 0.24 U | 0.24 U | 0.25 U | 0.28 U | 0.22 U |
| VOC | 1,2-DICHLOROBENZENE | 95-50-1 | 880 | 876 | µg/m³ | | | 1.2 U | 1.2 U | 1.2 U | 1.2 U | 1.2 U | 1.2 U | 1.2 U | 1.2 U | 1.2 U | 1.2 U | 1.2 U |
| VOC | 1,2-DICHLOROETHANE | 107-06-2 | 2 | 0.47 | µg/m³ | 0.13 | 0.97 | 0.38 U | 0.76 | 0.77 | 0.62 | 0.62 | 0.53 | 0.74 | 0.52 | 0.38 U | 0.72 | 0.81 D |
| VOC | 1,2-DICHLOROPROPANE | 78-87-5 | 2 | 1.2 | µg/m³ | 0.2 | 0.98 | 0.86 U | 0.92 U | 0.35 | 0.25 | 0.32 J | 0.28 | 0.37 J | 0.25 J | 0.32 J | 0.54 J | 0.2 JD |
| VOC | 1,2-DICHLOROTETRAFLUOROETHANE | 76-14-2 | - | 0 | µg/m³ | | | 1.4 U | 1.4 U | 1.4 U | 1.4 U | 1.4 U | 1.4 U | 1.4 U | 1.4 U | 1.4 U | 1.4 U | 1.4 U |
| VOC | 1,3,5-TRIMETHYLBENZENE (MESITYLENE) | 108-67-8 | - | No Inh. Tox | µg/m³ | 0.25 | 1.6 | 0.98 U | 0.47 J | 0.51 J | 0.84 J | 0.98 U | 0.64 J | 0.65 J | 0.98 U | 0.73 J | 1.6 | 0.98 U |
| VOC | 1,3-BUTADIENE | 106-99-0 | 1 | 0.41 | µg/m³ | 0.12 | 0.13 | 0.44 U | 0.44 U | 0.12 J | 0.13 J | 0.44 U | 0.13 J | 0.44 U | 0.44 U | 0.44 U | 0.44 U | 0.44 U |
| VOC | 1,3-DICHLOROBENZENE | 541-73-1 | 3 | - | µg/m³ | | | 1.2 U | 1.2 U | 1.2 U | 1.2 U | 1.2 U | 1.2 U | 1.2 U | 1.2 U | 1.2 U | 1.2 U | 1.2 U |
| VOC | 1,4-DICHLOROBENZENE | 106-46-7 | - | 1.1 | µg/m³ | 0.12 | 0.4 | 1.2 U | 1.2 U | 0.4 J | 0.12 J | 1.2 U | 0.13 J | 1.2 U | 1.2 U | 1.2 U | 1.2 U | 1.2 U |
| VOC | 1,4-DIOXANE (P-DIOXANE) | 123-91-1 | - | 2.5 | µg/m³ | 0.14 | 1.1 | 0.55 J | 0.42 J | 0.32 J | 0.14 J | 0.44 J | 0.28 J | 0.22 J | 0.34 J | 0.18 J | 0.41 J | 0.29 U |
| VOC | 2,2,4-TRIMETHYLPENTANE | 540-84-1 | - | No Inh. Tox | µg/m³ | 0.37 | 0.37 | 0.37 J | 0.93 U | 0.93 U | 0.93 U | 0.93 U | 0.93 U | 0.93 U | 0.93 U | 0.93 U | 0.93 U | 0.93 U |
| VOC | 2-CHLOROTOLUENE | 95-49-8 | - | No Inh. Tox | µg/m³ | | | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| VOC | 2-HEXANONE | 591-78-6 | - | 131 | µg/m³ | 4.5 | 4.5 | 2 U | 2 U | 4.5 | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U |
| VOC | 3-CHLOROPROPENE | 107-05-1 | 2 | 2.0 | µg/m³ | | | 1.6 U | 1.6 U | 1.6 U | 1.6 U | 1.6 U | 1.6 U | 1.6 U | 1.6 U | 1.6 U | 1.6 U | 1.6 U |
| VOC | 4-ETHYLTOLUENE | 622-96-8 | - | - | µg/m³ | 0.22 | 0.59 | 0.98 U | 0.98 U | 0.98 U | 0.22 J | 0.98 U | 0.23 J | 0.23 J | 0.98 U | 0.98 U | 0.59 J | 0.98 U |
| VOC | 4-METHYL-2-PENTANONE | 108-10-1 | 13000 | 13140 | µg/m³ | | | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U |
| VOC | ACETONE | 67-64-1 | 140000 | 135780 | µg/m³ | 5.4 | 130 | 5.4 J | 88 | 130 E | 110 E | 120 E | 100 E | 100 E | 99 E | 120 E | 79 | 18 |
| VOC | ACETONITRILE | 75-05-8 | - | 263 | µg/m³ | | | 8.4 U | 8.4 U | 8.4 U | 8.4 U | 8.4 U | 8.4 U | 8.4 U | 8.4 U | 8.4 U | 8.4 U | 8.4 U |
| VOC | ACROLEIN | 107-02-8 | - | 0.088 | µg/m³ | 0.72 | 2 | 0.72 J | 1.5 J | 1.5 | 1.7 | 1.7 J | 1.8 | 1.7 J | 2 J | 1.8 J | 1.7 J | 0.91 U |
| VOC | ACRYLONITRILE | 107-13-1 | - | 0.18 | µg/m³ | | | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U |
| VOC | ALPHA METHYL STYRENE | 98-83-9 | - | No Inh. Tox | µg/m³ | | | 0.97 U | 0.97 U | 0.97 U | 0.97 U | 0.97 U | 0.97 U | 0.97 U | 0.97 U | 0.97 U | 0.97 U | 0.97 U |
| VOC | BENZENE | 71-43-2 | 2 | 1.6 | µg/m³ | 0.41 | 7 | 0.41 | 1.8 | 1.9 | 4 | 4.3 | 2.4 | 2.5 | 1.9 | 3 | 7 | 0.62 D |
| VOC | BENZENE, TERT-BUTYL- | 98-06-6 | - | No Inh. Tox | µg/m³ | | | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U |
| VOC | BENZYL CHLORIDE | 100-44-7 | - | 0.25 | µg/m³ | 0.094 | 0.32 | 1 U | 1 U | 0.32 J | 0.094 J | 1 U | 0.11 J | 1 U | 1 U | 1 U | 1 U | 1 U |
| VOC | BROMODICHLOROMETHANE | 75-27-4 | 3 | 0.33 | µg/m³ | 1.3 | 1.8 | 0.38 U | 0.43 U | 0.08 U | 0.08 U | 0.4 U | 0.08 U | 0.37 U | 0.36 U | 1.3 | 0.42 U | 1.8 |
| VOC | BROMOETHENE | 593-60-2 | 2 | 0.38 | µg/m³ | | | 0.87 U | 0.87 U | 0.87 U | 0.87 U | 0.87 U | 0.87 U | 0.87 U | 0.87 U | 0.87 U | 0.87 U | 0.87 U |
| VOC | BROMOFORM | 75-25-2 | 11 | 11 | µg/m³ | | | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 2.1 U |
| VOC | BROMOMETHANE | 74-83-9 | 22 | 22 | µg/m³ | | | 0.78 U | 0.78 U | 0.78 U | 0.78 U | 0.78 U | 0.78 U | 0.78 U | 0.78 U | 0.78 U | 0.78 U | 0.78 U |
| VOC | CARBON DISULFIDE | 75-15-0 | 3100 | 3066 | µg/m³ | 0.16 | 0.75 | 0.24 J | 0.75 J | 0.16 J | 0.18 J | 0.38 J | 0.21 J | 0.16 J | 0.21 J | 0.21 J | 0.55 J | 0.56 J |
| VOC | CARBON TETRACHLORIDE | 56-23-5 | 3 | 2.0 | µg/m³ | 0.59 | 0.74 | 0.7 | 0.72 | 0.71 | 0.61 | 0.73 | 0.64 | 0.7 | 0.59 | 0.7 | 0.74 | 0.59 D |
| VOC | CHLOROBENZENE | 108-90-7 | 220 | 219 | µg/m³ | | | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U |
| VOC | CHLOROETHANE | 75-00-3 | 44000 | 43800 | µg/m³ | 0.055 | 0.15 | 0.15 J | 0.63 U | 0.12 U | 0.055 J | 0.6 U | 0.068 J | 0.54 U | 0.53 U | 0.55 U | 0.62 U | 0.47 U |
| VOC | CHLOROFORM | 67-66-3 | 2 | 0.53 | µg/m³ | 0.16 | 0.82 | 0.25 J | 0.5 J | 0.49 | 0.53 J | 0.71 | 0.5 | 0.54 | 0.55 | 0.74 | 0.82 | 0.19 JD |
| VOC | CHLOROMETHANE | 74-87-3 | 390 | 394 | µg/m³ | 0.97 | 1.7 | 1.7 | 1.1 | 1.3 | 1.1 | 1.1 | 1.2 | 1.1 | 1 | 1.2 | 1 | 0.97 J |
| VOC | CIS-1,2-DICHLOROETHENE | 156-59-2 | - | No Inh. Tox | µg/m³ | | | 0.79 U | 0.79 U | 0.79 U | 0.79 U | 0.79 U | 0.79 U | 0.79 U | 0.79 U | 0.79 U | 0.79 U | 0.79 U |
| VOC | CIS-1,3-DICHLOROPROPENE | 10061-01-5 | - | 3.1 | µg/m³ | | | 0.91 U | 0.91 U | 0.91 U | 0.91 U | 0.91 U | 0.91 U | 0.91 U | 0.91 U | 0.91 U | 0.91 U | 0.91 U |
| VOC | CYCLOHEXANE | 110-82-7 | 26000 | 26280 | µg/m³ | 0.18 | 65 | 0.18 J | 22 | 21 | 24 | 23 | 22 | 23 | 21 | 23 | 36 | 6.8 |
| VOC | DIBROMOCHLOROMETHANE | 124-48-1 | 4 | No Inh. Tox | µg/m³ | 0.11 | 0.11 | 0.4 U | 0.45 U | 0.11 | 0.085 U | 0.43 U | 0.085 U | 0.39 U | 0.38 U | 0.4 U | 0.44 U | 0.34 U |
| VOC | DICHLORODIFLUOROMETHANE | 75-71-8 | 440 | 438 | µg/m³ | 2 | 2.4 | 2.3 J | 2.2 J | 2.2 J | 2.1 J | 2.1 J | 2.3 J | 2.2 J | 2.1 J | 2.2 J | 2.3 J | 2.1 J |
| VOC | DICHLOROMETHANE | 75-09-2 | 1200 | 1226 | µg/m³ | 0.7 | 1.5 | 1.7 U | 0.87 J | 0.79 J | 0.77 J | 0.76 J | 1.3 J | 1 J | 1.2 J | 0.74 J | 0.82 J | 1.2 J |
| VOC | ETHYL ACETATE | 141-78-6 | - | 307 | µg/m³ | 6 | 6 | 18 U | 18 U | 18 U | 18 U | 18 U | 18 U | 18 U | 18 U | 18 U | 18 U | 18 U |
| VOC | ETHYL ALCOHOL | 64-17-5 | - | - | µg/m³ | 1.9 | 90 | 1.9 J | 78 | 90 | 50 | 50 | 49 | 56 | 47 | 51 | 19 | 31 |
| VOC | ETHYLBENZENE | 100-41-4 | 5 | 4.9 | µg/m³ | 0.16 | 5.3 | 0.16 J | 1.1 | 1.8 | 2.5 | 0.89 | 1.7 | 1.7 | 0.41 J | 2.2 | 5.3 | 0.9 |
| VOC | HEXACHLOROBUTADIENE | 87-68-3 | 5 | 0.56 | µg/m³ | 0.16 | 0.2 | 1 U | 1.1 U | 0.2 J | 0.21 U | 1.1 U | 0.16 J | 0.97 U | 0.96 U | 0.99 U | 1.1 U | 0.85 U |
| VOC | ISOPROPANOL | 67-63-0 | - | 876 | µg/m³ | 3.8 | 14 | 12 U | 9.9 J | 14 | 12 J | 11 J | 9.6 J | 10 J | 8.8 J | 10 J | 6.5 J | 3.8 J |
| VOC | ISOPROPYLBENZENE | 98-82-8 | - | 1752 | µg/m³ | 0.16 | 0.22 | 0.98 U | 0.22 J | 0.98 U | 0.98 U | 0.98 U | 0.98 U | 0.98 U | 0.98 U | 0.16 J | 0.98 U | 0.98 U |
| VOC | METHYL ETHYL KETONE | 78-93-3 | 22000 | 21900 | µg/m³ | 0.54 | 3.6 | 0.54 J | 1.2 J | 1.6 | 1.7 | 1.5 | 1.8 | 1.4 J | 1.7 | 1.5 | 3.6 | 1.5 J |
| VOC | METHYL METHACRYLATE | 80-62-6 | - | 3066 | µg/m³ | 12 | 41 | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U | 12 | 2 U | 2 U |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | 1634-04-4 | 47 | 47 | µg/m³ | | | 0.72 U | 0.72 U | 0.72 U | 0.72 U | 0.72 U | 0.72 U | 0.72 U | 0.72 U | 0.72 U | 0.72 U | 0.72 U |
| VOC | NAPHTHALENE | 91-20-3 | 3 | 0.36 | µg/m³ | 0.27 | 16 | 0.29 J | 2.3 | 7.3 | 9.9 | 0.31 J | 6 | 12 | 0.27 J | 5.7 | 7.2 | 0.93 |
| VOC | N-DECANE | 124-18-5 | - | - | µg/m³ | 1.1 | 4.8 | 2.9 U | 3.3 | 3.9 | 4.4 | 2.9 U | 3.8 | 3.9 | 2.9 U | 4.8 | 4.6 | 1.1 J |
| VOC | N-DODECANE | 112-40-3 | - | - | µg/m³ | 0.92 | 3.3 | 35 U | 35 U | 3.3 J | 1.5 J | 35 U | 35 U | 0.92 J | 35 U | 35 U | 1.4 J | 35 U |

**Table 5 FMP Indoor Air Data October 2016**

| Group | Analyte | CAS No | NJDEP VI Non-residential Indoor Air Screening Level | EPA VISL Commercial Worker Air – THQ 1.0 | | | Address | | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 3 US Ave | 4 Foster Ave |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sample ID | SW-AMBIENT-01_101216 | SW-UNIT2F-IA001_101216 | SW-UNIT2F-IA002_101216 | SW-UNIT2F-IA003_101216 | SW-UNIT2F-IA004_101216 | SW-UNIT2F-IA005_101216 | SW-UNIT2F-IA006_101216 | SW-UNIT2F-IA007_101216 | SW-UNIT2F-IA008_101216 | SW-UNIT3F-IA001_101216 | SW-DUP_101216 (4F_IA005) |
| | | | | | | | Sample Date | 10/13/2016 | 10/13/2016 | 10/13/2016 | 10/13/2016 | 10/13/2016 | 10/13/2016 | 10/13/2016 | 10/13/2016 | 10/13/2016 | 10/13/2016 | 10/13/2016 |
| | | | | | Units | Min. Det. | Max. Det. | | | | | | | | | | | |
| VOC | N-HEPTANE | 142-82-5 | - | - | µg/m³ | 0.2 | 13 | 0.2 J | 12 | 9.5 | 9.8 | 6.3 | 8.6 | 9.7 | 5.7 | 8.3 | 13 | 0.82 U |
| VOC | N-HEXANE | 110-54-3 | 3100 | 3066 | µg/m³ | 0.4 | 9.3 | 0.4 J | 8.9 | 7.6 | 7.8 | 7 | 7.4 | 7.9 | 5.8 | 7 | 9.3 | 0.81 |
| VOC | N-NONANE | 111-84-2 | - | 88 | µg/m³ | | | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| VOC | N-OCTANE | 111-65-9 | - | - | µg/m³ | 1.4 | 16 | 0.93 U | 3.5 | 3.6 | 6.9 | 1.7 | 4 | 4.4 | 1.4 | 4.9 | 16 | 0.93 U |
| VOC | N-PROPYLBENZENE | 103-65-1 | - | 4380 | µg/m³ | 0.24 | 0.52 | 0.98 U | 0.98 U | 0.98 U | 0.98 U | 0.98 U | 0.98 U | 0.98 U | 0.98 U | 0.98 U | 0.52 J | 0.98 U |
| VOC | N-UNDECANE | 1120-21-4 | - | - | µg/m³ | | | 32 U | 32 U | 32 U | 32 U | 32 U | 32 U | 32 U | 32 U | 32 U | 32 U | 32 U |
| VOC | P-CYMENE | 99-87-6 | - | - | µg/m³ | 0.23 | 0.33 | 1.1 U | 0.28 J | 0.33 J | 0.29 J | 1.1 U | 0.25 J | 0.25 J | 1.1 U | 0.31 J | 0.3 J | 1.1 U |
| VOC | PROPYLENE | 115-07-1 | - | 13140 | µg/m³ | | | 8.6 U | 8.6 U | 8.6 U | 8.6 U | 8.6 U | 8.6 U | 8.6 U | 8.6 U | 8.6 U | 8.6 U | 8.6 U |
| VOC | SEC-BUTYLBENZENE | 135-98-8 | - | No Inh. Tox | µg/m³ | | | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U |
| VOC | STYRENE | 100-42-5 | 4400 | 4380 | µg/m³ | 0.24 | 0.61 | 0.85 U | 0.33 J | 0.37 J | 0.38 J | 0.85 U | 0.39 J | 0.44 J | 0.85 U | 0.42 J | 0.4 J | 0.4 J |
| VOC | TERT-BUTYL ALCOHOL | 75-65-0 | - | - | µg/m³ | | | 15 U | 15 U | 15 U | 15 U | 15 U | 15 U | 15 U | 15 U | 15 U | 15 U | 15 U |
| VOC | TETRACHLOROETHENE | 127-18-4 | 47 | 47 | µg/m³ | 0.18 | 2.1 | 1.4 U | 0.84 J | 1.3 J | 2 | 1.5 | 1.4 | 1.3 J | 1 J | 2.1 | 1.7 | 0.22 J |
| VOC | TETRAHYDROFURAN | 109-99-9 | - | 8760 | µg/m³ | | | 15 U | 15 U | 15 U | 15 U | 15 U | 15 U | 15 U | 15 U | 15 U | 15 U | 15 U |
| VOC | TOLUENE | 108-88-3 | 22000 | 21900 | µg/m³ | 0.75 | 5.8 | 0.75 | 3.1 | 3.2 | 3.6 | 2.1 | 3.3 | 3.2 | 1.5 | 3.3 | 5.8 | 1.7 |
| VOC | TRANS-1,2-DICHLOROETHENE | 156-60-5 | 260 | No Inh. Tox | µg/m³ | | | 0.79 U | 0.79 U | 0.79 U | 0.79 U | 0.79 U | 0.79 U | 0.79 U | 0.79 U | 0.79 U | 0.79 U | 0.79 U |
| VOC | TRANS-1,3-DICHLOROPROPENE | 10061-02-6 | - | 3.1 | µg/m³ | 0.072 | 0.072 | 0.42 U | 0.48 U | 0.072 J | 0.091 U | 0.46 U | 0.091 U | 0.41 U | 0.41 U | 0.42 U | 0.47 U | 0.36 U |
| VOC | TRICHLOROETHYLENE (TCE) | 79-01-6 | 3 | 3.0 | µg/m³ | 0.21 | 5.9 | 0.5 U | 0.23 J | 0.21 | 0.3 J | 0.41 J | 0.34 | 0.37 J | 0.31 J | 0.46 J | 5.9 | 0.43 U |
| VOC | TRICHLOROFLUOROMETHANE | 75-69-4 | 3100 | No Inh. Tox | µg/m³ | 1.2 | 35 | 1.2 | 1.5 | 1.5 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 2 | 35 | 13 |
| VOC | VINYL ACETATE | 108-05-4 | - | 876 | µg/m³ | | | 18 U | 18 U | 18 U | 18 U | 18 U | 18 U | 18 U | 18 U | 18 U | 18 U | 18 U |
| VOC | VINYL CHLORIDE | 75-01-4 | 3 | 2.8 | µg/m³ | 0.11 | 0.18 | 0.24 U | 0.18 J | 0.16 | 0.12 | 0.13 J | 0.12 J | 0.15 J | 0.15 J | 0.13 J | 0.26 U | 0.2 U |
| VOC | XYLENE, O- | 95-47-6 | 440 | 438 | µg/m³ | 0.21 | 10 | 0.21 J | 2.1 | 3 | 6 | 0.99 | 3.6 | 3.5 | 0.28 J | 4.9 | 10 | 0.86 |
| VOC | XYLENES (TOTAL) | 1330-20-7 | 440 | 438 | µg/m³ | 0.78 | 63 | 0.78 J | 11 | 15 | 34 | 7.1 | 19 | 19 | 2 J | 26 | 63 | 3.9 |
| VOC | XYLENES, M & P | 1330-20-7 | 440 | 438 | µg/m³ | 0.58 | 54 | 0.58 J | 8.5 | 12 | 28 | 5.9 | 15 | 15 | 1.7 J | 21 | 54 | 3 |
| VOC | (TIC) (1R)-2,6,6-TRIMETHYLBICYCLO[3.1.1]HEPT-2 | 7785-70-8 | - | - | ppbv | 1.2 | 3.3 | | 1.2 JN | 1.4 JN | 3.3 JN | | 2.1 JN | 2 JN | | 2.8 JN | 2.3 JN | |
| VOC | (TIC) 1,1,4-TRIMETHYLCYCLOHEXANE | 7094-27-1 | - | - | ppbv | 1.3 | 1.3 | | | | | | | | | 1.3 JN | | |
| VOC | (TIC) CARBONIC ACID, DIMETHYL ESTER | 616-38-6 | - | - | ppbv | 2.5 | 3.6 | | | | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, 1,1,3-TRIMETHYL- | 3073-66-3 | - | - | ppbv | 1.2 | 9.5 | | 2.6 JN | 2.2 JN | 2.9 JN | | 2.7 JN | 2.6 JN | 1.2 JN | 2.8 JN | 5 JN | 1.2 JN |
| VOC | (TIC) CYCLOHEXANE, 1,1-DIMETHYL- | 590-66-9 | - | - | ppbv | 2.2 | 2.6 | | | 2.2 JN | | | 2.6 JN | | | | | |
| VOC | (TIC) CYCLOHEXANE, 1,2,4-TRIMETHYL- | 2234-75-5 | - | - | ppbv | 3.6 | 3.6 | | | | 3.6 JN | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, 1,2,4-TRIMETHYL-, (1.ALPHA. | 7667-60-9 | - | - | ppbv | 1 | 7.1 | | 2.5 JN | 2.3 JN | | | | 2.8 JN | | 3.1 JN | 6.2 JN | |
| VOC | (TIC) CYCLOHEXANE, 1,2-DIMETHYL- (CIS/TRANS) | 583-57-3 | - | - | ppbv | 26 | 26 | | | | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, 1,2-DIMETHYL-, CIS- | 2207-01-4 | - | - | ppbv | 1.1 | 3.8 | | 1.1 JN | 1.4 JN | 1.5 JN | | 1.5 JN | 1.4 JN | | 1.4 JN | 3.8 JN | |
| VOC | (TIC) CYCLOHEXANE, 1,2-DIMETHYL-, TRANS- | 6876-23-9 | - | - | ppbv | 1.3 | 18 | | 7.6 JN | 6.4 JN | 8.8 JN | 3.5 JN | 7.4 JN | 7.5 JN | 4.9 JN | 7.9 JN | 14 JN | 2.3 JN |
| VOC | (TIC) CYCLOHEXANE, 1,3,5-TRIMETHYL-, (1.ALPHA. | 1795-26-2 | - | - | ppbv | 2.8 | 2.8 | | | | | | 2.8 JN | | | | | |
| VOC | (TIC) CYCLOHEXANE, 1,3-DIMETHYL-, CIS- | 638-04-0 | - | - | ppbv | 2.1 | 40 | | 10 JN | 9.4 JN | 14 JN | 6.5 JN | 11 JN | 11 JN | 7.9 JN | 12 JN | 27 JN | 3.9 JN |
| VOC | (TIC) CYCLOHEXANE, 1,3-DIMETHYL-, TRANS- | 2207-03-6 | - | - | ppbv | 1.5 | 16 | | 1.9 JN | 1.6 JN | 6.8 JN | | | | 1.5 JN | | 11 JN | |
| VOC | (TIC) CYCLOHEXANE, 1,4-DIMETHYL- | 589-90-2 | - | - | ppbv | 1.7 | 5.6 | | | | | | | 5.5 JN | | 5.6 JN | | |
| VOC | (TIC) CYCLOHEXANE, 1,4-DIMETHYL-, TRANS- | 2207-04-7 | - | - | ppbv | 1.4 | 6.2 | | 4.9 JN | 3.9 JN | 2.6 JN | 1.4 JN | 2 JN | 2 JN | 3.6 JN | 2.2 JN | 5.5 JN | 1.5 JN |
| VOC | (TIC) CYCLOHEXANE, 1-ETHYL-2-METHYL- | 3728-54-9 | - | - | ppbv | 1.3 | 3.3 | | | 1.3 JN | 2 JN | | | 1.6 JN | | | 3.3 JN | |
| VOC | (TIC) CYCLOHEXANE, 1-ETHYL-2-METHYL-, TRANS- | 4923-78-8 | - | - | ppbv | 1.6 | 1.9 | | | | | | 1.6 JN | | | 1.9 JN | | |
| VOC | (TIC) CYCLOHEXANE, ETHYL- | 1678-91-7 | - | - | ppbv | 1.3 | 4.8 | | | | 1.7 JN | | 1.3 JN | 1.3 JN | | 1.5 JN | 3.1 JN | |
| VOC | (TIC) CYCLOHEXANE, METHYL- | 108-87-2 | - | - | ppbv | 3.6 | 60 | | 21 JN | 17 JN | 23 JN | 19 JN | 20 JN | 20 JN | 19 JN | 21 JN | 31 JN | 6.5 JN |
| VOC | (TIC) CYCLOPENTANE, 1,1,2-TRIMETHYL- | 4259-00-1 | - | - | ppbv | 3.3 | 3.3 | | | 3.3 JN | | | | | | | | |
| VOC | (TIC) CYCLOPENTANE, 1,1,3,4-TETRAMETHYL-, TRAN | 20309-77-7 | - | - | ppbv | 3.7 | 3.7 | | | | | | | | | | | |
| VOC | (TIC) CYCLOPENTANE, 1,2,3-TRIMETHYL-, (1.ALPHA | 15890-40-1 | - | - | ppbv | 2.1 | 30 | | 8.7 JN | 7.3 JN | 8.7 JN | 4.9 JN | 7.9 JN | 8.5 JN | 6.8 JN | 7.9 JN | 9.4 JN | |
| VOC | (TIC) CYCLOPENTANE, 1,2,4-TRIMETHYL- | 2815-58-9 | - | - | ppbv | 1.4 | 16 | | 7 JN | 5.9 JN | 7.3 JN | 3.9 JN | 6.8 JN | 7.1 JN | 5.4 JN | 6.8 JN | 9.5 JN | 3 JN |
| VOC | (TIC) CYCLOPENTANE, 1,2,4-TRIMETHYL-, (1.ALPHA | 16883-48-0 | - | - | ppbv | 14 | 14 | | | | | | | | | | | |
| VOC | (TIC) CYCLOPENTANE, 1,2-DIMETHYL- | 2452-99-5 | - | - | ppbv | 4.4 | 6.1 | | 4.4 JN | | | | | | | | 6.1 JN | |
| VOC | (TIC) CYCLOPENTANE, 1,2-DIMETHYL-, CIS- | 1192-18-3 | - | - | ppbv | 1.7 | 1.7 | | | | | 1.7 JN | | | | | | |
| VOC | (TIC) CYCLOPENTANE, 1,2-DIMETHYL-, TRANS- | 822-50-4 | - | - | ppbv | 2.2 | 10 | | | 3.8 JN | | 4 JN | 4.2 JN | 4.4 JN | 4 JN | 4.3 JN | | 2.2 JN |
| VOC | (TIC) CYCLOPENTANE, 1,3-DIMETHYL- | 2453-00-1 | - | - | ppbv | 1.7 | 3.3 | | 1.7 JN | | | | 1.7 JN | 1.8 JN | | | 2.6 JN | |
| VOC | (TIC) CYCLOPENTANE, 1,3-DIMETHYL-, CIS- | 2532-58-3 | - | - | ppbv | 1.8 | 4.6 | | | | 4.6 JN | | | | | 1.8 JN | | |
| VOC | (TIC) CYCLOPENTANE, 1-ETHYL-2-METHYL- | 3726-46-3 | - | - | ppbv | 2.3 | 4.3 | | | | | | | | | | | |
| VOC | (TIC) CYCLOPENTANE, ETHYL- | 1640-89-7 | - | - | ppbv | 1.2 | 2.8 | | 1.3 JN | 1.3 JN | 1.5 JN | 1.2 JN | 1.3 JN | 1.3 JN | 1.3 JN | | | |
| VOC | (TIC) CYCLOPENTANE, METHYL- | 96-37-7 | - | - | ppbv | 2.2 | 7.7 | | 2.4 JN | 2.2 JN | 2.6 JN | 2.5 JN | 2.4 JN | 2.5 JN | 2.4 JN | 2.5 JN | 3.6 JN | |
| VOC | (TIC) ETHANE, 1,1-DIFLUORO- | 75-37-6 | - | - | ppbv | 2 | 4.7 | | 2 JN | 2.4 JN | 3.2 JN | 3.2 JN | 2.7 JN | 2.4 JN | 2.6 JN | 3.4 JN | 4.7 JN | |
| VOC | (TIC) HEPTANE, 2,4-DIMETHYL- | 2213-23-2 | - | - | ppbv | 2.6 | 4.9 | | | | | | | | | | 2.6 JN | |
| VOC | (TIC) HEPTANE, 2,5-DIMETHYL- | 2216-30-0 | - | - | ppbv | 2.4 | 4.4 | | | | | | | | | | 2.4 JN | |
| VOC | (TIC) HEPTANE, 2-METHYL- | 592-27-8 | - | - | ppbv | 4.5 | 4.5 | | | | | | | | | | 4.5 JN | |
| VOC | (TIC) HEPTANE, 3-METHYL- | 589-81-1 | - | - | ppbv | 1.9 | 9.2 | | 4.4 JN | 3.8 JN | 5.9 JN | 1.9 JN | 4.8 JN | 5 JN | | 4.9 JN | 9.2 JN | |
| VOC | (TIC) HEPTANE, 4-METHYL- | 589-53-7 | - | - | ppbv | 1.7 | 1.7 | | | | 1.7 JN | | | | | | | |
| VOC | (TIC) HEXANE, 2,3-DIMETHYL- | 584-94-1 | - | - | ppbv | 1 | 1.4 | | 1.3 JN | 1 JN | | | | 1.4 JN | | | | |
| VOC | (TIC) HEXANE, 2,4-DIMETHYL- | 589-43-5 | - | - | ppbv | 1 | 13 | | 3.4 JN | 2.9 JN | 3.9 JN | 1.7 JN | 3.5 JN | 3.4 JN | 2.6 JN | 3.6 JN | 5.1 JN | 1 JN |
| VOC | (TIC) HEXANE, 2-METHYL- | 591-76-4 | - | - | ppbv | 1.4 | 1.7 | | | 1.7 JN | 1.4 JN | | | | | | | |
| VOC | (TIC) HEXANE, 3-ETHYL- | 619-99-8 | - | - | ppbv | 4.2 | 8.1 | | | | | | | | | | | |

**Table 5 FMP Indoor Air Data October 2016**

| Group | Analyte | CAS No | NJDEP VI Non-residential Indoor Air Screening Level | EPA VISL Commercial Worker Air – THQ 1.0 | | | Address | | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 2 Foster Ave | 3 US Ave | 4 Foster Ave |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sample ID | SW-AMBIENT-01_101216 | SW-UNIT2F-IA001_101216 | SW-UNIT2F-IA002_101216 | SW-UNIT2F-IA003_101216 | SW-UNIT2F-IA004_101216 | SW-UNIT2F-IA005_101216 | SW-UNIT2F-IA006_101216 | SW-UNIT2F-IA007_101216 | SW-UNIT2F-IA008_101216 | SW-UNIT3F-IA001_101216 | SW-DUP_101216 (4F_IA005) |
| | | | | | | | Sample Date | 10/13/2016 | 10/13/2016 | 10/13/2016 | 10/13/2016 | 10/13/2016 | 10/13/2016 | 10/13/2016 | 10/13/2016 | 10/13/2016 | 10/13/2016 | 10/13/2016 |
| | | | | | Units | Min. Det. | Max. Det. | | | | | | | | | | | |
| VOC | (TIC) PENTANE, 2,3-DIMETHYL- | 565-59-3 | - | - | ppbv | 1 | 8.2 | | | | | 1.9 JN | | | | | | 1 JN |
| VOC | (TIC) PENTANE, 2-METHYL- | 107-83-5 | - | - | ppbv | 1.3 | 1.3 | | | | | 1.3 JN | | | | | | |
| VOC | (TIC) PENTANE, 3-ETHYL-2-METHYL- | 609-26-7 | - | - | ppbv | 4 | 5.9 | | | | | | | | | | | |
| VOC | (TIC) PENTANE, 3-METHYL- | 96-14-0 | - | - | ppbv | 2.2 | 3.9 | | | | | | | | | | 2.2 JN | |
| VOC | (TIC) UNKNOWN_10.18 | | - | - | ppbv | 1.1 | 1.7 | | | | | 1.4 J | 1.7 J | 1.7 J | 1.1 J | 1.4 J | | |
| VOC | (TIC) UNKNOWN_10.24 | | - | - | ppbv | 6.4 | 6.4 | | 6.4 J | | | | | | | | | |
| VOC | (TIC) UNKNOWN_10.59 | | - | - | ppbv | 2.1 | 2.1 | | | | | 2.1 J | | | | | | |
| VOC | (TIC) UNKNOWN_10.60 | | - | - | ppbv | 1.3 | 7.7 | | 2.3 J | 2.1 J | 2.4 J | | 2 J | 2.1 J | 2.2 J | 2.3 J | 3.3 J | |
| VOC | (TIC) UNKNOWN_12.43 | | - | - | ppbv | 1.9 | 7.7 | | 4.1 J | 3.5 J | | | 3.5 J | | | 3.2 J | 4.1 J | 1.9 J |
| VOC | (TIC) UNKNOWN_12.44 | | - | - | ppbv | 2.8 | 13 | | | | 3.8 J | 2.8 J | | 3.7 J | 3.6 J | | | |
| VOC | (TIC) UNKNOWN_12.46 | | - | - | ppbv | 1.1 | 2.7 | | 1.2 J | 1.1 J | 1.7 J | | 1.6 J | 1.6 J | 1.1 J | 2 J | | |
| VOC | (TIC) UNKNOWN_12.47 | | - | - | ppbv | 5.6 | 5.6 | | | | | | | | | | | |
| VOC | (TIC) UNKNOWN_13.69 | | - | - | ppbv | 1.1 | 11 | | | 1.1 J | 3.2 J | | 2.8 J | 1.4 J | | 1.6 J | 2.7 J | |
| VOC | (TIC) UNKNOWN_13.80 | | - | - | ppbv | 1.5 | 1.5 | | | | | | | | 1.5 J | | | |
| VOC | (TIC) UNKNOWN_13.81 | | - | - | ppbv | 1 | 3.6 | | 2.8 J | 2.4 J | 3.6 J | 1 J | 2.7 J | 3.1 J | | 2.8 J | | |
| VOC | (TIC) UNKNOWN_13.90 | | - | - | ppbv | 1.2 | 1.2 | | 1.2 J | | | | | | | | | |
| VOC | (TIC) UNKNOWN_14.04 | | - | - | ppbv | 1.7 | 3.9 | | 3.9 J | | 3.9 J | 2.4 J | 3.6 J | 3.7 J | 3.2 J | | | 1.7 J |
| VOC | (TIC) UNKNOWN_14.05 | | - | - | ppbv | 3.7 | 14 | | | | | | | | | 3.7 J | | |
| VOC | (TIC) UNKNOWN_14.06 | | - | - | ppbv | 5.2 | 5.2 | | | | | | | | | | 5.2 J | |
| VOC | (TIC) UNKNOWN_14.20 | | - | - | ppbv | 2.3 | 2.3 | | | | | | | | 2.3 J | | | |
| VOC | (TIC) UNKNOWN_14.21 | | - | - | ppbv | 5.1 | 5.1 | | | | | | | | | | | |
| VOC | (TIC) UNKNOWN_14.33 | | - | - | ppbv | 2.2 | 2.6 | | | | | | | | | | | |
| VOC | (TIC) UNKNOWN_14.46 | | - | - | ppbv | 2.4 | 3.4 | | | | | | | | | | 2.4 J | |
| VOC | (TIC) UNKNOWN_14.64 | | - | - | ppbv | 2.9 | 2.9 | | | | | 2.9 J | | | | | | |
| VOC | (TIC) UNKNOWN_14.65 | | - | - | ppbv | 5.3 | 5.3 | | | | | | 5.3 J | | | | | |
| VOC | (TIC) UNKNOWN_14.95 | | - | - | ppbv | 1.2 | 1.2 | | | | | | | | | | | |
| VOC | (TIC) UNKNOWN_15.70 | | - | - | ppbv | 1.2 | 1.5 | | | 1.2 J | | | 1.4 J | | | 1.5 J | | |
| VOC | (TIC) UNKNOWN_15.71 | | - | - | ppbv | 1.3 | 3.7 | | 1.8 J | | 1.7 J | | | 1.3 J | | | 3 J | |
| VOC | (TIC) UNKNOWN_15.72 | | - | - | ppbv | 4.9 | 4.9 | | | | | | | | | | | |
| VOC | (TIC) UNKNOWN_15.89 | | - | - | ppbv | 2.5 | 3.2 | | | | | | | | | | | |
| VOC | (TIC) UNKNOWN_16.52 | | - | - | ppbv | 4.6 | 4.6 | | | | | | | | | | | |
| VOC | (TIC) UNKNOWN_16.53 | | - | - | ppbv | 6.1 | 6.1 | | | | | | | | | | | |
| VOC | (TIC) UNKNOWN_16.73 | | - | - | ppbv | 5.2 | 5.2 | | | | | | | | | | | |
| VOC | (TIC) UNKNOWN_16.82 | | - | - | ppbv | 1.2 | 2.8 | | 1.2 J | | 1.5 J | | | | | | 2.6 J | |
| VOC | (TIC) UNKNOWN_19.01 | | - | - | ppbv | 1.4 | 1.4 | | 1.4 J | | | | | | | | | |
| VOC | (TIC) UNKNOWN_19.69 | | - | - | ppbv | 1.3 | 1.3 | | | | | | | | | 1.3 J | | |
| VOC | (TIC) UNKNOWN_2.74 | | - | - | ppbv | 3.3 | 3.3 | | | | | | | | | | | |
| VOC | (TIC) UNKNOWN_3.35 | | - | - | ppbv | 1.7 | 1.7 | | | | | 1.7 J | | | | | | |
| VOC | (TIC) UNKNOWN_3.36 | | - | - | ppbv | 1.5 | 1.8 | | | 1.5 J | 1.6 J | | | | | 1.8 J | | |
| VOC | (TIC) UNKNOWN_6.84 | | - | - | ppbv | 1.1 | 1.3 | | 1.2 J | 1.1 J | | | 1.2 J | 1.3 J | 1.1 J | | | |
| VOC | (TIC) UNKNOWN_9.85 | | - | - | ppbv | 2.3 | 2.3 | | | | | | | | | | | |

Notes:

EPA – Environmental Protection Agency; NJDEP – New Jersey Department of Environmental Protection; ppbv – Parts Per Billion by Volume; THQ – Target Hazard Quotient; TIC – Tentatively Identified Compound; VI – Vapor Intrusion; VISL – Vapor Intrusion Screening Level.

- = No criterion listed.

No Inh. Tox – No inhalation toxicity information available; therefore, no criterion calculated.

U – Non-detect.

J – Estimated Value.

JN – Estimated Value.

Shading – Value exceeds criterion.

**Table 5 FMP Indoor Air Data October 2016**

| Group | Analyte | CAS No | NJDEP VI Non-residential Indoor Air Screening Level | EPA VISL Commercial Worker Air – THQ 1.0 | | | Address | 4 Foster Ave | | 4 Foster Ave | | 4 Foster Ave | | 4 Foster Ave | | 4 Foster Ave | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sample ID | SW-UNIT4F-IA001_101216 | | SW-UNIT4F-IA002_101216 | | SW-UNIT4F-IA003_101216 | | SW-UNIT4F-IA004_101216 | | SW-UNIT4F-IA005_101216 | |
| | | | | | | | Sample Date | 10/13/2016 | | 10/13/2016 | | 10/13/2016 | | 10/13/2016 | | 10/13/2016 | |
| | | | | | Units | Min. Det. | Max. Det. | | | | | | | | | | |
| INORG | METHANE | 74-82-8 | - | - | % | 0.00041 | 0.02 | 0.0081 | | 0.0094 | | 0.012 | | 0.0014 | | 0.0015 | |
| VOC | 1,1,1-TRICHLOROETHANE | 71-55-6 | 22000 | 21900 | µg/m$^3$ | | | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 | U |
| VOC | 1,1,2,2-TETRACHLOROETHANE | 79-34-5 | 3 | 0.21 | µg/m$^3$ | 0.24 | 0.9 | 0.55 | U | 0.4 | J | 0.36 | J | 0.66 | U | 0.63 | U |
| VOC | 1,1,2-TRICHLOROETHANE | 79-00-5 | 3 | 0.77 | µg/m$^3$ | | | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 | U |
| VOC | 1,1,2-TRICHLOROTRIFLUOROETHANE | 76-13-1 | 130000 | 131400 | µg/m$^3$ | 0.58 | 0.63 | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U |
| VOC | 1,1-DICHLOROETHANE | 75-34-3 | 8 | 7.7 | µg/m$^3$ | | | 0.81 | U | 0.81 | U | 0.81 | U | 0.81 | U | 0.81 | U |
| VOC | 1,1-DICHLOROETHENE | 75-35-4 | 880 | 876 | µg/m$^3$ | | | 0.79 | U | 0.79 | U | 0.79 | U | 0.79 | U | 0.79 | U |
| VOC | 1,2,4-TRICHLOROBENZENE | 120-82-1 | 9 | 8.8 | µg/m$^3$ | | | 3.7 | U | 3.7 | U | 3.7 | U | 3.7 | U | 3.7 | U |
| VOC | 1,2,4-TRIMETHYLBENZENE | 95-63-6 | - | 31 | µg/m$^3$ | 0.39 | 2.7 | 0.5 | J | 1 | | 1.3 | | 1.1 | | 0.6 | J |
| VOC | 1,2-DIBROMOETHANE | 106-93-4 | 4 | 0.020 | µg/m$^3$ | | | 0.22 | U | 0.27 | U | 0.25 | U | 0.26 | U | 0.25 | U |
| VOC | 1,2-DICHLOROBENZENE | 95-50-1 | 880 | 876 | µg/m$^3$ | | | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| VOC | 1,2-DICHLOROETHANE | 107-06-2 | 2 | 0.47 | µg/m$^3$ | 0.13 | 0.97 | 0.71 | | 0.57 | J | 0.63 | J | 0.13 | J | 0.97 | |
| VOC | 1,2-DICHLOROPROPANE | 78-87-5 | 2 | 1.2 | µg/m$^3$ | 0.2 | 0.98 | 0.74 | U | 0.72 | J | 0.98 | | 0.89 | U | 0.23 | J |
| VOC | 1,2-DICHLOROTETRAFLUOROETHANE | 76-14-2 | - | 0 | µg/m$^3$ | | | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U |
| VOC | 1,3,5-TRIMETHYLBENZENE (MESITYLENE) | 108-67-8 | - | No Inh. Tox | µg/m$^3$ | 0.25 | 1.6 | 0.29 | J | 0.51 | J | 0.57 | J | 0.38 | J | 0.25 | J |
| VOC | 1,3-BUTADIENE | 106-99-0 | 1 | 0.41 | µg/m$^3$ | 0.12 | 0.13 | 0.44 | U | 0.44 | U | 0.44 | U | 0.44 | U | 0.44 | U |
| VOC | 1,3-DICHLOROBENZENE | 541-73-1 | 3 | - | µg/m$^3$ | | | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| VOC | 1,4-DICHLOROBENZENE | 106-46-7 | - | 1.1 | µg/m$^3$ | 0.12 | 0.4 | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| VOC | 1,4-DIOXANE (P-DIOXANE) | 123-91-1 | - | 2.5 | µg/m$^3$ | 0.14 | 1.1 | 0.92 | J | 1.1 | J | 1.7 | U | 0.46 | J | 1.6 | U |
| VOC | 2,2,4-TRIMETHYLPENTANE | 540-84-1 | - | No Inh. Tox | µg/m$^3$ | 0.37 | 0.37 | 0.93 | U | 0.93 | U | 0.93 | U | 0.93 | U | 0.93 | U |
| VOC | 2-CHLOROTOLUENE | 95-49-8 | - | No Inh. Tox | µg/m$^3$ | | | 1 | U | 1 | U | 1 | U | 1 | U | 1 | U |
| VOC | 2-HEXANONE | 591-78-6 | - | 131 | µg/m$^3$ | 4.5 | 4.5 | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| VOC | 3-CHLOROPROPENE | 107-05-1 | 2 | 2.0 | µg/m$^3$ | | | 1.6 | U | 1.6 | U | 1.6 | U | 1.6 | U | 1.6 | U |
| VOC | 4-ETHYLTOLUENE | 622-96-8 | - | - | µg/m$^3$ | 0.22 | 0.59 | 0.98 | U | 0.28 | J | 0.34 | J | 0.24 | J | 0.98 | U |
| VOC | 4-METHYL-2-PENTANONE | 108-10-1 | 13000 | 13140 | µg/m$^3$ | | | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| VOC | ACETONE | 67-64-1 | 140000 | 135780 | µg/m$^3$ | 5.4 | 130 | 65 | | 67 | | 47 | | 14 | | 21 | |
| VOC | ACETONITRILE | 75-05-8 | - | 263 | µg/m$^3$ | | | 8.4 | U | 8.4 | U | 8.4 | U | 8.4 | U | 8.4 | U |
| VOC | ACROLEIN | 107-02-8 | - | 0.088 | µg/m$^3$ | 0.72 | 2 | 1.5 | J | 1.8 | J | 1.4 | J | 1.1 | J | 0.85 | J |
| VOC | ACRYLONITRILE | 107-13-1 | - | 0.18 | µg/m$^3$ | | | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 | U |
| VOC | ALPHA METHYL STYRENE | 98-83-9 | - | No Inh. Tox | µg/m$^3$ | | | 0.97 | U | 0.97 | U | 0.97 | U | 0.97 | U | 0.97 | U |
| VOC | BENZENE | 71-43-2 | 2 | 1.6 | µg/m$^3$ | 0.41 | 7 | 1.4 | | 1.3 | | 0.99 | | 0.53 | | 0.69 | |
| VOC | BENZENE, TERT-BUTYL- | 98-06-6 | - | No Inh. Tox | µg/m$^3$ | | | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 | U |
| VOC | BENZYL CHLORIDE | 100-44-7 | - | 0.25 | µg/m$^3$ | 0.094 | 0.32 | 1 | U | 1 | U | 1 | U | 1 | U | 1 | U |
| VOC | BROMODICHLOROMETHANE | 75-27-4 | 3 | 0.33 | µg/m$^3$ | 1.3 | 1.8 | 0.32 | U | 0.41 | U | 0.37 | U | 0.39 | U | 0.37 | U |
| VOC | BROMOETHENE | 593-60-2 | 2 | 0.38 | µg/m$^3$ | | | 0.87 | U | 0.87 | U | 0.87 | U | 0.87 | U | 0.87 | U |
| VOC | BROMOFORM | 75-25-2 | 11 | 11 | µg/m$^3$ | | | 2.1 | U | 2.1 | U | 2.1 | U | 2.1 | U | 2.1 | U |
| VOC | BROMOMETHANE | 74-83-9 | 22 | 22 | µg/m$^3$ | | | 0.78 | U | 0.78 | U | 0.78 | U | 0.78 | U | 0.78 | U |
| VOC | CARBON DISULFIDE | 75-15-0 | 3100 | 3066 | µg/m$^3$ | 0.16 | 0.75 | 0.19 | J | 0.21 | J | 0.19 | J | 1.6 | U | 1.6 | U |
| VOC | CARBON TETRACHLORIDE | 56-23-5 | 3 | 2.0 | µg/m$^3$ | 0.59 | 0.74 | 0.61 | | 0.66 | | 0.64 | | 0.61 | | 0.65 | |
| VOC | CHLOROBENZENE | 108-90-7 | 220 | 219 | µg/m$^3$ | | | 0.92 | U | 0.92 | U | 0.92 | U | 0.92 | U | 0.92 | U |
| VOC | CHLOROETHANE | 75-00-3 | 44000 | 43800 | µg/m$^3$ | 0.055 | 0.15 | 0.47 | U | 0.6 | U | 0.55 | U | 0.57 | U | 0.54 | U |
| VOC | CHLOROFORM | 67-66-3 | 2 | 0.53 | µg/m$^3$ | 0.16 | 0.82 | 0.34 | J | 0.52 | | 0.31 | J | 0.16 | J | 0.19 | J |
| VOC | CHLOROMETHANE | 74-87-3 | 390 | 394 | µg/m$^3$ | 0.97 | 1.7 | 1.2 | | 1.1 | | 1.1 | | 1 | | 1.2 | |
| VOC | CIS-1,2-DICHLOROETHENE | 156-59-2 | - | No Inh. Tox | µg/m$^3$ | | | 0.79 | U | 0.79 | U | 0.79 | U | 0.79 | U | 0.79 | U |
| VOC | CIS-1,3-DICHLOROPROPENE | 10061-01-5 | - | 3.1 | µg/m$^3$ | | | 0.91 | U | 0.91 | U | 0.91 | U | 0.91 | U | 0.91 | U |
| VOC | CYCLOHEXANE | 110-82-7 | 26000 | 26280 | µg/m$^3$ | 0.18 | 65 | 37 | | 44 | | 65 | | 3.2 | | 8.1 | |
| VOC | DIBROMOCHLOROMETHANE | 124-48-1 | 4 | No Inh. Tox | µg/m$^3$ | 0.11 | 0.11 | 0.34 | U | 0.43 | U | 0.39 | U | 0.41 | U | 0.39 | U |
| VOC | DICHLORODIFLUOROMETHANE | 75-71-8 | 440 | 438 | µg/m$^3$ | 2 | 2.4 | 2.1 | J | 2.2 | J | 2 | J | 2.2 | J | 2.4 | J |
| VOC | DICHLOROMETHANE | 75-09-2 | 1200 | 1226 | µg/m$^3$ | 0.7 | 1.5 | 1.5 | J | 0.7 | J | 0.88 | J | 1.7 | U | 0.74 | J |
| VOC | ETHYL ACETATE | 141-78-6 | - | 307 | µg/m$^3$ | 6 | 6 | 18 | U | 18 | U | 6 | J | 18 | U | 18 | U |
| VOC | ETHYL ALCOHOL | 64-17-5 | - | - | µg/m$^3$ | 1.9 | 90 | 31 | | 34 | | 33 | | 6.7 | J | 40 | |
| VOC | ETHYLBENZENE | 100-41-4 | 5 | 4.9 | µg/m$^3$ | 0.16 | 5.3 | 1.1 | | 1.2 | | 1.1 | | 0.29 | J | 1.1 | |
| VOC | HEXACHLOROBUTADIENE | 87-68-3 | 5 | 0.56 | µg/m$^3$ | 0.16 | 0.2 | 0.85 | U | 1.1 | U | 0.98 | U | 1 | U | 0.97 | U |
| VOC | ISOPROPANOL | 67-63-0 | - | 876 | µg/m$^3$ | 3.8 | 14 | 5.7 | J | 5.8 | J | 4.6 | J | 12 | U | 4.7 | J |
| VOC | ISOPROPYLBENZENE | 98-82-8 | - | 1752 | µg/m$^3$ | 0.16 | 0.22 | 0.98 | U | 0.98 | U | 0.17 | J | 0.98 | U | 0.98 | U |
| VOC | METHYL ETHYL KETONE | 78-93-3 | 22000 | 21900 | µg/m$^3$ | 0.54 | 3.6 | 1.7 | | 1.6 | | 1.5 | J | 1.2 | J | 1.5 | |
| VOC | METHYL METHACRYLATE | 80-62-6 | - | 3066 | µg/m$^3$ | 12 | 41 | 2 | U | 2 | U | 41 | | 2 | U | 2 | U |
| VOC | METHYL-TERT-BUTYL-ETHER (MTBE) | 1634-04-4 | 47 | 47 | µg/m$^3$ | | | 0.72 | U | 0.72 | U | 0.72 | U | 0.72 | U | 0.72 | U |
| VOC | NAPHTHALENE | 91-20-3 | 3 | 0.36 | µg/m$^3$ | 0.27 | 16 | 0.49 | | 4.6 | | 14 | | 14 | | 16 | |
| VOC | N-DECANE | 124-18-5 | - | - | µg/m$^3$ | 1.1 | 4.8 | 1.3 | J | 2.4 | J | 2.4 | J | 1.4 | J | 1.7 | J |
| VOC | N-DODECANE | 112-40-3 | - | - | µg/m$^3$ | 0.92 | 3.3 | 35 | U | 35 | U | 35 | U | 35 | U | 35 | U |

**Table 5 FMP Indoor Air Data October 2016**

| Group | Analyte | CAS No | NJDEP VI Non-residential Indoor Air Screening Level | EPA VISL Commercial Worker Air – THQ 1.0 | | | Address | 4 Foster Ave | | 4 Foster Ave | | 4 Foster Ave | | 4 Foster Ave | | 4 Foster Ave | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sample ID | SW-UNIT4F-IA001_101216 | | SW-UNIT4F-IA002_101216 | | SW-UNIT4F-IA003_101216 | | SW-UNIT4F-IA004_101216 | | SW-UNIT4F-IA005_101216 | |
| | | | | | | | Sample Date | 10/13/2016 | | 10/13/2016 | | 10/13/2016 | | 10/13/2016 | | 10/13/2016 | |
| | | | | | Units | Min. Det. | Max. Det. | | | | | | | | | | |
| VOC | N-HEPTANE | 142-82-5 | - | - | µg/m$^3$ | 0.2 | 13 | 4.1 | | 4 | | 2.4 | | 0.32 | J | 0.82 | U |
| VOC | N-HEXANE | 110-54-3 | 3100 | 3066 | µg/m$^3$ | 0.4 | 9.3 | 4 | | 4.2 | | 2.9 | | 0.52 | J | 0.69 | |
| VOC | N-NONANE | 111-84-2 | - | 88 | µg/m$^3$ | | | 1 | U | 1 | U | 1 | U | 1 | U | 1 | U |
| VOC | N-OCTANE | 111-65-9 | - | - | µg/m$^3$ | 1.4 | 16 | 0.93 | U | 3.3 | | 0.93 | U | 0.93 | U | 0.93 | U |
| VOC | N-PROPYLBENZENE | 103-65-1 | - | 4380 | µg/m$^3$ | 0.24 | 0.52 | 0.98 | U | 0.98 | U | 0.24 | J | 0.98 | U | 0.98 | U |
| VOC | N-UNDECANE | 1120-21-4 | - | - | µg/m$^3$ | | | 32 | U | 32 | U | 32 | U | 32 | U | 32 | U |
| VOC | P-CYMENE | 99-87-6 | - | - | µg/m$^3$ | 0.23 | 0.33 | 1.1 | U | 0.26 | J | 0.23 | J | 1.1 | U | 1.1 | U |
| VOC | PROPYLENE | 115-07-1 | - | 13140 | µg/m$^3$ | | | 8.6 | U | 8.6 | U | 8.6 | U | 8.6 | U | 8.6 | U |
| VOC | SEC-BUTYLBENZENE | 135-98-8 | - | No Inh. Tox | µg/m$^3$ | | | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 | U |
| VOC | STYRENE | 100-42-5 | 4400 | 4380 | µg/m$^3$ | 0.24 | 0.61 | 0.24 | J | 0.45 | J | 0.41 | J | 0.24 | J | 0.61 | J |
| VOC | TERT-BUTYL ALCOHOL | 75-65-0 | - | - | µg/m$^3$ | | | 15 | U | 15 | U | 15 | U | 15 | U | 15 | U |
| VOC | TETRACHLOROETHENE | 127-18-4 | 47 | 47 | µg/m$^3$ | 0.18 | 2.1 | 0.99 | J | 1.1 | J | 1.1 | J | 1.4 | U | 0.18 | J |
| VOC | TETRAHYDROFURAN | 109-99-9 | - | 8760 | µg/m$^3$ | | | 15 | U | 15 | U | 15 | U | 15 | U | 15 | U |
| VOC | TOLUENE | 108-88-3 | 22000 | 21900 | µg/m$^3$ | 0.75 | 5.8 | 3.7 | | 3.8 | | 4.7 | | 1.6 | | 2 | |
| VOC | TRANS-1,2-DICHLOROETHENE | 156-60-5 | 260 | No Inh. Tox | µg/m$^3$ | | | 0.79 | U | 0.79 | U | 0.79 | U | 0.79 | U | 0.79 | U |
| VOC | TRANS-1,3-DICHLOROPROPENE | 10061-02-6 | - | 3.1 | µg/m$^3$ | 0.072 | 0.072 | 0.36 | U | 0.46 | U | 0.42 | U | 0.44 | U | 0.41 | U |
| VOC | TRICHLOROETHYLENE (TCE) | 79-01-6 | 3 | 3.0 | µg/m$^3$ | 0.21 | 5.9 | 0.25 | J | 0.33 | J | 0.46 | J | 0.52 | U | 0.49 | U |
| VOC | TRICHLOROFLUOROMETHANE | 75-69-4 | 3100 | No Inh. Tox | µg/m$^3$ | 1.2 | 35 | 3.9 | | 4.3 | | 5.6 | | 17 | | 16 | |
| VOC | VINYL ACETATE | 108-05-4 | - | 876 | µg/m$^3$ | | | 18 | U | 18 | U | 18 | U | 18 | U | 18 | U |
| VOC | VINYL CHLORIDE | 75-01-4 | 3 | 2.8 | µg/m$^3$ | 0.11 | 0.18 | 0.11 | J | 0.14 | J | 0.24 | U | 0.25 | U | 0.23 | U |
| VOC | XYLENE, O- | 95-47-6 | 440 | 438 | µg/m$^3$ | 0.21 | 10 | 1.7 | | 2 | | 1.7 | | 0.44 | J | 0.99 | |
| VOC | XYLENES (TOTAL) | 1330-20-7 | 440 | 438 | µg/m$^3$ | 0.78 | 63 | 8.6 | | 9.9 | | 7.8 | | 1.7 | J | 4.3 | |
| VOC | XYLENES, M & P | 1330-20-7 | 440 | 438 | µg/m$^3$ | 0.58 | 54 | 6.8 | | 7.9 | | 5.9 | | 1.3 | J | 3.4 | |
| VOC | (TIC) (1R)-2,6,6-TRIMETHYLBICYCLO[3.1.1]HEPT-2 | 7785-70-8 | - | - | ppbv | 1.2 | 3.3 | | | | | | | | | | |
| VOC | (TIC) 1,1,4-TRIMETHYLCYCLOHEXANE | 7094-27-1 | - | - | ppbv | 1.3 | 1.3 | | | | | | | | | | |
| VOC | (TIC) CARBONIC ACID, DIMETHYL ESTER | 616-38-6 | - | - | ppbv | 2.5 | 3.6 | | | 2.5 | JN | 3.6 | JN | | | | |
| VOC | (TIC) CYCLOHEXANE, 1,1,3-TRIMETHYL- | 3073-66-3 | - | - | ppbv | 1.2 | 9.5 | | | 6.4 | JN | 9.5 | JN | | | 1.5 | JN |
| VOC | (TIC) CYCLOHEXANE, 1,1-DIMETHYL- | 590-66-9 | - | - | ppbv | 2.2 | 2.6 | | | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, 1,2,4-TRIMETHYL- | 2234-75-5 | - | - | ppbv | 3.6 | 3.6 | | | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, 1,2,4-TRIMETHYL-, (1.ALPHA. | 7667-60-9 | - | - | ppbv | 1 | 7.1 | 4.2 | JN | 5.1 | JN | 7.1 | JN | | | 1 | JN |
| VOC | (TIC) CYCLOHEXANE, 1,2-DIMETHYL- (CIS/TRANS) | 583-57-3 | - | - | ppbv | 26 | 26 | | | | | 26 | JN | | | | |
| VOC | (TIC) CYCLOHEXANE, 1,2-DIMETHYL-, CIS- | 2207-01-4 | - | - | ppbv | 1.1 | 3.8 | 2.4 | JN | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, 1,2-DIMETHYL-, TRANS- | 6876-23-9 | - | - | ppbv | 1.3 | 18 | 15 | JN | 18 | JN | | | 1.3 | JN | 2.9 | JN |
| VOC | (TIC) CYCLOHEXANE, 1,3,5-TRIMETHYL-, (1.ALPHA. | 1795-26-2 | - | - | ppbv | 2.8 | 2.8 | | | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, 1,3-DIMETHYL-, CIS- | 638-04-0 | - | - | ppbv | 2.1 | 40 | 22 | JN | 26 | JN | 40 | JN | 2.1 | JN | 5 | JN |
| VOC | (TIC) CYCLOHEXANE, 1,3-DIMETHYL-, TRANS- | 2207-03-6 | - | - | ppbv | 1.5 | 16 | 9.2 | JN | 11 | JN | 16 | JN | | | | |
| VOC | (TIC) CYCLOHEXANE, 1,4-DIMETHYL- | 589-90-2 | - | - | ppbv | 1.7 | 5.6 | 3.5 | JN | | | | | | | 1.7 | JN |
| VOC | (TIC) CYCLOHEXANE, 1,4-DIMETHYL-, TRANS- | 2207-04-7 | - | - | ppbv | 1.4 | 6.2 | | | 4.2 | JN | 6.2 | JN | | | | |
| VOC | (TIC) CYCLOHEXANE, 1-ETHYL-2-METHYL- | 3728-54-9 | - | - | ppbv | 1.3 | 3.3 | | | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, 1-ETHYL-2-METHYL-, TRANS- | 4923-78-8 | - | - | ppbv | 1.6 | 1.9 | | | | | | | | | | |
| VOC | (TIC) CYCLOHEXANE, ETHYL- | 1678-91-7 | - | - | ppbv | 1.3 | 4.8 | 2.5 | JN | 3.1 | JN | 4.8 | JN | | | | |
| VOC | (TIC) CYCLOHEXANE, METHYL- | 108-87-2 | - | - | ppbv | 3.6 | 60 | 37 | JN | 43 | JN | 60 | JN | 3.6 | JN | 8.1 | JN |
| VOC | (TIC) CYCLOPENTANE, 1,1,2-TRIMETHYL- | 4259-00-1 | - | - | ppbv | 3.3 | 3.3 | | | | | | | | | | |
| VOC | (TIC) CYCLOPENTANE, 1,1,3,4-TETRAMETHYL-, TRAN | 20309-77-7 | - | - | ppbv | 3.7 | 3.7 | | | | | 3.7 | JN | | | | |
| VOC | (TIC) CYCLOPENTANE, 1,2,3-TRIMETHYL-, (1.ALPHA | 15890-40-1 | - | - | ppbv | 2.1 | 30 | 18 | JN | 20 | JN | 30 | JN | 2.1 | JN | 5.2 | JN |
| VOC | (TIC) CYCLOPENTANE, 1,2,4-TRIMETHYL- | 2815-58-9 | - | - | ppbv | 1.4 | 16 | | | 16 | JN | | | 1.4 | JN | 3.8 | JN |
| VOC | (TIC) CYCLOPENTANE, 1,2,4-TRIMETHYL-, (1.ALPHA | 16883-48-0 | - | - | ppbv | 14 | 14 | 14 | JN | | | | | | | | |
| VOC | (TIC) CYCLOPENTANE, 1,2-DIMETHYL- | 2452-99-5 | - | - | ppbv | 4.4 | 6.1 | | | | | | | | | | |
| VOC | (TIC) CYCLOPENTANE, 1,2-DIMETHYL-, CIS- | 1192-18-3 | - | - | ppbv | 1.7 | 1.7 | | | | | | | | | | |
| VOC | (TIC) CYCLOPENTANE, 1,2-DIMETHYL-, TRANS- | 822-50-4 | - | - | ppbv | 2.2 | 10 | 8.6 | JN | 10 | JN | | | | | 2.8 | JN |
| VOC | (TIC) CYCLOPENTANE, 1,3-DIMETHYL- | 2453-00-1 | - | - | ppbv | 1.7 | 3.3 | 3.3 | JN | | | | | | | | |
| VOC | (TIC) CYCLOPENTANE, 1,3-DIMETHYL-, CIS- | 2532-58-3 | - | - | ppbv | 1.8 | 4.6 | | | | | | | | | | |
| VOC | (TIC) CYCLOPENTANE, 1-ETHYL-2-METHYL- | 3726-46-3 | - | - | ppbv | 2.3 | 4.3 | 2.3 | JN | | | 4.3 | JN | | | | |
| VOC | (TIC) CYCLOPENTANE, ETHYL- | 1640-89-7 | - | - | ppbv | 1.2 | 2.8 | 2.5 | JN | 2.8 | JN | | | | | | |
| VOC | (TIC) CYCLOPENTANE, METHYL- | 96-37-7 | - | - | ppbv | 2.2 | 7.7 | 4.2 | JN | 5.2 | JN | 7.7 | JN | | | | |
| VOC | (TIC) ETHANE, 1,1-DIFLUORO- | 75-37-6 | - | - | ppbv | 2 | 4.7 | 2.3 | JN | 2.7 | JN | | | | | | |
| VOC | (TIC) HEPTANE, 2,4-DIMETHYL- | 2213-23-2 | - | - | ppbv | 2.6 | 4.9 | | | | | 4.9 | JN | | | | |
| VOC | (TIC) HEPTANE, 2,5-DIMETHYL- | 2216-30-0 | - | - | ppbv | 2.4 | 4.4 | | | 2.7 | JN | 4.4 | JN | | | | |
| VOC | (TIC) HEPTANE, 2-METHYL- | 592-27-8 | - | - | ppbv | 4.5 | 4.5 | | | | | | | | | | |
| VOC | (TIC) HEPTANE, 3-METHYL- | 589-81-1 | - | - | ppbv | 1.9 | 9.2 | | | | | | | | | | |
| VOC | (TIC) HEPTANE, 4-METHYL- | 589-53-7 | - | - | ppbv | 1.7 | 1.7 | | | | | | | | | | |
| VOC | (TIC) HEXANE, 2,3-DIMETHYL- | 584-94-1 | - | - | ppbv | 1 | 1.4 | | | | | | | | | | |
| VOC | (TIC) HEXANE, 2,4-DIMETHYL- | 589-43-5 | - | - | ppbv | 1 | 13 | 7.1 | JN | 8 | JN | 13 | JN | | | 1.2 | JN |
| VOC | (TIC) HEXANE, 2-METHYL- | 591-76-4 | - | - | ppbv | 1.4 | 1.7 | | | | | | | | | | |
| VOC | (TIC) HEXANE, 3-ETHYL- | 619-99-8 | - | - | ppbv | 4.2 | 8.1 | 4.2 | JN | | | 8.1 | JN | | | | |

**Table 5 FMP Indoor Air Data October 2016**

| Group | Analyte | CAS No | NJDEP VI Non-residential Indoor Air Screening Level | EPA VISL Commercial Worker Air – THQ 1.0 | | | Address | 4 Foster Ave | | 4 Foster Ave | | 4 Foster Ave | | 4 Foster Ave | | 4 Foster Ave | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sample ID | SW-UNIT4F-IA001_101216 | | SW-UNIT4F-IA002_101216 | | SW-UNIT4F-IA003_101216 | | SW-UNIT4F-IA004_101216 | | SW-UNIT4F-IA005_101216 | |
| | | | | | | | Sample Date | 10/13/2016 | | 10/13/2016 | | 10/13/2016 | | 10/13/2016 | | 10/13/2016 | |
| | | | | | Units | Min. Det. | Max. Det. | | | | | | | | | | |
| VOC | (TIC) PENTANE, 2,3-DIMETHYL- | 565-59-3 | - | - | ppbv | 1 | 8.2 | 4.4 | JN | 4.8 | JN | 8.2 | JN | | | 1.2 | JN |
| VOC | (TIC) PENTANE, 2-METHYL- | 107-83-5 | - | - | ppbv | 1.3 | 1.3 | | | | | | | | | | |
| VOC | (TIC) PENTANE, 3-ETHYL-2-METHYL- | 609-26-7 | - | - | ppbv | 4 | 5.9 | 4 | JN | 4.1 | JN | 5.9 | JN | | | | |
| VOC | (TIC) PENTANE, 3-METHYL- | 96-14-0 | - | - | ppbv | 2.2 | 3.9 | | | 2.6 | JN | 3.9 | JN | | | | |
| VOC | (TIC) UNKNOWN_10.18 | | - | - | ppbv | 1.1 | 1.7 | | | | | | | | | | |
| VOC | (TIC) UNKNOWN_10.24 | | - | - | ppbv | 6.4 | 6.4 | | | | | | | | | | |
| VOC | (TIC) UNKNOWN_10.59 | | - | - | ppbv | 2.1 | 2.1 | | | | | | | | | | |
| VOC | (TIC) UNKNOWN_10.60 | | - | - | ppbv | 1.3 | 7.7 | 4 | J | 4.9 | J | 7.7 | J | | | 1.3 | J |
| VOC | (TIC) UNKNOWN_12.43 | | - | - | ppbv | 1.9 | 7.7 | 7.7 | J | | | | | | | 2.3 | J |
| VOC | (TIC) UNKNOWN_12.44 | | - | - | ppbv | 2.8 | 13 | | | 8.9 | J | 13 | J | | | | |
| VOC | (TIC) UNKNOWN_12.46 | | - | - | ppbv | 1.1 | 2.7 | 2.3 | J | 2.7 | J | | | | | | |
| VOC | (TIC) UNKNOWN_12.47 | | - | - | ppbv | 5.6 | 5.6 | | | | | 5.6 | J | | | | |
| VOC | (TIC) UNKNOWN_13.69 | | - | - | ppbv | 1.1 | 11 | 5.7 | J | 4.2 | J | 11 | J | | | | |
| VOC | (TIC) UNKNOWN_13.80 | | - | - | ppbv | 1.5 | 1.5 | | | | | | | | | | |
| VOC | (TIC) UNKNOWN_13.81 | | - | - | ppbv | 1 | 3.6 | | | | | | | | | | |
| VOC | (TIC) UNKNOWN_13.90 | | - | - | ppbv | 1.2 | 1.2 | | | | | | | | | | |
| VOC | (TIC) UNKNOWN_14.04 | | - | - | ppbv | 1.7 | 3.9 | | | | | | | | | 2.2 | J |
| VOC | (TIC) UNKNOWN_14.05 | | - | - | ppbv | 3.7 | 14 | 9.4 | J | 11 | J | 14 | J | | | | |
| VOC | (TIC) UNKNOWN_14.06 | | - | - | ppbv | 5.2 | 5.2 | | | | | | | | | | |
| VOC | (TIC) UNKNOWN_14.20 | | - | - | ppbv | 2.3 | 2.3 | | | | | | | | | | |
| VOC | (TIC) UNKNOWN_14.21 | | - | - | ppbv | 5.1 | 5.1 | | | 5.1 | J | | | | | | |
| VOC | (TIC) UNKNOWN_14.33 | | - | - | ppbv | 2.2 | 2.6 | 2.2 | J | 2.6 | J | | | | | | |
| VOC | (TIC) UNKNOWN_14.46 | | - | - | ppbv | 2.4 | 3.4 | | | | | 3.4 | J | | | | |
| VOC | (TIC) UNKNOWN_14.64 | | - | - | ppbv | 2.9 | 2.9 | | | | | | | | | | |
| VOC | (TIC) UNKNOWN_14.65 | | - | - | ppbv | 5.3 | 5.3 | | | | | | | | | | |
| VOC | (TIC) UNKNOWN_14.95 | | - | - | ppbv | 1.2 | 1.2 | | | | | | | | | 1.2 | J |
| VOC | (TIC) UNKNOWN_15.70 | | - | - | ppbv | 1.2 | 1.5 | | | | | | | | | | |
| VOC | (TIC) UNKNOWN_15.71 | | - | - | ppbv | 1.3 | 3.7 | 3.2 | J | 3.7 | J | | | | | | |
| VOC | (TIC) UNKNOWN_15.72 | | - | - | ppbv | 4.9 | 4.9 | | | | | 4.9 | J | | | | |
| VOC | (TIC) UNKNOWN_15.89 | | - | - | ppbv | 2.5 | 3.2 | 2.5 | J | 3.2 | J | | | | | | |
| VOC | (TIC) UNKNOWN_16.52 | | - | - | ppbv | 4.6 | 4.6 | | | 4.6 | J | | | | | | |
| VOC | (TIC) UNKNOWN_16.53 | | - | - | ppbv | 6.1 | 6.1 | | | | | 6.1 | J | | | | |
| VOC | (TIC) UNKNOWN_16.73 | | - | - | ppbv | 5.2 | 5.2 | 5.2 | J | | | | | | | | |
| VOC | (TIC) UNKNOWN_16.82 | | - | - | ppbv | 1.2 | 2.8 | | | | | 2.8 | J | | | | |
| VOC | (TIC) UNKNOWN_19.01 | | - | - | ppbv | 1.4 | 1.4 | | | | | | | | | | |
| VOC | (TIC) UNKNOWN_19.69 | | - | - | ppbv | 1.3 | 1.3 | | | | | | | | | | |
| VOC | (TIC) UNKNOWN_2.74 | | - | - | ppbv | 3.3 | 3.3 | | | | | 3.3 | J | | | | |
| VOC | (TIC) UNKNOWN_3.35 | | - | - | ppbv | 1.7 | 1.7 | | | | | | | | | | |
| VOC | (TIC) UNKNOWN_3.36 | | - | - | ppbv | 1.5 | 1.8 | | | | | | | | | | |
| VOC | (TIC) UNKNOWN_6.84 | | - | - | ppbv | 1.1 | 1.3 | | | | | | | | | | |
| VOC | (TIC) UNKNOWN_9.85 | | - | - | ppbv | 2.3 | 2.3 | 2.3 | J | | | | | | | | |

Notes:

EPA – Environmental Protection Agency; NJDEP – New Jersey Department of Environmental Protection; ppbv – Parts Per Billion by Volume; THQ – Target Hazard Quotient; TIC – Tentatively Identified Compound; VI – Vapor Intrusion; VISL – Vapor Intrusion Screening Level.

- = No criterion listed.

No Inh. Tox – No inhalation toxicity information available; therefore, no criterion calculated.

U – Non-detect.

J – Estimated Value.

JN – Estimated Value.

Shading – Value exceeds criterion.

**Table 6 Indoor Air Screening Exceedances**

| | Analyte | 1,1,2,2-Tetrachloroethane | 1,2-Dichloroethane | Acrolein | Benzene | Benzyl Chloride | Bromodichloromethane | Chloroform | Ethylbenzene | Naphthalene | Trichloroethene |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **EPA Commercial IA VISL (µg/m$^3$)** | **0.21** | **0.47** | **0.088** | **1.6** | **0.25** | **0.33** | **0.53** | **4.9** | **0.36** | **3.0** |
| **Date** | **Address** | | | | | | | | | | |
| 8/1/2015 | 2 Foster Ave. | | 1 | | 1 | | | 4 | | 4 | |
| 12/1/2015 | 2 Foster Ave. | | 1 | | 2 | | | | 1 | 5 | |
| 10/1/2016 | 2 Foster Ave. | 5 | 7 | 8 | 8 | 1 | 1 | 4 | | 6 | |
| 8/1/2015 | 3 US Ave. | | 1 | | 1 | | | 1 | | 1 | 1 |
| 12/1/2015 | 3 US Ave. | | | | 2 | | | | 1 | 2 | |
| 10/1/2016 | 3 US Ave. | 1 | 1 | 1 | 1 | | | 1 | 1 | 1 | 1 |
| 8/1/2015 | 4 Foster Ave. | | 3 (+1DUP) | | 3 (+1DUP) | | | 3 (+1DUP) | | 3 (+1DUP) | 3 (+1DUP) |
| 12/1/2015 | 4 Foster Ave. | | | | 1 | | | | 1 | 5 (+1DUP) | |
| 10/1/2016 | 4 Foster Ave. | 2 (+1DUP) | 4 (+1DUP) | 5 | | | 1DUP | | | 5 (+1DUP) | |

| | Analyte | 1,1,2,2-Tetrachloroethane | 1,2-Dichloroethane | Acrolein | Benzene | Benzyl Chloride | Bromodichloromethane | Chloroform | Ethylbenzene | Naphthalene | Trichloroethene |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **NJDEP Non-residential IA Levels (µg/m$^3$)** | **3.0** | **2.0** | **NC** | **2.0** | **NC** | **4.0** | **2.0** | **5.0** | **3.0** | **3.0** |
| **Date** | **Address** | | | | | | | | | | |
| 8/1/2015 | 2 Foster Ave. | | | | 1 | | | | | 4 | |
| 12/1/2015 | 2 Foster Ave. | | 1 | | 1 | | | | 1 | 1 | |
| 10/1/2016 | 2 Foster Ave. | | | | 5 | | | | | 5 | |
| 8/1/2015 | 3 US Ave. | | | | 1 | | | | | 1 | 1 |
| 12/1/2015 | 3 US Ave. | | | | 2 | | | | 1 | 1 | |
| 10/1/2016 | 3 US Ave. | | | | 1 | | | | 1 | 1 | 1 |
| 8/1/2015 | 4 Foster Ave. | | 3 (+1DUP) | | 3 (+1DUP) | | | 3 (+1DUP) | | 3 (+1DUP) | 3 (+1DUP) |
| 12/1/2015 | 4 Foster Ave. | | | | 1 | | | | 1 | 4 (+1DUP) | |
| 10/1/2016 | 4 Foster Ave. | | | | | | | | | 3 | |

Notes:

IA – Indoor Air.

Blank – No exceedances.

NC – No criterion available.

# Appendix G

## ProUCL Output

| Analyte | Group | Matrix | Valid Obs | Rec. UCL | Method | Mean | Min DT | Max | UCL>Max | EPC |
|---|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | NA | NA | 9 | 2.4148544 | 95% KM (t) UCL | 2.1125 | 1.5 | 3.2 | | |
| CHROMIUM, HEXAVALENT | NA | NA | 15 | 0.7251995 | 95% KM Adjusted Gamma UCL | 0.70125 | 0.47 | 1.4 | | |
| COBALT | NA | NA | 9 | 3.0517163 | 95% KM Bootstrap t UCL | 0.891429 | 0.25 | 3.1 | | |
| IRON | NA | NA | 9 | 6603.5647 | 95% Student's-t UCL | 5433.333 | 1070 | 7570 | | |
| THALLIUM | NA | NA | 9 | NA | NA | NA | NA | NA | | |
| BENZO(A)PYRENE | NA | NA | 11 | 0.0731876 | 95% KM (t) UCL | 0.06325 | 0.048 | 0.073 | Y | |
| DIBENZO(A,H)ANTHRACENE | NA | NA | 11 | NA | NA | NA | NA | NA | | |

0-10soil_EUSA.xlsx

## UCL Statistics for Data Sets with Non-Detects

**0-10soil_EUSA.xlsx**

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.11/6/2017 2:46:13 PM |
| From File | ProUCL_FMPHHRA_01.06.17 input_c.xls |
| Full Precision | ON |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

### ARSENIC

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 9.000 | Number of Distinct Observations | 7.000 |
| Number of Detects | 8.000 | Number of Non-Detects | 1.000 |
| Number of Distinct Detects | 6.000 | Number of Distinct Non-Detects | 1.000 |
| Minimum Detect | 1.500 | Minimum Non-Detect | 0.9000 |
| Maximum Detect | 3.200 | Maximum Non-Detect | 0.9000 |
| Variance Detects | 0.3727 | Percent Non-Detects | 0.1111 |
| Mean Detects | 2.113 | SD Detects | 0.6105 |
| Median Detects | 2.000 | CV Detects | 0.2890 |
| Skewness Detects | 0.9035 | Kurtosis Detects | -0.1285 |
| Mean of Logged Detects | 0.7136 | SD of Logged Detects | 0.2756 |

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.8942 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.8180 | Detected Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.1981 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.2825 | Detected Data appear Normal at 5% Significance Level |

Detected Data appear Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 1.978 | KM Standard Error of Mean | 0.2350 |
| KM SD | 0.6596 | 95% KM (BCA) UCL | 2.344 |
| 95% KM (t) UCL | 2.415 | 95% KM (Percentile Bootstrap) UCL | 2.333 |
| 95% KM (z) UCL | 2.364 | 95% KM Bootstrap t UCL | 2.507 |
| 90% KM Chebyshev UCL | 2.683 | 95% KM Chebyshev UCL | 3.002 |
| 97.5% KM Chebyshev UCL | 3.446 | 99% KM Chebyshev UCL | 4.316 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.3479 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.7156 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.1732 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.2941 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 14.77 | k star (bias corrected MLE) | 9.314 |
| Theta hat (MLE) | 0.1430 | Theta star (bias corrected MLE) | 0.2268 |
| nu hat (MLE) | 236.3 | nu star (bias corrected) | 149.0 |
| Mean (detects) | 2.113 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.8140 | Mean | 1.968 |
| Maximum | 3.200 | Median | 2.000 |
| SD | 0.7165 | CV | 0.3641 |
| k hat (MLE) | 7.779 | k star (bias corrected MLE) | 5.260 |
| Theta hat (MLE) | 0.2530 | Theta star (bias corrected MLE) | 0.3742 |
| nu hat (MLE) | 140.0 | nu star (bias corrected) | 94.68 |
| Adjusted Level of Significance (β) | 0.02308 | | |
| Approximate Chi Square Value (94.68, α) | 73.24 | Adjusted Chi Square Value (94.68, β) | 69.27 |
| 95% Gamma Approximate UCL (use when n>=50) | 2.544 | 95% Gamma Adjusted UCL (use when n<50) | 2.690 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 1.978 | SD (KM) | 0.6596 |
| Variance (KM) | 0.4351 | SE of Mean (KM) | 0.2350 |
| k hat (KM) | 8.991 | k star (KM) | 6.068 |
| nu hat (KM) | 161.8 | nu star (KM) | 109.2 |
| theta hat (KM) | 0.2200 | theta star (KM) | 0.3259 |
| 80% gamma percentile (KM) | 2.603 | 90% gamma percentile (KM) | 3.051 |
| 95% gamma percentile (KM) | 3.456 | 99% gamma percentile (KM) | 4.305 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (109.22, α) | 86.10 | Adjusted Chi Square Value (109.22, β) | 81.78 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 2.509 | 95% Gamma Adjusted KM-UCL (use when n<50) | 2.641 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.9240 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.8180 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.1546 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.2825 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 1.992 | Mean in Log Scale | 0.6379 |
| SD in Original Scale | 0.6751 | SD in Log Scale | 0.3437 |
| 95% t UCL (assumes normality of ROS data) | 2.411 | 95% Percentile Bootstrap UCL | 2.333 |
| 95% BCA Bootstrap UCL | 2.389 | 95% Bootstrap t UCL | 2.532 |
| 95% H-UCL (Log ROS) | 2.579 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 0.6226 | KM Geo Mean | 1.864 |
| KM SD (logged) | 0.3540 | 95% Critical H Value (KM-Log) | 2.075 |
| KM Standard Error of Mean (logged) | 0.1262 | 95% H-UCL (KM -Log) | 2.573 |
| KM SD (logged) | 0.3540 | 95% Critical H Value (KM-Log) | 2.075 |
| KM Standard Error of Mean (logged) | 0.1262 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.928 | Mean in Log Scale | 0.5456 |
| SD in Original Scale | 0.7957 | SD in Log Scale | 0.5662 |
| 95% t UCL (Assumes normality) | 2.421 | 95% H-Stat UCL | 3.245 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Normal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (t) UCL | 2.415 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

## CHROMIUM, HEXAVALENT

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 15.00 | Number of Distinct Observations | 12.00 |
| | | Number of Missing Observations | 9.000 |
| Number of Detects | 8.000 | Number of Non-Detects | 7.000 |
| Number of Distinct Detects | 8.000 | Number of Distinct Non-Detects | 4.000 |
| Minimum Detect | 0.4700 | Minimum Non-Detect | 0.4100 |
| Maximum Detect | 1.400 | Maximum Non-Detect | 0.4500 |
| Variance Detects | 0.08767 | Percent Non-Detects | 0.4667 |
| Mean Detects | 0.7013 | SD Detects | 0.2961 |
| Median Detects | 0.6150 | CV Detects | 0.4222 |
| Skewness Detects | 2.346 | Kurtosis Detects | 5.925 |
| Mean of Logged Detects | -0.4123 | SD of Logged Detects | 0.3362 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.7015 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.8180 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.3187 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.2825 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.5653 | KM Standard Error of Mean | 0.06874 |
| KM SD | 0.2490 | 95% KM (BCA) UCL | 0.6867 |
| 95% KM (t) UCL | 0.6864 | 95% KM (Percentile Bootstrap) UCL | 0.6840 |
| 95% KM (z) UCL | 0.6784 | 95% KM Bootstrap t UCL | 0.7932 |
| 90% KM Chebyshev UCL | 0.7716 | 95% KM Chebyshev UCL | 0.8650 |
| 97.5% KM Chebyshev UCL | 0.9946 | 99% KM Chebyshev UCL | 1.249 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.8004 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.7159 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.2940 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.2945 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data follow Appr. Gamma Distribution at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 8.876 | k star (bias corrected MLE) | 5.631 |
| Theta hat (MLE) | 0.07901 | Theta star (bias corrected MLE) | 0.1245 |
| nu hat (MLE) | 142.0 | nu star (bias corrected) | 90.09 |
| Mean (detects) | 0.7013 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01000 | Mean | 0.4130 |
| Maximum | 1.400 | Median | 0.4700 |
| SD | 0.3844 | CV | 0.9305 |
| k hat (MLE) | 0.8274 | k star (bias corrected MLE) | 0.7064 |
| Theta hat (MLE) | 0.4992 | Theta star (bias corrected MLE) | 0.5848 |
| nu hat (MLE) | 24.82 | nu star (bias corrected) | 21.19 |
| Adjusted Level of Significance (β) | 0.03235 | | |
| Approximate Chi Square Value (21.19, α) | 11.73 | Adjusted Chi Square Value (21.19, β) | 10.87 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.7460 | 95% Gamma Adjusted UCL (use when n<50) | 0.8049 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.5653 | SD (KM) | 0.2490 |
| Variance (KM) | 0.06202 | SE of Mean (KM) | 0.06874 |
| k hat (KM) | 5.153 | k star (KM) | 4.167 |
| nu hat (KM) | 154.6 | nu star (KM) | 125.0 |
| theta hat (KM) | 0.1097 | theta star (KM) | 0.1357 |
| 80% gamma percentile (KM) | 0.7758 | 90% gamma percentile (KM) | 0.9365 |
| 95% gamma percentile (KM) | 1.084 | 99% gamma percentile (KM) | 1.399 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (125.00, α) | 100.2 | Adjusted Chi Square Value (125.00, β) | 97.44 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.7054 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.7252 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.8242 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.8180 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.2719 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.2825 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.5020 | Mean in Log Scale | -0.8293 |
| SD in Original Scale | 0.3055 | SD in Log Scale | 0.5311 |
| 95% t UCL (assumes normality of ROS data) | 0.6410 | 95% Percentile Bootstrap UCL | 0.6419 |
| 95% BCA Bootstrap UCL | 0.6864 | 95% Bootstrap t UCL | 0.7131 |
| 95% H-UCL (Log ROS) | 0.6771 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -0.6360 | KM Geo Mean | 0.5294 |
| KM SD (logged) | 0.3315 | 95% Critical H Value (KM-Log) | 1.908 |
| KM Standard Error of Mean (logged) | 0.09151 | 95% H-UCL (KM -Log) | 0.6623 |
| KM SD (logged) | 0.3315 | 95% Critical H Value (KM-Log) | 1.908 |
| KM Standard Error of Mean (logged) | 0.09151 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.4723 | Mean in Log Scale | -0.9468 |
| SD in Original Scale | 0.3287 | SD in Log Scale | 0.6379 |
| 95% t UCL (Assumes normality) | 0.6218 | 95% H-Stat UCL | 0.6951 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | | | |
|---|---|---|---|
| 95% KM Adjusted Gamma UCL | 0.7252 | 95% GROS Adjusted Gamma UCL | 0.8049 |

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**COBALT**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 9.000 | Number of Distinct Observations | 9.000 |
| Number of Detects | 7.000 | Number of Non-Detects | 2.000 |
| Number of Distinct Detects | 7.000 | Number of Distinct Non-Detects | 2.000 |

| | | | |
|---|---|---|---|
| Minimum Detect | 0.2500 | Minimum Non-Detect | 4.500 |
| Maximum Detect | 3.100 | Maximum Non-Detect | 5.100 |
| Variance Detects | 1.010 | Percent Non-Detects | 0.2222 |
| Mean Detects | 0.8914 | SD Detects | 1.005 |
| Median Detects | 0.5300 | CV Detects | 1.127 |
| Skewness Detects | 2.322 | Kurtosis Detects | 5.672 |
| Mean of Logged Detects | -0.4954 | SD of Logged Detects | 0.8717 |

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.6748 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.8030 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.3577 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.3041 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.8914 | KM Standard Error of Mean | 0.3798 |
| KM SD | 0.9303 | 95% KM (BCA) UCL | 1.670 |
| 95% KM (t) UCL | 1.598 | 95% KM (Percentile Bootstrap) UCL | 1.554 |
| 95% KM (z) UCL | 1.516 | 95% KM Bootstrap t UCL | 3.056 |
| 90% KM Chebyshev UCL | 2.031 | 95% KM Chebyshev UCL | 2.547 |
| 97.5% KM Chebyshev UCL | 3.263 | 99% KM Chebyshev UCL | 4.670 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.5367 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.7218 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.2480 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.3172 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.458 | k star (bias corrected MLE) | 0.9285 |
| Theta hat (MLE) | 0.6113 | Theta star (bias corrected MLE) | 0.9601 |
| nu hat (MLE) | 20.42 | nu star (bias corrected) | 13.00 |
| Mean (detects) | 0.8914 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.2500 | Mean | 0.8517 |
| Maximum | 3.100 | Median | 0.7126 |

| | | | |
|---|---|---|---|
| SD | 0.8738 | CV | 1.026 |
| k hat (MLE) | 1.815 | k star (bias corrected MLE) | 1.284 |
| Theta hat (MLE) | 0.4693 | Theta star (bias corrected MLE) | 0.6633 |
| nu hat (MLE) | 32.67 | nu star (bias corrected) | 23.11 |
| Adjusted Level of Significance (β) | 0.02308 | | |
| Approximate Chi Square Value (23.11, α) | 13.18 | Adjusted Chi Square Value (23.11, β) | 11.62 |
| 95% Gamma Approximate UCL (use when n>=50) | 1.494 | 95% Gamma Adjusted UCL (use when n<50) | 1.693 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.8914 | SD (KM) | 0.9303 |
| Variance (KM) | 0.8655 | SE of Mean (KM) | 0.3798 |
| k hat (KM) | 0.9181 | k star (KM) | 0.6861 |
| nu hat (KM) | 16.53 | nu star (KM) | 12.35 |
| theta hat (KM) | 0.9709 | theta star (KM) | 1.299 |
| 80% gamma percentile (KM) | 1.466 | 90% gamma percentile (KM) | 2.248 |
| 95% gamma percentile (KM) | 3.056 | 99% gamma percentile (KM) | 4.988 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (12.35, α) | 5.459 | Adjusted Chi Square Value (12.35, β) | 4.531 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 2.017 | 95% Gamma Adjusted KM-UCL (use when n<50) | 2.430 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.9090 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.8030 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.1890 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.3041 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.8287 | Mean in Log Scale | -0.4954 |
| SD in Original Scale | 0.8791 | SD in Log Scale | 0.7550 |
| 95% t UCL (assumes normality of ROS data) | 1.374 | 95% Percentile Bootstrap UCL | 1.377 |
| 95% BCA Bootstrap UCL | 1.638 | 95% Bootstrap t UCL | 2.399 |
| 95% H-UCL (Log ROS) | 1.676 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -0.4954 | KM Geo Mean | 0.6093 |
| KM SD (logged) | 0.8071 | 95% Critical H Value (KM-Log) | 2.827 |
| KM Standard Error of Mean (logged) | 0.3295 | 95% H-UCL (KM -Log) | 1.891 |
| KM SD (logged) | 0.8071 | 95% Critical H Value (KM-Log) | 2.827 |
| KM Standard Error of Mean (logged) | 0.3295 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.227 | Mean in Log Scale | -0.1912 |
| SD in Original Scale | 1.098 | SD in Log Scale | 0.9671 |
| 95% t UCL (Assumes normality) | 1.907 | 95% H-Stat UCL | 3.893 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

| | | | |
|---|---|---|---|
| 95% KM Bootstrap t UCL | 3.052 | 95% Hall's Bootstrap | 1.891 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

IRON

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 9.000 | Number of Distinct Observations | 9.000 |
| | | Number of Missing Observations | 0 |
| Minimum | 1070 | Mean | 5433 |
| Maximum | 7570 | Median | 5800 |
| SD | 1888 | Std. Error of Mean | 629.3 |
| Coefficient of Variation | 0.3475 | Skewness | -1.641 |

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use
guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.8562 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.8290 | Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.2391 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.2744 | Data appear Normal at 5% Significance Level |

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

| 95% Normal UCL | | 95% UCLs (Adjusted for Skewness) | |
|---|---|---|---|
| 95% Student's-t UCL | 6604 | 95% Adjusted-CLT UCL (Chen-1995) | 6101 |
| | | 95% Modified-t UCL (Johnson-1978) | 6546 |

Gamma GOF Test

| | | |
|---|---|---|
| A-D Test Statistic | 1.113 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.7231 | Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.3086 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.2799 | Data Not Gamma Distributed at 5% Significance Level |

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

| | | | |
|---|---|---|---|
| k hat (MLE) | 4.852 | k star (bias corrected MLE) | 3.309 |
| Theta hat (MLE) | 1120 | Theta star (bias corrected MLE) | 1642 |

| | | | |
|---|---|---|---|
| nu hat (MLE) | 87.34 | nu star (bias corrected) | 59.56 |
| MLE Mean (bias corrected) | 5433 | MLE Sd (bias corrected) | 2987 |
| | | Approximate Chi Square Value (0.05) | 42.82 |
| Adjusted Level of Significance | 0.02308 | Adjusted Chi Square Value | 39.84 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 7558 | 95% Adjusted Gamma UCL (use when n<50) | 8123 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.6497 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.8290 | Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.3367 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.2744 | Data Not Lognormal at 5% Significance Level |

Data Not Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | 6.975 | Mean of logged Data | 8.494 |
| Maximum of Logged Data | 8.932 | SD of logged Data | 0.5909 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 9631 | 90% Chebyshev (MVUE) UCL | 9116 |
| 95% Chebyshev (MVUE) UCL | 10668 | 97.5% Chebyshev (MVUE) UCL | 12822 |
| 99% Chebyshev (MVUE) UCL | 17052 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 6468 | 95% Jackknife UCL | 6604 |
| 95% Standard Bootstrap UCL | 6427 | 95% Bootstrap-t UCL | 6290 |
| 95% Hall's Bootstrap UCL | 6222 | 95% Percentile Bootstrap UCL | 6326 |
| 95% BCA Bootstrap UCL | 6166 | | |
| 90% Chebyshev(Mean, Sd) UCL | 7321 | 95% Chebyshev(Mean, Sd) UCL | 8176 |
| 97.5% Chebyshev(Mean, Sd) UCL | 9363 | 99% Chebyshev(Mean, Sd) UCL | 11695 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% Student's-t UCL | 6604 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.**

THALLIUM

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 9.000 | Number of Distinct Observations | 6.000 |
| Number of Detects | 1.000 | Number of Non-Detects | 8.000 |
| Number of Distinct Detects | 1.000 | Number of Distinct Non-Detects | 5.000 |

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!

It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable THALLIUM was not processed!

BENZO(A)PYRENE

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 11.00 | Number of Distinct Observations | 8.000 |
| | | Number of Missing Observations | 15.00 |
| Number of Detects | 4.000 | Number of Non-Detects | 7.000 |
| Number of Distinct Detects | 4.000 | Number of Distinct Non-Detects | 4.000 |
| Minimum Detect | 0.04800 | Minimum Non-Detect | 0.1800 |
| Maximum Detect | 0.07300 | Maximum Non-Detect | 0.3700 |
| Variance Detects | 0.0001203 | Percent Non-Detects | 0.6364 |
| Mean Detects | 0.06325 | SD Detects | 0.01097 |
| Median Detects | 0.06600 | CV Detects | 0.1734 |
| Skewness Detects | -1.228 | Kurtosis Detects | 1.303 |
| Mean of Logged Detects | -2.773 | SD of Logged Detects | 0.1859 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.9168 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.7480 | Detected Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.2409 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.3754 | Detected Data appear Normal at 5% Significance Level |

Detected Data appear Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 0.06325 | KM Standard Error of Mean | 0.005483 |
| KM SD | 0.009497 | 95% KM (BCA) UCL | N/A |
| 95% KM (t) UCL | 0.07319 | 95% KM (Percentile Bootstrap) UCL | N/A |
| 95% KM (z) UCL | 0.07227 | 95% KM Bootstrap t UCL | N/A |
| 90% KM Chebyshev UCL | 0.07970 | 95% KM Chebyshev UCL | 0.08715 |
| 97.5% KM Chebyshev UCL | 0.09749 | 99% KM Chebyshev UCL | 0.1178 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 0.3707 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.6563 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.2608 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.3940 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 40.59 | k star (bias corrected MLE) | 10.31 |
| Theta hat (MLE) | 0.001558 | Theta star (bias corrected MLE) | 0.006133 |
| nu hat (MLE) | 324.7 | nu star (bias corrected) | 82.51 |
| Mean (detects) | 0.06325 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.04800 | Mean | 0.06315 |
| Maximum | 0.07306 | Median | 0.06296 |
| SD | 0.007932 | CV | 0.1256 |
| k hat (MLE) | 66.15 | k star (bias corrected MLE) | 48.17 |
| Theta hat (MLE) | 0.0009547 | Theta star (bias corrected MLE) | 0.001311 |
| nu hat (MLE) | 1455 | nu star (bias corrected) | 1060 |
| Adjusted Level of Significance (β) | 0.02783 | | |
| Approximate Chi Square Value (N/A, α) | 985.1 | Adjusted Chi Square Value (N/A, β) | 973.3 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.06793 | 95% Gamma Adjusted UCL (use when n<50) | N/A |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.06325 | SD (KM) | 0.009497 |
| Variance (KM) | ######### | SE of Mean (KM) | 0.005483 |
| k hat (KM) | 44.36 | k star (KM) | 32.32 |
| nu hat (KM) | 975.9 | nu star (KM) | 711.1 |
| theta hat (KM) | 0.001426 | theta star (KM) | 0.001957 |
| 80% gamma percentile (KM) | 0.07237 | 90% gamma percentile (KM) | 0.07786 |
| 95% gamma percentile (KM) | 0.08259 | 99% gamma percentile (KM) | 0.09197 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (711.07, α) | 650.2 | Adjusted Chi Square Value (711.07, β) | 640.7 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.06917 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.07020 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.8880 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.7480 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.2680 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.3754 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.06297 | Mean in Log Scale | -2.773 |
| SD in Original Scale | 0.008125 | SD in Log Scale | 0.1340 |
| 95% t UCL (assumes normality of ROS data) | 0.06741 | 95% Percentile Bootstrap UCL | 0.06654 |
| 95% BCA Bootstrap UCL | 0.06674 | 95% Bootstrap t UCL | 0.06688 |
| 95% H-UCL (Log ROS) | 0.06806 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -2.773 | KM Geo Mean | 0.06247 |
| KM SD (logged) | 0.1610 | 95% Critical H Value (KM-Log) | 1.830 |
| KM Standard Error of Mean (logged) | 0.09294 | 95% H-UCL (KM -Log) | 0.06946 |
| KM SD (logged) | 0.1610 | 95% Critical H Value (KM-Log) | 1.830 |
| KM Standard Error of Mean (logged) | 0.09294 | | |

**DL/2 Statistics**

| DL/2 Normal | | DL/2 Log-Transformed | |
|---|---|---|---|
| Mean in Original Scale | 0.09800 | Mean in Log Scale | -2.402 |
| SD in Original Scale | 0.04438 | SD in Log Scale | 0.4052 |
| 95% t UCL (Assumes normality) | 0.1223 | 95% H-Stat UCL | 0.1279 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Normal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (t) UCL | 0.07319 |

Warning: Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**DIBENZO(A,H)ANTHRACENE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 11.00 | Number of Distinct Observations | 5.000 |
| | | Number of Missing Observations | 15.00 |
| Number of Detects | 1.000 | Number of Non-Detects | 10.00 |
| Number of Distinct Detects | 1.000 | Number of Distinct Non-Detects | 4.000 |

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable DIBENZO(A,H)ANTHRACENE was not processed!

| Analyte | Group | Matrix | Valid Obs | Rec. UCL | Method | Max | UCL>Max |
|---|---|---|---|---|---|---|---|
| ALUMINUM | NA | NA | 327 | 3336 | 95% Chebyshev (Mean, Sd) UCL | 22000 | |
| ANTIMONY | NA | NA | 329 | 1.3 | 95% KM (Chebyshev) UCL | 8.2 | |
| ARSENIC | NA | NA | 330 | 23 | 95% KM (Chebyshev) UCL | 696.5 | |
| BARIUM | NA | NA | 344 | 380 | 95% KM (Chebyshev) UCL | 4400 | |
| CADMIUM | NA | NA | 325 | 0.34 | KM H-UCL | 8.3 | |
| CHROMIUM, HEXAVALENT | NA | NA | 48 | 35 | 95% KM (Chebyshev) UCL | 293 | |
| COBALT | NA | NA | 327 | 1.8 | KM H-UCL | 13.2 | |
| COPPER | NA | NA | 329 | 25 | 95% KM (Chebyshev) UCL | 379.5 | |
| CYANIDE | NA | NA | 253 | 4.6 | KM H-UCL | 352 | |
| IRON | NA | NA | 327 | 7199 | 95% Chebyshev (Mean, Sd) UCL | 51400 | |
| LEAD | NA | NA | 326 | 540 | 95% KM (Chebyshev) UCL | 15300 | |
| MANGANESE | NA | NA | 326 | 106 | 95% Chebyshev (Mean, Sd) UCL | 2010 | |
| THALLIUM | NA | NA | 329 | 0.29 | KM H-UCL | 3.7 | |
| VANADIUM | NA | NA | 327 | 12 | 95% KM (Chebyshev) UCL | 82.2 | |
| ZINC | NA | NA | 330 | 190 | 95% KM (Chebyshev) UCL | 2930 | |
| ALDRIN | NA | NA | 99 | 0.012 | 95% KM Approximate Gamma UCL | 0.17 | |
| AROCLOR-1254 | NA | NA | 270 | 0.027 | 95% KM Approximate Gamma UCL | 0.26 | |
| AROCLOR-1260 | NA | NA | 275 | 25 | 95% KM (Chebyshev) UCL | 1200 | |
| DIELDRIN | NA | NA | 97 | 0.017 | 95% KM Approximate Gamma UCL | 0.27 | |
| 1,1'-BIPHENYL | NA | NA | 309 | 0.62 | 95% KM (Chebyshev) UCL | 25 | |
| 2-METHYLNAPHTHALENE | NA | NA | 329 | 4.4 | 95% KM (Chebyshev) UCL | 240 | |
| BENZO(A)ANTHRACENE | NA | NA | 329 | 2.4 | 95% KM (Chebyshev) UCL | 80 | |
| BENZO(A)PYRENE | NA | NA | 329 | 2.1 | 95% KM (Chebyshev) UCL | 69 | |
| BENZO(B)FLUORANTHENE | NA | NA | 329 | 2.3 | 95% KM (Chebyshev) UCL | 65 | |
| BENZO(K)FLUORANTHENE | NA | NA | 329 | 1.6 | 95% KM (Chebyshev) UCL | 59 | |
| CARBAZOLE | NA | NA | 329 | 0.89 | 95% KM (Chebyshev) UCL | 35 | |
| CHRYSENE | NA | NA | 329 | 2.3 | 95% KM (Chebyshev) UCL | 78 | |
| DIBENZO(A,H)ANTHRACENE | NA | NA | 327 | 0.45 | 95% KM (Chebyshev) UCL | 13 | |
| DIBENZOFURAN | NA | NA | 329 | 0.79 | 95% KM (Chebyshev) UCL | 26 | |
| INDENO(1,2,3-CD)PYRENE | NA | NA | 328 | 1.2 | 95% KM (Chebyshev) UCL | 37 | |
| NAPHTHALENE | NA | NA | 333 | 11 | 95% KM (Chebyshev) UCL | 580 | |
| BENZENE | NA | NA | 198 | 0.037 | KM H-UCL | 37 | |
| ETHYLBENZENE | NA | NA | 198 | 25 | 95% KM Approximate Gamma UCL | 770 | |
| METHYLCYCLOHEXANE | NA | NA | 160 | 5252 | KM H-UCL | 2900 | Y |
| TRICHLOROETHYLENE (TCE) | NA | NA | 194 | 0.035 | 95% KM Approximate Gamma UCL | 0.92 | |
| XYLENES (TOTAL) | NA | NA | 196 | 409 | 99% KM (Chebyshev) UCL | 6600 | |

0-10soil_NFA.xlsx

**UCL Statistics for Data Sets with Non-Detects**

**0-10soil_NFA.xlsx**

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.11/18/2017 9:28:07 AM |
| From File | ProUCL_FMPHHRA_01.18.17 input_a.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**ALUMINUM**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 327 | Number of Distinct Observations | 236 |
| | | Number of Missing Observations | 135 |
| Minimum | 72.4 | Mean | 2808 |
| Maximum | 22000 | Median | 2390 |
| SD | 2187 | Std. Error of Mean | 120.9 |
| Coefficient of Variation | 0.779 | Skewness | 4.722 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.656 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.204 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0494 | Data Not Normal at 5% Significance Level |

**Data Not Normal at 5% Significance Level**

**Assuming Normal Distribution**

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 3008 | 95% Adjusted-CLT UCL (Chen-1995) | 3041 |
| | | 95% Modified-t UCL (Johnson-1978) | 3013 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 5.578 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.761 | Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.111 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.0506 | Data Not Gamma Distributed at 5% Significance Level |

**Data Not Gamma Distributed at 5% Significance Level**

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 2.857 | k star (bias corrected MLE) | 2.833 |
| Theta hat (MLE) | 982.9 | Theta star (bias corrected MLE) | 991.3 |
| nu hat (MLE) | 1869 | nu star (bias corrected) | 1853 |
| MLE Mean (bias corrected) | 2808 | MLE Sd (bias corrected) | 1668 |
| | | Approximate Chi Square Value (0.05) | 1754 |
| Adjusted Level of Significance | 0.0493 | Adjusted Chi Square Value | 1753 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 2967 | 95% Adjusted Gamma UCL (use when n<50) | 2968 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.962 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk P Value | 1.9336E-6 | Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0876 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.0494 | Data Not Lognormal at 5% Significance Level |

Data Not Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | 4.282 | Mean of logged Data | 7.755 |
| Maximum of Logged Data | 9.999 | SD of logged Data | 0.61 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 2992 | 90% Chebyshev (MVUE) UCL | 3117 |
| 95% Chebyshev (MVUE) UCL | 3257 | 97.5% Chebyshev (MVUE) UCL | 3451 |
| 99% Chebyshev (MVUE) UCL | 3832 | | |

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution (0.05)

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 3007 | 95% Jackknife UCL | 3008 |
| 95% Standard Bootstrap UCL | 3005 | 95% Bootstrap-t UCL | 3059 |
| 95% Hall's Bootstrap UCL | 3051 | 95% Percentile Bootstrap UCL | 3027 |
| 95% BCA Bootstrap UCL | 3058 | | |
| 90% Chebyshev(Mean, Sd) UCL | 3171 | 95% Chebyshev(Mean, Sd) UCL | 3336 |
| 97.5% Chebyshev(Mean, Sd) UCL | 3564 | 99% Chebyshev(Mean, Sd) UCL | 4012 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% Chebyshev (Mean, Sd) UCL | 3336 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**ANTIMONY**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 329 | Number of Distinct Observations | 86 |
| | | Number of Missing Observations | 133 |
| Number of Detects | 50 | Number of Non-Detects | 279 |
| Number of Distinct Detects | 43 | Number of Distinct Non-Detects | 50 |
| Minimum Detect | 0.21 | Minimum Non-Detect | 0.63 |
| Maximum Detect | 8.2 | Maximum Non-Detect | 10.1 |
| Variance Detects | 3.85 | Percent Non-Detects | 84.8% |
| Mean Detects | 1.73 | SD Detects | 1.962 |

| | | | |
|---|---|---|---|
| Median Detects | 0.82 | CV Detects | 1.134 |
| Skewness Detects | 1.929 | Kurtosis Detects | 3.19 |
| Mean of Logged Detects | 0.047 | SD of Logged Detects | 0.982 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.722 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.947 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.251 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.125 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.919 | KM Standard Error of Mean | 0.0884 |
| KM SD | 1.072 | 95% KM (BCA) UCL | 1.063 |
| 95% KM (t) UCL | 1.065 | 95% KM (Percentile Bootstrap) UCL | 1.061 |
| 95% KM (z) UCL | 1.064 | 95% KM Bootstrap t UCL | 1.091 |
| 90% KM Chebyshev UCL | 1.184 | 95% KM Chebyshev UCL | 1.304 |
| 97.5% KM Chebyshev UCL | 1.471 | 99% KM Chebyshev UCL | 1.798 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 1.81 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.776 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.194 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.129 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.136 | k star (bias corrected MLE) | 1.081 |
| Theta hat (MLE) | 1.523 | Theta star (bias corrected MLE) | 1.6 |
| nu hat (MLE) | 113.6 | nu star (bias corrected) | 108.1 |
| Mean (detects) | 1.73 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 0.822 |
| Maximum | 8.2 | Median | 0.49 |
| SD | 1.071 | CV | 1.304 |
| k hat (MLE) | 0.561 | k star (bias corrected MLE) | 0.558 |
| Theta hat (MLE) | 1.464 | Theta star (bias corrected MLE) | 1.472 |
| nu hat (MLE) | 369.2 | nu star (bias corrected) | 367.2 |
| Adjusted Level of Significance (β) | 0.0493 | | |
| Approximate Chi Square Value (367.15, α) | 323.7 | Adjusted Chi Square Value (367.15, β) | 323.6 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.932 | 95% Gamma Adjusted UCL (use when n<50) | 0.932 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.919 | SD (KM) | 1.072 |
| Variance (KM) | 1.148 | SE of Mean (KM) | 0.0884 |
| k hat (KM) | 0.735 | k star (KM) | 0.73 |
| nu hat (KM) | 483.7 | nu star (KM) | 480.6 |
| theta hat (KM) | 1.25 | theta star (KM) | 1.258 |
| 80% gamma percentile (KM) | 1.508 | 90% gamma percentile (KM) | 2.283 |
| 95% gamma percentile (KM) | 3.079 | 99% gamma percentile (KM) | 4.974 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (480.59, α) | 430.8 | Adjusted Chi Square Value (480.59, β) | 430.5 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1.025 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1.025 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.943 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.947 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.137 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.125 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.896 | Mean in Log Scale | -0.386 |
| SD in Original Scale | 0.932 | SD in Log Scale | 0.692 |
| 95% t UCL (assumes normality of ROS data) | 0.981 | 95% Percentile Bootstrap UCL | 0.984 |
| 95% BCA Bootstrap UCL | 0.996 | 95% Bootstrap t UCL | 1.001 |
| 95% H-UCL (Log ROS) | 0.929 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -0.416 | KM Geo Mean | 0.66 |
| KM SD (logged) | 0.721 | 95% Critical H Value (KM-Log) | 1.918 |
| KM Standard Error of Mean (logged) | 0.0848 | 95% H-UCL (KM -Log) | 0.924 |
| KM SD (logged) | 0.721 | 95% Critical H Value (KM-Log) | 1.918 |
| KM Standard Error of Mean (logged) | 0.0848 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 2.195 | Mean in Log Scale | 0.557 |
| SD in Original Scale | 1.222 | SD in Log Scale | 0.766 |
| 95% t UCL (Assumes normality) | 2.306 | 95% H-Stat UCL | 2.543 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 1.304 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

ARSENIC

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 330 | Number of Distinct Observations | 168 |
| | | Number of Missing Observations | 132 |
| Number of Detects | 318 | Number of Non-Detects | 12 |
| Number of Distinct Detects | 165 | Number of Distinct Non-Detects | 11 |
| Minimum Detect | 0.42 | Minimum Non-Detect | 0.59 |
| Maximum Detect | 696.5 | Maximum Non-Detect | 3.3 |
| Variance Detects | 1945 | Percent Non-Detects | 3.636% |
| Mean Detects | 13.44 | SD Detects | 44.11 |
| Median Detects | 3.4 | CV Detects | 3.282 |
| Skewness Detects | 12.31 | Kurtosis Detects | 183.7 |
| Mean of Logged Detects | 1.525 | SD of Logged Detects | 1.283 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.279 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.384 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0501 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 12.99 | KM Standard Error of Mean | 2.387 |
| KM SD | 43.29 | 95% KM (BCA) UCL | 17.36 |
| 95% KM (t) UCL | 16.93 | 95% KM (Percentile Bootstrap) UCL | 17.13 |
| 95% KM (z) UCL | 16.92 | 95% KM Bootstrap t UCL | 21.23 |
| 90% KM Chebyshev UCL | 20.15 | 95% KM Chebyshev UCL | 23.39 |
| 97.5% KM Chebyshev UCL | 27.9 | 99% KM Chebyshev UCL | 36.74 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 19.99 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.814 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.185 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0535 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.579 | k star (bias corrected MLE) | 0.575 |
| Theta hat (MLE) | 23.22 | Theta star (bias corrected MLE) | 23.35 |
| nu hat (MLE) | 368.1 | nu star (bias corrected) | 365.9 |
| Mean (detects) | 13.44 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 12.95 |
| Maximum | 696.5 | Median | 3.3 |
| SD | 43.37 | CV | 3.349 |
| k hat (MLE) | 0.504 | k star (bias corrected MLE) | 0.501 |
| Theta hat (MLE) | 25.7 | Theta star (bias corrected MLE) | 25.83 |
| nu hat (MLE) | 332.5 | nu star (bias corrected) | 330.8 |
| Adjusted Level of Significance (β) | 0.0493 | | |
| Approximate Chi Square Value (330.82, α) | 289.7 | Adjusted Chi Square Value (330.82, β) | 289.5 |
| 95% Gamma Approximate UCL (use when n>=50) | 14.79 | 95% Gamma Adjusted UCL (use when n<50) | 14.8 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 12.99 | SD (KM) | 43.29 |
| Variance (KM) | 1874 | SE of Mean (KM) | 2.387 |
| k hat (KM) | 0.09 | k star (KM) | 0.0913 |
| nu hat (KM) | 59.43 | nu star (KM) | 60.23 |
| theta hat (KM) | 144.3 | theta star (KM) | 142.4 |
| 80% gamma percentile (KM) | 7.826 | 90% gamma percentile (KM) | 33.16 |
| 95% gamma percentile (KM) | 75.67 | 99% gamma percentile (KM) | 215.9 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (60.23, α) | 43.38 | Adjusted Chi Square Value (60.23, β) | 43.32 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 18.04 | 95% Gamma Adjusted KM-UCL (use when n<50) | 18.06 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.942 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 2.220E-16 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.105 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0501 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 12.99 | Mean in Log Scale | 1.459 |
| SD in Original Scale | 43.36 | SD in Log Scale | 1.313 |
| 95% t UCL (assumes normality of ROS data) | 16.92 | 95% Percentile Bootstrap UCL | 17.3 |
| 95% BCA Bootstrap UCL | 19.94 | 95% Bootstrap t UCL | 21.25 |
| 95% H-UCL (Log ROS) | 12.12 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 1.468 | KM Geo Mean | 4.341 |
| KM SD (logged) | 1.295 | 95% Critical H Value (KM-Log) | 2.377 |
| KM Standard Error of Mean (logged) | 0.0715 | 95% H-UCL (KM -Log) | 11.9 |
| KM SD (logged) | 1.295 | 95% Critical H Value (KM-Log) | 2.377 |
| KM Standard Error of Mean (logged) | 0.0715 | | |

**DL/2 Statistics**

| DL/2 Normal | | DL/2 Log-Transformed | |
|---|---|---|---|
| Mean in Original Scale | 12.98 | Mean in Log Scale | 1.462 |
| SD in Original Scale | 43.36 | SD in Log Scale | 1.307 |
| 95% t UCL (Assumes normality) | 16.92 | 95% H-Stat UCL | 12.03 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 23.39 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**BARIUM**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 344 | Number of Distinct Observations | 288 |
| | | Number of Missing Observations | 118 |
| Number of Detects | 297 | Number of Non-Detects | 47 |
| Number of Distinct Detects | 258 | Number of Distinct Non-Detects | 38 |
| Minimum Detect | 1.6 | Minimum Non-Detect | 10 |
| Maximum Detect | 4400 | Maximum Non-Detect | 32.9 |
| Variance Detects | 363120 | Percent Non-Detects | 13.66% |
| Mean Detects | 283.6 | SD Detects | 602.6 |
| Median Detects | 47.4 | CV Detects | 2.125 |
| Skewness Detects | 3.846 | Kurtosis Detects | 17.43 |
| Mean of Logged Detects | 4.111 | SD of Logged Detects | 1.81 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.511 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.32 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0518 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 246.2 | KM Standard Error of Mean | 30.61 |
| KM SD | 566.8 | 95% KM (BCA) UCL | 295.3 |
| 95% KM (t) UCL | 296.7 | 95% KM (Percentile Bootstrap) UCL | 299.8 |
| 95% KM (z) UCL | 296.6 | 95% KM Bootstrap t UCL | 307.2 |
| 90% KM Chebyshev UCL | 338 | 95% KM Chebyshev UCL | 379.6 |
| 97.5% KM Chebyshev UCL | 437.4 | 99% KM Chebyshev UCL | 550.8 |

**Gamma GOF Tests on Detected Observations Only**

| | | | |
|---|---|---|---|
| A-D Test Statistic | 12.05 | **Anderson-Darling GOF Test** | |
| 5% A-D Critical Value | 0.84 | Detected Data Not Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.15 | **Kolmogorov-Smirnov GOF** | |
| 5% K-S Critical Value | 0.056 | Detected Data Not Gamma Distributed at 5% Significance Level | |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.424 | k star (bias corrected MLE) | 0.422 |
| Theta hat (MLE) | 668.5 | Theta star (bias corrected MLE) | 671.7 |
| nu hat (MLE) | 252 | nu star (bias corrected) | 250.8 |
| Mean (detects) | 283.6 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 244.9 |
| Maximum | 4400 | Median | 28.75 |
| SD | 568.2 | CV | 2.32 |
| k hat (MLE) | 0.272 | k star (bias corrected MLE) | 0.271 |
| Theta hat (MLE) | 901.6 | Theta star (bias corrected MLE) | 903 |
| nu hat (MLE) | 186.9 | nu star (bias corrected) | 186.6 |
| Adjusted Level of Significance (β) | 0.0493 | | |
| Approximate Chi Square Value (186.57, α) | 156 | Adjusted Chi Square Value (186.57, β) | 155.9 |
| 95% Gamma Approximate UCL (use when n>=50) | 292.9 | 95% Gamma Adjusted UCL (use when n<50) | 293.1 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 246.2 | SD (KM) | 566.8 |
| Variance (KM) | 321308 | SE of Mean (KM) | 30.61 |
| k hat (KM) | 0.189 | k star (KM) | 0.189 |
| nu hat (KM) | 129.8 | nu star (KM) | 130 |
| theta hat (KM) | 1305 | theta star (KM) | 1303 |
| 80% gamma percentile (KM) | 314.5 | 90% gamma percentile (KM) | 743.9 |
| 95% gamma percentile (KM) | 1287 | 99% gamma percentile (KM) | 2797 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (130.00, α) | 104.7 | Adjusted Chi Square Value (130.00, β) | 104.6 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 305.8 | 95% Gamma Adjusted KM-UCL (use when n<50) | 306.1 |

**Lognormal GOF Test on Detected Observations Only**

| | | | |
|---|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.944 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk P Value | 1.219E-13 | Detected Data Not Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.0934 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.0518 | Detected Data Not Lognormal at 5% Significance Level | |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 246.3 | Mean in Log Scale | 3.863 |
| SD in Original Scale | 567.6 | SD in Log Scale | 1.8 |
| 95% t UCL (assumes normality of ROS data) | 296.8 | 95% Percentile Bootstrap UCL | 299 |
| 95% BCA Bootstrap UCL | 310.7 | 95% Bootstrap t UCL | 304.7 |
| 95% H-UCL (Log ROS) | 318.7 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 3.842 | KM Geo Mean | 46.61 |
| KM SD (logged) | 1.822 | 95% Critical H Value (KM-Log) | 2.909 |
| KM Standard Error of Mean (logged) | 0.0992 | 95% H-UCL (KM -Log) | 326.3 |
| KM SD (logged) | 1.822 | 95% Critical H Value (KM-Log) | 2.909 |
| KM Standard Error of Mean (logged) | 0.0992 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 246.2 | Mean in Log Scale | 3.858 |
| SD in Original Scale | 567.6 | SD in Log Scale | 1.803 |
| 95% t UCL (Assumes normality) | 296.7 | 95% H-Stat UCL | 318.5 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 379.6 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**CADMIUM**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 325 | Number of Distinct Observations | 124 |
| | | Number of Missing Observations | 137 |
| Number of Detects | 176 | Number of Non-Detects | 149 |
| Number of Distinct Detects | 99 | Number of Distinct Non-Detects | 42 |
| Minimum Detect | 0.028 | Minimum Non-Detect | 0.31 |
| Maximum Detect | 8.3 | Maximum Non-Detect | 3.3 |
| Variance Detects | 1.125 | Percent Non-Detects | 45.85% |
| Mean Detects | 0.486 | SD Detects | 1.061 |
| Median Detects | 0.2 | CV Detects | 2.181 |
| Skewness Detects | 5.53 | Kurtosis Detects | 34.28 |
| Mean of Logged Detects | -1.522 | SD of Logged Detects | 1.125 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.404 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.333 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0672 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.354 | KM Standard Error of Mean | 0.0454 |
| KM SD | 0.802 | 95% KM (BCA) UCL | 0.44 |
| 95% KM (t) UCL | 0.429 | 95% KM (Percentile Bootstrap) UCL | 0.435 |
| 95% KM (z) UCL | 0.429 | 95% KM Bootstrap t UCL | 0.467 |
| 90% KM Chebyshev UCL | 0.49 | 95% KM Chebyshev UCL | 0.552 |
| 97.5% KM Chebyshev UCL | 0.637 | 99% KM Chebyshev UCL | 0.805 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 8.455 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.796 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.159 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0726 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.747 | k star (bias corrected MLE) | 0.738 |
| Theta hat (MLE) | 0.651 | Theta star (bias corrected MLE) | 0.659 |
| nu hat (MLE) | 263 | nu star (bias corrected) | 259.9 |
| Mean (detects) | 0.486 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 0.338 |
| Maximum | 8.3 | Median | 0.13 |
| SD | 0.811 | CV | 2.395 |
| k hat (MLE) | 0.55 | k star (bias corrected MLE) | 0.547 |
| Theta hat (MLE) | 0.616 | Theta star (bias corrected MLE) | 0.619 |
| nu hat (MLE) | 357.2 | nu star (bias corrected) | 355.3 |
| Adjusted Level of Significance (β) | 0.0493 | | |
| Approximate Chi Square Value (355.28, α) | 312.6 | Adjusted Chi Square Value (355.28, β) | 312.4 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.385 | 95% Gamma Adjusted UCL (use when n<50) | 0.385 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.354 | SD (KM) | 0.802 |
| Variance (KM) | 0.643 | SE of Mean (KM) | 0.0454 |
| k hat (KM) | 0.195 | k star (KM) | 0.195 |
| nu hat (KM) | 126.8 | nu star (KM) | 126.9 |

| | | | |
|---|---|---|---|
| theta hat (KM) | 1.815 | theta star (KM) | 1.813 |
| 80% gamma percentile (KM) | 0.461 | 90% gamma percentile (KM) | 1.071 |
| 95% gamma percentile (KM) | 1.836 | 99% gamma percentile (KM) | 3.95 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (126.95, α) | 101.9 | Adjusted Chi Square Value (126.95, β) | 101.8 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.441 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.441 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.954 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 5.7571E-5 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0655 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0672 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Approximate Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.349 | Mean in Log Scale | -1.675 |
| SD in Original Scale | 0.797 | SD in Log Scale | 0.935 |
| 95% t UCL (assumes normality of ROS data) | 0.422 | 95% Percentile Bootstrap UCL | 0.424 |
| 95% BCA Bootstrap UCL | 0.443 | 95% Bootstrap t UCL | 0.454 |
| 95% H-UCL (Log ROS) | 0.323 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.706 | KM Geo Mean | 0.182 |
| KM SD (logged) | 0.997 | 95% Critical H Value (KM-Log) | 2.118 |
| KM Standard Error of Mean (logged) | 0.068 | 95% H-UCL (KM -Log) | 0.336 |
| KM SD (logged) | 0.997 | 95% Critical H Value (KM-Log) | 2.118 |
| KM Standard Error of Mean (logged) | 0.068 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.495 | Mean in Log Scale | -1.281 |
| SD in Original Scale | 0.847 | SD in Log Scale | 0.989 |
| 95% t UCL (Assumes normality) | 0.572 | 95% H-Stat UCL | 0.508 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 0.336 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

CHROMIUM, HEXAVALENT

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 48 | Number of Distinct Observations | 30 |
| | | Number of Missing Observations | 371 |
| Number of Detects | 29 | Number of Non-Detects | 19 |
| Number of Distinct Detects | 24 | Number of Distinct Non-Detects | 8 |
| Minimum Detect | 0.38 | Minimum Non-Detect | 0.41 |
| Maximum Detect | 293 | Maximum Non-Detect | 0.53 |
| Variance Detects | 2964 | Percent Non-Detects | 39.58% |
| Mean Detects | 12.58 | SD Detects | 54.44 |
| Median Detects | 0.75 | CV Detects | 4.328 |
| Skewness Detects | 5.237 | Kurtosis Detects | 27.81 |
| Mean of Logged Detects | 0.197 | SD of Logged Detects | 1.42 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.238 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.926 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.473 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.161 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 7.751 | KM Standard Error of Mean | 6.171 |
| KM SD | 42.01 | 95% KM (BCA) UCL | 19.99 |
| 95% KM (t) UCL | 18.1 | 95% KM (Percentile Bootstrap) UCL | 19.84 |
| 95% KM (z) UCL | 17.9 | 95% KM Bootstrap t UCL | 318.6 |
| 90% KM Chebyshev UCL | 26.26 | 95% KM Chebyshev UCL | 34.65 |
| 97.5% KM Chebyshev UCL | 46.29 | 99% KM Chebyshev UCL | 69.15 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 7.134 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.858 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.406 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.177 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.296 | k star (bias corrected MLE) | 0.288 |
| Theta hat (MLE) | 42.5 | Theta star (bias corrected MLE) | 43.63 |
| nu hat (MLE) | 17.17 | nu star (bias corrected) | 16.72 |
| Mean (detects) | 12.58 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 7.604 |
| Maximum | 293 | Median | 0.52 |
| SD | 42.48 | CV | 5.587 |
| k hat (MLE) | 0.198 | k star (bias corrected MLE) | 0.199 |
| Theta hat (MLE) | 38.49 | Theta star (bias corrected MLE) | 38.19 |
| nu hat (MLE) | 18.96 | nu star (bias corrected) | 19.11 |
| Adjusted Level of Significance (β) | 0.045 | | |
| Approximate Chi Square Value (19.11, α) | 10.2 | Adjusted Chi Square Value (19.11, β) | 9.997 |
| 95% Gamma Approximate UCL (use when n>=50) | 14.25 | 95% Gamma Adjusted UCL (use when n<50) | 14.54 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 7.751 | SD (KM) | 42.01 |
| Variance (KM) | 1765 | SE of Mean (KM) | 6.171 |
| k hat (KM) | 0.034 | k star (KM) | 0.0458 |
| nu hat (KM) | 3.268 | nu star (KM) | 4.397 |
| theta hat (KM) | 227.7 | theta star (KM) | 169.2 |
| 80% gamma percentile (KM) | 0.758 | 90% gamma percentile (KM) | 10.47 |
| 95% gamma percentile (KM) | 39.81 | 99% gamma percentile (KM) | 174.4 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (4.40, α) | 0.885 | Adjusted Chi Square Value (4.40, β) | 0.839 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 38.53 | 95% Gamma Adjusted KM-UCL (use when n<50) | 40.64 |

95% Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50)

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.657 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.926 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.243 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.161 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 7.638 | Mean in Log Scale | -0.861 |
| SD in Original Scale | 42.47 | SD in Log Scale | 1.756 |
| 95% t UCL (assumes normality of ROS data) | 17.92 | 95% Percentile Bootstrap UCL | 19.53 |
| 95% BCA Bootstrap UCL | 31.03 | 95% Bootstrap t UCL | 296.8 |
| 95% H-UCL (Log ROS) | 4.562 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -0.262 | KM Geo Mean | 0.769 |
| KM SD (logged) | 1.224 | 95% Critical H Value (KM-Log) | 2.587 |
| KM Standard Error of Mean (logged) | 0.18 | 95% H-UCL (KM -Log) | 2.582 |
| KM SD (logged) | 1.224 | 95% Critical H Value (KM-Log) | 2.587 |
| KM Standard Error of Mean (logged) | 0.18 | | |

**DL/2 Statistics**

| DL/2 Normal | | DL/2 Log-Transformed | |
|---|---|---|---|
| Mean in Original Scale | 7.689 | Mean in Log Scale | -0.473 |
| SD in Original Scale | 42.46 | SD in Log Scale | 1.379 |
| 95% t UCL (Assumes normality) | 17.97 | 95% H-Stat UCL | 2.818 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 34.65 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

## COBALT

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 327 | Number of Distinct Observations | 128 |
| | | Number of Missing Observations | 135 |
| Number of Detects | 219 | Number of Non-Detects | 108 |
| Number of Distinct Detects | 110 | Number of Distinct Non-Detects | 42 |
| Minimum Detect | 0.042 | Minimum Non-Detect | 0.12 |
| Maximum Detect | 13.2 | Maximum Non-Detect | 7.1 |
| Variance Detects | 3.486 | Percent Non-Detects | 33.03% |
| Mean Detects | 1.794 | SD Detects | 1.867 |
| Median Detects | 1.2 | CV Detects | 1.041 |
| Skewness Detects | 2.601 | Kurtosis Detects | 10.32 |
| Mean of Logged Detects | 0.0993 | SD of Logged Detects | 1.068 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.765 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.176 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0603 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 1.455 | KM Standard Error of Mean | 0.0962 |
| KM SD | 1.67 | 95% KM (BCA) UCL | 1.618 |
| 95% KM (t) UCL | 1.614 | 95% KM (Percentile Bootstrap) UCL | 1.625 |
| 95% KM (z) UCL | 1.613 | 95% KM Bootstrap t UCL | 1.633 |
| 90% KM Chebyshev UCL | 1.744 | 95% KM Chebyshev UCL | 1.874 |
| 97.5% KM Chebyshev UCL | 2.056 | 99% KM Chebyshev UCL | 2.412 |

**Gamma GOF Tests on Detected Observations Only**

| | | | |
|---|---|---|---|
| A-D Test Statistic | 0.787 | **Anderson-Darling GOF Test** | |
| 5% A-D Critical Value | 0.78 | Detected Data Not Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.07 | **Kolmogorov-Smirnov GOF** | |
| 5% K-S Critical Value | 0.063 | Detected Data Not Gamma Distributed at 5% Significance Level | |

**Detected Data Not Gamma Distributed at 5% Significance Level**

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.169 | k star (bias corrected MLE) | 1.156 |
| Theta hat (MLE) | 1.536 | Theta star (bias corrected MLE) | 1.553 |
| nu hat (MLE) | 511.8 | nu star (bias corrected) | 506.2 |
| Mean (detects) | 1.794 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 1.389 |
| Maximum | 13.2 | Median | 0.861 |
| SD | 1.671 | CV | 1.203 |
| k hat (MLE) | 0.733 | k star (bias corrected MLE) | 0.728 |
| Theta hat (MLE) | 1.895 | Theta star (bias corrected MLE) | 1.907 |
| nu hat (MLE) | 479.2 | nu star (bias corrected) | 476.1 |
| Adjusted Level of Significance (β) | 0.0493 | | |
| Approximate Chi Square Value (476.14, α) | 426.5 | Adjusted Chi Square Value (476.14, β) | 426.3 |
| 95% Gamma Approximate UCL (use when n>=50) | 1.55 | 95% Gamma Adjusted UCL (use when n<50) | 1.551 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 1.455 | SD (KM) | 1.67 |
| Variance (KM) | 2.789 | SE of Mean (KM) | 0.0962 |
| k hat (KM) | 0.759 | k star (KM) | 0.754 |
| nu hat (KM) | 496.5 | nu star (KM) | 493.3 |
| theta hat (KM) | 1.917 | theta star (KM) | 1.929 |
| 80% gamma percentile (KM) | 2.385 | 90% gamma percentile (KM) | 3.588 |
| 95% gamma percentile (KM) | 4.821 | 99% gamma percentile (KM) | 7.746 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (493.30, α) | 442.8 | Adjusted Chi Square Value (493.30, β) | 442.6 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1.621 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1.622 |

**Lognormal GOF Test on Detected Observations Only**

| | | | |
|---|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.971 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk P Value | 0.0201 | Detected Data Not Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.0579 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.0603 | Detected Data appear Lognormal at 5% Significance Level | |

**Detected Data appear Approximate Lognormal at 5% Significance Level**

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 1.408 | Mean in Log Scale | -0.162 |
| SD in Original Scale | 1.642 | SD in Log Scale | 1.026 |
| 95% t UCL (assumes normality of ROS data) | 1.558 | 95% Percentile Bootstrap UCL | 1.557 |
| 95% BCA Bootstrap UCL | 1.575 | 95% Bootstrap t UCL | 1.58 |
| 95% H-UCL (Log ROS) | 1.625 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -0.19 | KM Geo Mean | 0.827 |
| KM SD (logged) | 1.137 | 95% Critical H Value (KM-Log) | 2.234 |
| KM Standard Error of Mean (logged) | 0.0728 | 95% H-UCL (KM -Log) | 1.816 |
| KM SD (logged) | 1.137 | 95% Critical H Value (KM-Log) | 2.234 |
| KM Standard Error of Mean (logged) | 0.0728 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.641 | Mean in Log Scale | 0.0428 |
| SD in Original Scale | 1.631 | SD in Log Scale | 1.03 |
| 95% t UCL (Assumes normality) | 1.79 | 95% H-Stat UCL | 2.005 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 1.816 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**COPPER**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 329 | Number of Distinct Observations | 199 |
| | | Number of Missing Observations | 133 |
| Number of Detects | 306 | Number of Non-Detects | 23 |
| Number of Distinct Detects | 194 | Number of Distinct Non-Detects | 15 |
| Minimum Detect | 0.175 | Minimum Non-Detect | 1.2 |
| Maximum Detect | 379.5 | Maximum Non-Detect | 6.6 |
| Variance Detects | 1355 | Percent Non-Detects | 6.991% |
| Mean Detects | 17.09 | SD Detects | 36.81 |
| Median Detects | 6.7 | CV Detects | 2.154 |
| Skewness Detects | 5.956 | Kurtosis Detects | 44.71 |
| Mean of Logged Detects | 1.887 | SD of Logged Detects | 1.342 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.438 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.323 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0511 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 16.05 | KM Standard Error of Mean | 1.969 |
| KM SD | 35.65 | 95% KM (BCA) UCL | 19.36 |
| 95% KM (t) UCL | 19.3 | 95% KM (Percentile Bootstrap) UCL | 19.41 |
| 95% KM (z) UCL | 19.29 | 95% KM Bootstrap t UCL | 20.42 |
| 90% KM Chebyshev UCL | 21.95 | 95% KM Chebyshev UCL | 24.63 |
| 97.5% KM Chebyshev UCL | 28.34 | 99% KM Chebyshev UCL | 35.64 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 8.975 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.808 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.103 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0541 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.643 | k star (bias corrected MLE) | 0.638 |
| Theta hat (MLE) | 26.6 | Theta star (bias corrected MLE) | 26.77 |
| nu hat (MLE) | 393.2 | nu star (bias corrected) | 390.7 |
| Mean (detects) | 17.09 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 15.9 |
| Maximum | 379.5 | Median | 5.7 |
| SD | 35.77 | CV | 2.25 |
| k hat (MLE) | 0.479 | k star (bias corrected MLE) | 0.477 |
| Theta hat (MLE) | 33.16 | Theta star (bias corrected MLE) | 33.32 |
| nu hat (MLE) | 315.5 | nu star (bias corrected) | 313.9 |
| Adjusted Level of Significance (β) | 0.0493 | | |
| Approximate Chi Square Value (313.94, α) | 273.9 | Adjusted Chi Square Value (313.94, β) | 273.7 |
| 95% Gamma Approximate UCL (use when n>=50) | 18.22 | 95% Gamma Adjusted UCL (use when n<50) | 18.23 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 16.05 | SD (KM) | 35.65 |
| Variance (KM) | 1271 | SE of Mean (KM) | 1.969 |
| k hat (KM) | 0.203 | k star (KM) | 0.203 |
| nu hat (KM) | 133.3 | nu star (KM) | 133.4 |

| | | | |
|---|---|---|---|
| theta hat (KM) | 79.2 | theta star (KM) | 79.13 |
| 80% gamma percentile (KM) | 21.3 | 90% gamma percentile (KM) | 48.54 |
| 95% gamma percentile (KM) | 82.39 | 99% gamma percentile (KM) | 175.4 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (133.44, α) | 107.8 | Adjusted Chi Square Value (133.44, β) | 107.7 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 19.87 | 95% Gamma Adjusted KM-UCL (use when n<50) | 19.89 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.975 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.0261 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0784 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0511 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 16.05 | Mean in Log Scale | 1.803 |
| SD in Original Scale | 35.7 | SD in Log Scale | 1.337 |
| 95% t UCL (assumes normality of ROS data) | 19.3 | 95% Percentile Bootstrap UCL | 19.38 |
| 95% BCA Bootstrap UCL | 20.28 | 95% Bootstrap t UCL | 20.45 |
| 95% H-UCL (Log ROS) | 17.72 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 1.793 | KM Geo Mean | 6.008 |
| KM SD (logged) | 1.349 | 95% Critical H Value (KM-Log) | 2.426 |
| KM Standard Error of Mean (logged) | 0.0751 | 95% H-UCL (KM -Log) | 17.87 |
| KM SD (logged) | 1.349 | 95% Critical H Value (KM-Log) | 2.426 |
| KM Standard Error of Mean (logged) | 0.0751 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 16.08 | Mean in Log Scale | 1.813 |
| SD in Original Scale | 35.69 | SD in Log Scale | 1.329 |
| 95% t UCL (Assumes normality) | 19.32 | 95% H-Stat UCL | 17.67 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 24.63 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

CYANIDE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 253 | Number of Distinct Observations | 126 |
| | | Number of Missing Observations | 197 |
| Number of Detects | 153 | Number of Non-Detects | 100 |
| Number of Distinct Detects | 109 | Number of Distinct Non-Detects | 29 |
| Minimum Detect | 0.057 | Minimum Non-Detect | 0.02 |
| Maximum Detect | 352 | Maximum Non-Detect | 10 |
| Variance Detects | 1783 | Percent Non-Detects | 39.53% |
| Mean Detects | 11.08 | SD Detects | 42.22 |
| Median Detects | 0.86 | CV Detects | 3.811 |
| Skewness Detects | 5.859 | Kurtosis Detects | 37.27 |
| Mean of Logged Detects | 0.0918 | SD of Logged Detects | 1.98 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.288 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.397 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.072 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 6.881 | KM Standard Error of Mean | 2.091 |
| KM SD | 33.14 | 95% KM (BCA) UCL | 10.76 |
| 95% KM (t) UCL | 10.33 | 95% KM (Percentile Bootstrap) UCL | 10.55 |
| 95% KM (z) UCL | 10.32 | 95% KM Bootstrap t UCL | 12.82 |
| 90% KM Chebyshev UCL | 13.15 | 95% KM Chebyshev UCL | 15.99 |
| 97.5% KM Chebyshev UCL | 19.94 | 99% KM Chebyshev UCL | 27.68 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 12.91 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.869 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.205 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0823 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.298 | k star (bias corrected MLE) | 0.297 |
| Theta hat (MLE) | 37.14 | Theta star (bias corrected MLE) | 37.32 |
| nu hat (MLE) | 91.3 | nu star (bias corrected) | 90.84 |
| Mean (detects) | 11.08 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 6.871 |
| Maximum | 352 | Median | 0.17 |
| SD | 33.24 | CV | 4.837 |
| k hat (MLE) | 0.207 | k star (bias corrected MLE) | 0.208 |
| Theta hat (MLE) | 33.13 | Theta star (bias corrected MLE) | 33.1 |
| nu hat (MLE) | 105 | nu star (bias corrected) | 105 |
| Adjusted Level of Significance (β) | 0.0491 | | |
| Approximate Chi Square Value (105.04, α) | 82.39 | Adjusted Chi Square Value (105.04, β) | 82.28 |
| 95% Gamma Approximate UCL (use when n>=50) | 8.76 | 95% Gamma Adjusted UCL (use when n<50) | 8.772 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 6.881 | SD (KM) | 33.14 |
| Variance (KM) | 1098 | SE of Mean (KM) | 2.091 |
| k hat (KM) | 0.0431 | k star (KM) | 0.0452 |
| nu hat (KM) | 21.81 | nu star (KM) | 22.89 |
| theta hat (KM) | 159.6 | theta star (KM) | 152.1 |
| 80% gamma percentile (KM) | 0.64 | 90% gamma percentile (KM) | 9.126 |
| 95% gamma percentile (KM) | 35.14 | 99% gamma percentile (KM) | 155.6 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (22.89, α) | 13.01 | Adjusted Chi Square Value (22.89, β) | 12.96 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 12.11 | 95% Gamma Adjusted KM-UCL (use when n<50) | 12.15 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.942 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 1.9563E-6 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0677 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.072 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Approximate Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 6.882 | Mean in Log Scale | -0.501 |
| SD in Original Scale | 33.2 | SD in Log Scale | 1.853 |
| 95% t UCL (assumes normality of ROS data) | 10.33 | 95% Percentile Bootstrap UCL | 10.52 |
| 95% BCA Bootstrap UCL | 11.65 | 95% Bootstrap t UCL | 12.49 |
| 95% H-UCL (Log ROS) | 4.758 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -0.535 | KM Geo Mean | 0.586 |
| KM SD (logged) | 1.853 | 95% Critical H Value (KM-Log) | 2.953 |
| KM Standard Error of Mean (logged) | 0.128 | 95% H-UCL (KM -Log) | 4.607 |
| KM SD (logged) | 1.853 | 95% Critical H Value (KM-Log) | 2.953 |
| KM Standard Error of Mean (logged) | 0.128 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 7.24 | Mean in Log Scale | -0.0267 |
| SD in Original Scale | 33.15 | SD in Log Scale | 1.689 |
| 95% t UCL (Assumes normality) | 10.68 | 95% H-Stat UCL | 5.446 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Lognormal Distributed at 5% Significance Level

Suggested UCL to Use

| | |
|---|---|
| KM H-UCL | 4.607 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

IRON

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 327 | Number of Distinct Observations | 261 |
| | | Number of Missing Observations | 135 |
| Minimum | 312 | Mean | 6066 |
| Maximum | 51400 | Median | 5320 |
| SD | 4699 | Std. Error of Mean | 259.9 |
| Coefficient of Variation | 0.775 | Skewness | 5.386 |

Normal GOF Test

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.647 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.163 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0494 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 6495 | 95% Adjusted-CLT UCL (Chen-1995) | 6576 |
| | | 95% Modified-t UCL (Johnson-1978) | 6508 |

Gamma GOF Test

| | | |
|---|---|---|
| A-D Test Statistic | 2.916 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.761 | Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.0692 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.0506 | Data Not Gamma Distributed at 5% Significance Level |

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

| | | | |
|---|---|---|---|
| k hat (MLE) | 2.807 | k star (bias corrected MLE) | 2.784 |
| Theta hat (MLE) | 2161 | Theta star (bias corrected MLE) | 2179 |
| nu hat (MLE) | 1836 | nu star (bias corrected) | 1821 |
| MLE Mean (bias corrected) | 6066 | MLE Sd (bias corrected) | 3636 |
| | | Approximate Chi Square Value (0.05) | 1722 |

| | | | |
|---|---|---|---|
| Adjusted Level of Significance | 0.0493 | Adjusted Chi Square Value | 1722 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 6412 | 95% Adjusted Gamma UCL (use when n<50) | 6413 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.96 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk P Value | 2.5012E-7 | Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0976 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.0494 | Data Not Lognormal at 5% Significance Level |

Data Not Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | 5.743 | Mean of logged Data | 8.522 |
| Maximum of Logged Data | 10.85 | SD of logged Data | 0.628 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 6529 | 90% Chebyshev (MVUE) UCL | 6811 |
| 95% Chebyshev (MVUE) UCL | 7126 | 97.5% Chebyshev (MVUE) UCL | 7563 |
| 99% Chebyshev (MVUE) UCL | 8422 | | |

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution (0.05)

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 6494 | 95% Jackknife UCL | 6495 |
| 95% Standard Bootstrap UCL | 6497 | 95% Bootstrap-t UCL | 6632 |
| 95% Hall's Bootstrap UCL | 6708 | 95% Percentile Bootstrap UCL | 6533 |
| 95% BCA Bootstrap UCL | 6559 | | |
| 90% Chebyshev(Mean, Sd) UCL | 6846 | 95% Chebyshev(Mean, Sd) UCL | 7199 |
| 97.5% Chebyshev(Mean, Sd) UCL | 7689 | 99% Chebyshev(Mean, Sd) UCL | 8652 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% Chebyshev (Mean, Sd) UCL | 7199 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**LEAD**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 326 | Number of Distinct Observations | 238 |
| | | Number of Missing Observations | 136 |
| Number of Detects | 322 | Number of Non-Detects | 4 |
| Number of Distinct Detects | 238 | Number of Distinct Non-Detects | 1 |
| Minimum Detect | 1.5 | Minimum Non-Detect | 10 |
| Maximum Detect | 15300 | Maximum Non-Detect | 10 |

| | | | |
|---|---|---|---|
| Variance Detects | 1039200 | Percent Non-Detects | 1.227% |
| Mean Detects | 299.2 | SD Detects | 1019 |
| Median Detects | 37.3 | CV Detects | 3.407 |
| Skewness Detects | 11.1 | Kurtosis Detects | 152.3 |
| Mean of Logged Detects | 3.67 | SD of Logged Detects | 2.168 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.301 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.385 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0498 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 295.6 | KM Standard Error of Mean | 56.14 |
| KM SD | 1012 | 95% KM (BCA) UCL | 404.5 |
| 95% KM (t) UCL | 388.2 | 95% KM (Percentile Bootstrap) UCL | 396 |
| 95% KM (z) UCL | 387.9 | 95% KM Bootstrap t UCL | 488.2 |
| 90% KM Chebyshev UCL | 464 | 95% KM Chebyshev UCL | 540.3 |
| 97.5% KM Chebyshev UCL | 646.2 | 99% KM Chebyshev UCL | 854.2 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 13.91 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.863 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.139 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0547 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.334 | k star (bias corrected MLE) | 0.333 |
| Theta hat (MLE) | 896.7 | Theta star (bias corrected MLE) | 899.5 |
| nu hat (MLE) | 214.9 | nu star (bias corrected) | 214.2 |
| Mean (detects) | 299.2 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 295.5 |
| Maximum | 15300 | Median | 34.5 |
| SD | 1014 | CV | 3.43 |
| k hat (MLE) | 0.322 | k star (bias corrected MLE) | 0.321 |
| Theta hat (MLE) | 919 | Theta star (bias corrected MLE) | 921.6 |
| nu hat (MLE) | 209.7 | nu star (bias corrected) | 209.1 |
| Adjusted Level of Significance (β) | 0.0493 | | |
| Approximate Chi Square Value (209.06, α) | 176.6 | Adjusted Chi Square Value (209.06, β) | 176.5 |
| 95% Gamma Approximate UCL (use when n>=50) | 349.8 | 95% Gamma Adjusted UCL (use when n<50) | 350.1 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 295.6 | SD (KM) | 1012 |
| Variance (KM) | 1024317 | SE of Mean (KM) | 56.14 |
| k hat (KM) | 0.0853 | k star (KM) | 0.0865 |
| nu hat (KM) | 55.61 | nu star (KM) | 56.43 |
| theta hat (KM) | 3466 | theta star (KM) | 3415 |
| 80% gamma percentile (KM) | 162.7 | 90% gamma percentile (KM) | 734 |
| 95% gamma percentile (KM) | 1722 | 99% gamma percentile (KM) | 5041 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (56.43, α) | 40.16 | Adjusted Chi Square Value (56.43, β) | 40.1 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 415.3 | 95% Gamma Adjusted KM-UCL (use when n<50) | 415.9 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.9 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.144 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0498 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 295.6 | Mean in Log Scale | 3.646 |
| SD in Original Scale | 1014 | SD in Log Scale | 2.167 |
| 95% t UCL (assumes normality of ROS data) | 388.2 | 95% Percentile Bootstrap UCL | 399.8 |
| 95% BCA Bootstrap UCL | 450.9 | 95% Bootstrap t UCL | 484 |
| 95% H-UCL (Log ROS) | 595.1 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 3.641 | KM Geo Mean | 38.14 |
| KM SD (logged) | 2.167 | 95% Critical H Value (KM-Log) | 3.278 |
| KM Standard Error of Mean (logged) | 0.12 | 95% H-UCL (KM -Log) | 592.2 |
| KM SD (logged) | 2.167 | 95% Critical H Value (KM-Log) | 3.278 |
| KM Standard Error of Mean (logged) | 0.12 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 295.6 | Mean in Log Scale | 3.645 |
| SD in Original Scale | 1014 | SD in Log Scale | 2.167 |
| 95% t UCL (Assumes normality) | 388.2 | 95% H-Stat UCL | 593.6 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 540.3 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

MANGANESE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 326 | Number of Distinct Observations | 240 |
| | | Number of Missing Observations | 136 |
| Minimum | 2.5 | Mean | 65.88 |
| Maximum | 2010 | Median | 19.15 |
| SD | 166.1 | Std. Error of Mean | 9.199 |
| Coefficient of Variation | 2.521 | Skewness | 7.029 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.379 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.351 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0495 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

**Assuming Normal Distribution**

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 81.05 | 95% Adjusted-CLT UCL (Chen-1995) | 84.84 |
| | | 95% Modified-t UCL (Johnson-1978) | 81.65 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 27.92 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.806 | Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.22 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.0526 | Data Not Gamma Distributed at 5% Significance Level |

Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.661 | k star (bias corrected MLE) | 0.657 |
| Theta hat (MLE) | 99.67 | Theta star (bias corrected MLE) | 100.3 |
| nu hat (MLE) | 431 | nu star (bias corrected) | 428.4 |
| MLE Mean (bias corrected) | 65.88 | MLE Sd (bias corrected) | 81.28 |
| | | Approximate Chi Square Value (0.05) | 381.4 |
| Adjusted Level of Significance | 0.0493 | Adjusted Chi Square Value | 381.2 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 74 | 95% Adjusted Gamma UCL (use when n<50) | 74.03 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.914 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk P Value | 0 | Data Not Lognormal at 5% Significance Level |

| | | | |
|---|---|---|---|
| Lilliefors Test Statistic | 0.135 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.0495 | Data Not Lognormal at 5% Significance Level | |

Data Not Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | 0.916 | Mean of logged Data | 3.266 |
| Maximum of Logged Data | 7.606 | SD of logged Data | 1.135 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 57.45 | 90% Chebyshev (MVUE) UCL | 61.68 |
| 95% Chebyshev (MVUE) UCL | 67.08 | 97.5% Chebyshev (MVUE) UCL | 74.58 |
| 99% Chebyshev (MVUE) UCL | 89.3 | | |

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution (0.05)

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 81.01 | 95% Jackknife UCL | 81.05 |
| 95% Standard Bootstrap UCL | 80.93 | 95% Bootstrap-t UCL | 87.33 |
| 95% Hall's Bootstrap UCL | 91.29 | 95% Percentile Bootstrap UCL | 82.24 |
| 95% BCA Bootstrap UCL | 84.83 | | |
| 90% Chebyshev(Mean, Sd) UCL | 93.48 | 95% Chebyshev(Mean, Sd) UCL | 106 |
| 97.5% Chebyshev(Mean, Sd) UCL | 123.3 | 99% Chebyshev(Mean, Sd) UCL | 157.4 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% Chebyshev (Mean, Sd) UCL | 106 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**THALLIUM**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 329 | Number of Distinct Observations | 61 |
| | | Number of Missing Observations | 133 |
| Number of Detects | 17 | Number of Non-Detects | 312 |
| Number of Distinct Detects | 17 | Number of Distinct Non-Detects | 49 |
| Minimum Detect | 0.11 | Minimum Non-Detect | 0.24 |
| Maximum Detect | 3.7 | Maximum Non-Detect | 4.2 |
| Variance Detects | 0.75 | Percent Non-Detects | 94.83% |
| Mean Detects | 0.618 | SD Detects | 0.866 |
| Median Detects | 0.32 | CV Detects | 1.402 |
| Skewness Detects | 3.173 | Kurtosis Detects | 11.07 |
| Mean of Logged Detects | -0.981 | SD of Logged Detects | 0.921 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.574 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.892 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.291 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.207 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.281 | KM Standard Error of Mean | 0.0332 |
| KM SD | 0.27 | 95% KM (BCA) UCL | 0.336 |
| 95% KM (t) UCL | 0.336 | 95% KM (Percentile Bootstrap) UCL | 0.337 |
| 95% KM (z) UCL | 0.336 | 95% KM Bootstrap t UCL | 0.348 |
| 90% KM Chebyshev UCL | 0.381 | 95% KM Chebyshev UCL | 0.426 |
| 97.5% KM Chebyshev UCL | 0.488 | 99% KM Chebyshev UCL | 0.611 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 1.031 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.763 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.247 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.214 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.14 | k star (bias corrected MLE) | 0.978 |
| Theta hat (MLE) | 0.542 | Theta star (bias corrected MLE) | 0.631 |
| nu hat (MLE) | 38.77 | nu star (bias corrected) | 33.26 |
| Mean (detects) | 0.618 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 0.229 |
| Maximum | 3.7 | Median | 0.1 |
| SD | 0.334 | CV | 1.462 |
| k hat (MLE) | 0.556 | k star (bias corrected MLE) | 0.553 |
| Theta hat (MLE) | 0.411 | Theta star (bias corrected MLE) | 0.414 |
| nu hat (MLE) | 365.6 | nu star (bias corrected) | 363.6 |
| Adjusted Level of Significance (β) | 0.0493 | | |
| Approximate Chi Square Value (363.61, α) | 320.4 | Adjusted Chi Square Value (363.61, β) | 320.2 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.259 | 95% Gamma Adjusted UCL (use when n<50) | 0.26 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.281 | SD (KM) | 0.27 |
| Variance (KM) | 0.0727 | SE of Mean (KM) | 0.0332 |
| k hat (KM) | 1.087 | k star (KM) | 1.079 |
| nu hat (KM) | 715.4 | nu star (KM) | 710.2 |

| | | | |
|---|---|---|---|
| theta hat (KM) | 0.259 | theta star (KM) | 0.26 |
| 80% gamma percentile (KM) | 0.449 | 90% gamma percentile (KM) | 0.635 |
| 95% gamma percentile (KM) | 0.82 | 99% gamma percentile (KM) | 1.246 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (710.23, α) | 649.4 | Adjusted Chi Square Value (710.23, β) | 649.1 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.307 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.308 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.931 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.892 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.19 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.207 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.281 | Mean in Log Scale | -1.464 |
| SD in Original Scale | 0.255 | SD in Log Scale | 0.594 |
| 95% t UCL (assumes normality of ROS data) | 0.305 | 95% Percentile Bootstrap UCL | 0.305 |
| 95% BCA Bootstrap UCL | 0.313 | 95% Bootstrap t UCL | 0.313 |
| 95% H-UCL (Log ROS) | 0.293 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.454 | KM Geo Mean | 0.234 |
| KM SD (logged) | 0.537 | 95% Critical H Value (KM-Log) | 1.811 |
| KM Standard Error of Mean (logged) | 0.115 | 95% H-UCL (KM -Log) | 0.285 |
| KM SD (logged) | 0.537 | 95% Critical H Value (KM-Log) | 1.811 |
| KM Standard Error of Mean (logged) | 0.115 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.981 | Mean in Log Scale | -0.189 |
| SD in Original Scale | 0.46 | SD in Log Scale | 0.666 |
| 95% t UCL (Assumes normality) | 1.023 | 95% H-Stat UCL | 1.107 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 0.285 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

VANADIUM

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 327 | Number of Distinct Observations | 151 |
| | | Number of Missing Observations | 135 |
| Number of Detects | 321 | Number of Non-Detects | 6 |
| Number of Distinct Detects | 150 | Number of Distinct Non-Detects | 6 |
| Minimum Detect | 0.43 | Minimum Non-Detect | 2.8 |
| Maximum Detect | 82.2 | Maximum Non-Detect | 14 |
| Variance Detects | 65.3 | Percent Non-Detects | 1.835% |
| Mean Detects | 10.19 | SD Detects | 8.081 |
| Median Detects | 8.5 | CV Detects | 0.793 |
| Skewness Detects | 4.295 | Kurtosis Detects | 26.62 |
| Mean of Logged Detects | 2.138 | SD of Logged Detects | 0.592 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.646 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.214 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0499 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 10.08 | KM Standard Error of Mean | 0.446 |
| KM SD | 8.044 | 95% KM (BCA) UCL | 10.9 |
| 95% KM (t) UCL | 10.81 | 95% KM (Percentile Bootstrap) UCL | 10.82 |
| 95% KM (z) UCL | 10.81 | 95% KM Bootstrap t UCL | 11.01 |
| 90% KM Chebyshev UCL | 11.42 | 95% KM Chebyshev UCL | 12.02 |
| 97.5% KM Chebyshev UCL | 12.86 | 99% KM Chebyshev UCL | 14.51 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 7.003 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.76 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.12 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.051 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 2.877 | k star (bias corrected MLE) | 2.852 |
| Theta hat (MLE) | 3.542 | Theta star (bias corrected MLE) | 3.573 |
| nu hat (MLE) | 1847 | nu star (bias corrected) | 1831 |
| Mean (detects) | 10.19 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 10.05 |
| Maximum | 82.2 | Median | 8.4 |
| SD | 8.083 | CV | 0.804 |
| k hat (MLE) | 2.522 | k star (bias corrected MLE) | 2.501 |
| Theta hat (MLE) | 3.984 | Theta star (bias corrected MLE) | 4.017 |
| nu hat (MLE) | 1650 | nu star (bias corrected) | 1636 |
| Adjusted Level of Significance (β) | 0.0493 | | |
| Approximate Chi Square Value (N/A, α) | 1543 | Adjusted Chi Square Value (N/A, β) | 1542 |
| 95% Gamma Approximate UCL (use when n>=50) | 10.65 | 95% Gamma Adjusted UCL (use when n<50) | 10.66 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 10.08 | SD (KM) | 8.044 |
| Variance (KM) | 64.71 | SE of Mean (KM) | 0.446 |
| k hat (KM) | 1.57 | k star (KM) | 1.557 |
| nu hat (KM) | 1027 | nu star (KM) | 1018 |
| theta hat (KM) | 6.421 | theta star (KM) | 6.472 |
| 80% gamma percentile (KM) | 15.53 | 90% gamma percentile (KM) | 20.81 |
| 95% gamma percentile (KM) | 25.93 | 99% gamma percentile (KM) | 37.45 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (N/A, α) | 945.4 | Adjusted Chi Square Value (N/A, β) | 945.1 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 10.86 | 95% Gamma Adjusted KM-UCL (use when n<50) | 10.86 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.961 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 7.0010E-7 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0816 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0499 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 10.08 | Mean in Log Scale | 2.123 |
| SD in Original Scale | 8.052 | SD in Log Scale | 0.598 |
| 95% t UCL (assumes normality of ROS data) | 10.81 | 95% Percentile Bootstrap UCL | 10.84 |
| 95% BCA Bootstrap UCL | 11 | 95% Bootstrap t UCL | 10.95 |
| 95% H-UCL (Log ROS) | 10.62 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 2.121 | KM Geo Mean | 8.336 |
| KM SD (logged) | 0.606 | 95% Critical H Value (KM-Log) | 1.848 |
| KM Standard Error of Mean (logged) | 0.0338 | 95% H-UCL (KM -Log) | 10.66 |
| KM SD (logged) | 0.606 | 95% Critical H Value (KM-Log) | 1.848 |
| KM Standard Error of Mean (logged) | 0.0338 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 10.06 | Mean in Log Scale | 2.117 |
| SD in Original Scale | 8.067 | SD in Log Scale | 0.61 |
| 95% t UCL (Assumes normality) | 10.8 | 95% H-Stat UCL | 10.65 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 12.02 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

ZINC

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 330 | Number of Distinct Observations | 262 |
| | | Number of Missing Observations | 132 |
| Number of Detects | 308 | Number of Non-Detects | 22 |
| Number of Distinct Detects | 256 | Number of Distinct Non-Detects | 16 |
| Minimum Detect | 0.92 | Minimum Non-Detect | 1.3 |
| Maximum Detect | 2930 | Maximum Non-Detect | 6.8 |
| Variance Detects | 94234 | Percent Non-Detects | 6.667% |
| Mean Detects | 126.2 | SD Detects | 307 |
| Median Detects | 42.6 | CV Detects | 2.433 |
| Skewness Detects | 6.143 | Kurtosis Detects | 46.06 |
| Mean of Logged Detects | 3.518 | SD of Logged Detects | 1.7 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.407 | Normal GOF Test on Detected Observations Only |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.342 | Lilliefors GOF Test |
| 5% Lilliefors Critical Value | 0.0509 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 118 | KM Standard Error of Mean | 16.41 |
| KM SD | 297.7 | 95% KM (BCA) UCL | 147 |
| 95% KM (t) UCL | 145 | 95% KM (Percentile Bootstrap) UCL | 145.7 |
| 95% KM (z) UCL | 145 | 95% KM Bootstrap t UCL | 159.3 |
| 90% KM Chebyshev UCL | 167.2 | 95% KM Chebyshev UCL | 189.5 |
| 97.5% KM Chebyshev UCL | 220.5 | 99% KM Chebyshev UCL | 281.3 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 7.453 | Anderson-Darling GOF Test |
| 5% A-D Critical Value | 0.826 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.106 | Kolmogorov-Smirnov GOF |
| 5% K-S Critical Value | 0.0546 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.484 | k star (bias corrected MLE) | 0.481 |
| Theta hat (MLE) | 260.8 | Theta star (bias corrected MLE) | 262.2 |
| nu hat (MLE) | 298 | nu star (bias corrected) | 296.5 |
| Mean (detects) | 126.2 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 117.8 |
| Maximum | 2930 | Median | 36.8 |
| SD | 298.2 | CV | 2.532 |
| k hat (MLE) | 0.372 | k star (bias corrected MLE) | 0.37 |
| Theta hat (MLE) | 316.9 | Theta star (bias corrected MLE) | 318.1 |
| nu hat (MLE) | 245.3 | nu star (bias corrected) | 244.4 |
| Adjusted Level of Significance (β) | 0.0493 | | |
| Approximate Chi Square Value (244.36, α) | 209.2 | Adjusted Chi Square Value (244.36, β) | 209 |
| 95% Gamma Approximate UCL (use when n>=50) | 137.6 | 95% Gamma Adjusted UCL (use when n<50) | 137.7 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 118 | SD (KM) | 297.7 |
| Variance (KM) | 88607 | SE of Mean (KM) | 16.41 |
| k hat (KM) | 0.157 | k star (KM) | 0.158 |
| nu hat (KM) | 103.7 | nu star (KM) | 104.1 |
| theta hat (KM) | 751.1 | theta star (KM) | 748.3 |
| 80% gamma percentile (KM) | 133.6 | 90% gamma percentile (KM) | 352 |
| 95% gamma percentile (KM) | 642.8 | 99% gamma percentile (KM) | 1478 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (104.06, α) | 81.52 | Adjusted Chi Square Value (104.06, β) | 81.43 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 150.6 | 95% Gamma Adjusted KM-UCL (use when n<50) | 150.8 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.96 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 6.9283E-7 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0784 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0509 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 118 | Mean in Log Scale | 3.366 |
| SD in Original Scale | 298.1 | SD in Log Scale | 1.745 |
| 95% t UCL (assumes normality of ROS data) | 145.1 | 95% Percentile Bootstrap UCL | 146.5 |
| 95% BCA Bootstrap UCL | 151.4 | 95% Bootstrap t UCL | 157.8 |
| 95% H-UCL (Log ROS) | 174 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 3.354 | KM Geo Mean | 28.61 |
| KM SD (logged) | 1.756 | 95% Critical H Value (KM-Log) | 2.835 |
| KM Standard Error of Mean (logged) | 0.0971 | 95% H-UCL (KM -Log) | 175.9 |
| KM SD (logged) | 1.756 | 95% Critical H Value (KM-Log) | 2.835 |
| KM Standard Error of Mean (logged) | 0.0971 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 117.9 | Mean in Log Scale | 3.348 |
| SD in Original Scale | 298.1 | SD in Log Scale | 1.764 |
| 95% t UCL (Assumes normality) | 145 | 95% H-Stat UCL | 177.7 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 189.5 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**ALDRIN**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 99 | Number of Distinct Observations | 19 |
| | | Number of Missing Observations | 333 |
| Number of Detects | 7 | Number of Non-Detects | 92 |
| Number of Distinct Detects | 7 | Number of Distinct Non-Detects | 12 |
| Minimum Detect | 0.001 | Minimum Non-Detect | 0.0017 |
| Maximum Detect | 0.17 | Maximum Non-Detect | 0.0092 |
| Variance Detects | 0.00515 | Percent Non-Detects | 92.93% |
| Mean Detects | 0.0518 | SD Detects | 0.0718 |
| Median Detects | 0.024 | CV Detects | 1.384 |
| Skewness Detects | 1.204 | Kurtosis Detects | -0.541 |
| Mean of Logged Detects | -4.448 | SD of Logged Detects | 2.206 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.735 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.803 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.36 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.304 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.00487 | KM Standard Error of Mean | 0.00238 |
| KM SD | 0.0219 | 95% KM (BCA) UCL | 0.00972 |
| 95% KM (t) UCL | 0.00883 | 95% KM (Percentile Bootstrap) UCL | 0.00868 |
| 95% KM (z) UCL | 0.00879 | 95% KM Bootstrap t UCL | 0.0243 |
| 90% KM Chebyshev UCL | 0.012 | 95% KM Chebyshev UCL | 0.0153 |
| 97.5% KM Chebyshev UCL | 0.0197 | 99% KM Chebyshev UCL | 0.0286 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.526 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.762 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.261 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.33 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.436 | k star (bias corrected MLE) | 0.344 |
| Theta hat (MLE) | 0.119 | Theta star (bias corrected MLE) | 0.151 |
| nu hat (MLE) | 6.103 | nu star (bias corrected) | 4.821 |
| Mean (detects) | 0.0518 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.001 | Mean | 0.015 |
| Maximum | 0.17 | Median | 0.01 |
| SD | 0.0215 | CV | 1.43 |
| k hat (MLE) | 1.913 | k star (bias corrected MLE) | 1.861 |
| Theta hat (MLE) | 0.00786 | Theta star (bias corrected MLE) | 0.00808 |
| nu hat (MLE) | 378.7 | nu star (bias corrected) | 368.6 |
| Adjusted Level of Significance (β) | 0.0476 | | |
| Approximate Chi Square Value (368.55, α) | 325.1 | Adjusted Chi Square Value (368.55, β) | 324.5 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.017 | 95% Gamma Adjusted UCL (use when n<50) | 0.0171 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.00487 | SD (KM) | 0.0219 |
| Variance (KM) | 4.7994E-4 | SE of Mean (KM) | 0.00238 |
| k hat (KM) | 0.0495 | k star (KM) | 0.0547 |
| nu hat (KM) | 9.799 | nu star (KM) | 10.84 |
| theta hat (KM) | 0.0985 | theta star (KM) | 0.0891 |
| 80% gamma percentile (KM) | 8.9400E-4 | 90% gamma percentile (KM) | 0.00831 |
| 95% gamma percentile (KM) | 0.0267 | 99% gamma percentile (KM) | 0.102 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (10.84, α) | 4.471 | Adjusted Chi Square Value (10.84, β) | 4.41 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.0118 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.012 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.853 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.803 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.253 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.304 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.00642 | Mean in Log Scale | -6.418 |
| SD in Original Scale | 0.0221 | SD in Log Scale | 1.48 |
| 95% t UCL (assumes normality of ROS data) | 0.0101 | 95% Percentile Bootstrap UCL | 0.0105 |
| 95% BCA Bootstrap UCL | 0.0123 | 95% Bootstrap t UCL | 0.0226 |
| 95% H-UCL (Log ROS) | 0.0074 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -6.504 | KM Geo Mean | 0.0015 |
| KM SD (logged) | 0.803 | 95% Critical H Value (KM-Log) | 2.077 |
| KM Standard Error of Mean (logged) | 0.136 | 95% H-UCL (KM -Log) | 0.00245 |
| KM SD (logged) | 0.803 | 95% Critical H Value (KM-Log) | 2.077 |
| KM Standard Error of Mean (logged) | 0.136 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.00467 | Mean in Log Scale | -6.712 |
| SD in Original Scale | 0.0221 | SD in Log Scale | 0.869 |
| 95% t UCL (Assumes normality) | 0.00835 | 95% H-Stat UCL | 0.00214 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM Approximate Gamma UCL | 0.0118 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**AROCLOR-1254**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 270 | Number of Distinct Observations | 66 |
| | | Number of Missing Observations | 198 |
| Number of Detects | 39 | Number of Non-Detects | 231 |
| Number of Distinct Detects | 37 | Number of Distinct Non-Detects | 36 |
| Minimum Detect | 0.0031 | Minimum Non-Detect | 0.0087 |
| Maximum Detect | 0.26 | Maximum Non-Detect | 38 |

| | | | |
|---|---|---|---|
| Variance Detects | 0.0035 | Percent Non-Detects | 85.56% |
| Mean Detects | 0.0581 | SD Detects | 0.0591 |
| Median Detects | 0.037 | CV Detects | 1.017 |
| Skewness Detects | 1.918 | Kurtosis Detects | 3.478 |
| Mean of Logged Detects | -3.29 | SD of Logged Detects | 0.993 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.769 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.939 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.244 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.14 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.0236 | KM Standard Error of Mean | 0.00264 |
| KM SD | 0.0286 | 95% KM (BCA) UCL | 0.0287 |
| 95% KM (t) UCL | 0.0279 | 95% KM (Percentile Bootstrap) UCL | 0.0281 |
| 95% KM (z) UCL | 0.0279 | 95% KM Bootstrap t UCL | 0.028 |
| 90% KM Chebyshev UCL | 0.0315 | 95% KM Chebyshev UCL | 0.0351 |
| 97.5% KM Chebyshev UCL | 0.04 | 99% KM Chebyshev UCL | 0.0498 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.534 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.772 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.127 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.145 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.266 | k star (bias corrected MLE) | 1.186 |
| Theta hat (MLE) | 0.0459 | Theta star (bias corrected MLE) | 0.049 |
| nu hat (MLE) | 98.76 | nu star (bias corrected) | 92.49 |
| Mean (detects) | 0.0581 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0031 | Mean | 0.0223 |
| Maximum | 0.26 | Median | 0.01 |
| SD | 0.0288 | CV | 1.295 |
| k hat (MLE) | 1.605 | k star (bias corrected MLE) | 1.589 |
| Theta hat (MLE) | 0.0139 | Theta star (bias corrected MLE) | 0.014 |
| nu hat (MLE) | 866.5 | nu star (bias corrected) | 858.2 |
| Adjusted Level of Significance (β) | 0.0491 | | |
| Approximate Chi Square Value (858.16, α) | 791.2 | Adjusted Chi Square Value (858.16, β) | 790.8 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.0241 | 95% Gamma Adjusted UCL (use when n<50) | 0.0242 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.0236 | SD (KM) | 0.0286 |
| Variance (KM) | 8.1947E-4 | SE of Mean (KM) | 0.00264 |
| k hat (KM) | 0.678 | k star (KM) | 0.673 |
| nu hat (KM) | 365.9 | nu star (KM) | 363.2 |
| theta hat (KM) | 0.0348 | theta star (KM) | 0.035 |
| 80% gamma percentile (KM) | 0.0388 | 90% gamma percentile (KM) | 0.0597 |
| 95% gamma percentile (KM) | 0.0814 | 99% gamma percentile (KM) | 0.133 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (363.20, α) | 320 | Adjusted Chi Square Value (363.20, β) | 319.8 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.0267 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.0268 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.984 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.939 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0827 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.14 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.0222 | Mean in Log Scale | -4.179 |
| SD in Original Scale | 0.0283 | SD in Log Scale | 0.804 |
| 95% t UCL (assumes normality of ROS data) | 0.025 | 95% Percentile Bootstrap UCL | 0.0251 |
| 95% BCA Bootstrap UCL | 0.0254 | 95% Bootstrap t UCL | 0.0256 |
| 95% H-UCL (Log ROS) | 0.0233 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -4.135 | KM Geo Mean | 0.016 |
| KM SD (logged) | 0.861 | 95% Critical H Value (KM-Log) | 2.023 |
| KM Standard Error of Mean (logged) | 0.155 | 95% H-UCL (KM -Log) | 0.0258 |
| KM SD (logged) | 0.861 | 95% Critical H Value (KM-Log) | 2.023 |
| KM Standard Error of Mean (logged) | 0.155 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.106 | Mean in Log Scale | -3.726 |
| SD in Original Scale | 1.156 | SD in Log Scale | 0.785 |
| 95% t UCL (Assumes normality) | 0.222 | 95% H-Stat UCL | 0.036 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | | | |
|---|---|---|---|
| 95% KM Approximate Gamma UCL | 0.0267 | 95% GROS Approximate Gamma UCL | 0.0241 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

AROCLOR-1260

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 275 | Number of Distinct Observations | 101 |
| | | Number of Missing Observations | 193 |
| Number of Detects | 99 | Number of Non-Detects | 176 |
| Number of Distinct Detects | 83 | Number of Distinct Non-Detects | 22 |
| Minimum Detect | 0.0029 | Minimum Non-Detect | 0.0087 |
| Maximum Detect | 1200 | Maximum Non-Detect | 0.39 |
| Variance Detects | 14742 | Percent Non-Detects | 64% |
| Mean Detects | 16.42 | SD Detects | 121.4 |
| Median Detects | 0.16 | CV Detects | 7.395 |
| Skewness Detects | 9.663 | Kurtosis Detects | 94.89 |
| Mean of Logged Detects | -1.357 | SD of Logged Detects | 2.662 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.14 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.446 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0893 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 5.92 | KM Standard Error of Mean | 4.419 |
| KM SD | 72.91 | 95% KM (BCA) UCL | 14.88 |
| 95% KM (t) UCL | 13.21 | 95% KM (Percentile Bootstrap) UCL | 14.57 |
| 95% KM (z) UCL | 13.19 | 95% KM Bootstrap t UCL | 100.4 |
| 90% KM Chebyshev UCL | 19.18 | 95% KM Chebyshev UCL | 25.18 |
| 97.5% KM Chebyshev UCL | 33.52 | 99% KM Chebyshev UCL | 49.89 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 11.8 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.937 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.241 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.101 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.18 | k star (bias corrected MLE) | 0.181 |
| Theta hat (MLE) | 91.22 | Theta star (bias corrected MLE) | 90.57 |
| nu hat (MLE) | 35.64 | nu star (bias corrected) | 35.89 |
| Mean (detects) | 16.42 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0029 | Mean | 5.917 |
| Maximum | 1200 | Median | 0.01 |
| SD | 73.04 | CV | 12.34 |
| k hat (MLE) | 0.148 | k star (bias corrected MLE) | 0.149 |
| Theta hat (MLE) | 40.05 | Theta star (bias corrected MLE) | 39.83 |
| nu hat (MLE) | 81.26 | nu star (bias corrected) | 81.7 |
| Adjusted Level of Significance (β) | 0.0491 | | |
| Approximate Chi Square Value (81.70, α) | 61.87 | Adjusted Chi Square Value (81.70, β) | 61.78 |
| 95% Gamma Approximate UCL (use when n>=50) | 7.813 | 95% Gamma Adjusted UCL (use when n<50) | 7.825 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 5.92 | SD (KM) | 72.91 |
| Variance (KM) | 5315 | SE of Mean (KM) | 4.419 |
| k hat (KM) | 0.00659 | k star (KM) | 0.00895 |
| nu hat (KM) | 3.627 | nu star (KM) | 4.92 |
| theta hat (KM) | 897.8 | theta star (KM) | 661.8 |
| 80% gamma percentile (KM) | 5.5032E-9 | 90% gamma percentile (KM) | 0.00287 |
| 95% gamma percentile (KM) | 1.213 | 99% gamma percentile (KM) | 150.7 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (4.92, α) | 1.116 | Adjusted Chi Square Value (4.92, β) | 1.106 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 26.11 | 95% Gamma Adjusted KM-UCL (use when n<50) | 26.33 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.952 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.00476 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.103 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0893 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 5.925 | Mean in Log Scale | -3.619 |
| SD in Original Scale | 73.04 | SD in Log Scale | 2.715 |
| 95% t UCL (assumes normality of ROS data) | 13.19 | 95% Percentile Bootstrap UCL | 14.45 |
| 95% BCA Bootstrap UCL | 20.08 | 95% Bootstrap t UCL | 104.4 |
| 95% H-UCL (Log ROS) | 2.046 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -3.342 | KM Geo Mean | 0.0354 |
| KM SD (logged) | 2.263 | 95% Critical H Value (KM-Log) | 3.422 |
| KM Standard Error of Mean (logged) | 0.169 | 95% H-UCL (KM -Log) | 0.73 |
| KM SD (logged) | 2.263 | 95% Critical H Value (KM-Log) | 3.422 |
| KM Standard Error of Mean (logged) | 0.169 | | |

**DL/2 Statistics**

| DL/2 Normal | | DL/2 Log-Transformed | |
|---|---|---|---|
| Mean in Original Scale | 5.924 | Mean in Log Scale | -3.008 |
| SD in Original Scale | 73.04 | SD in Log Scale | 2.035 |
| 95% t UCL (Assumes normality) | 13.19 | 95% H-Stat UCL | 0.578 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 25.18 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**DIELDRIN**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 97 | Number of Distinct Observations | 31 |
| | | Number of Missing Observations | 335 |
| Number of Detects | 15 | Number of Non-Detects | 82 |
| Number of Distinct Detects | 15 | Number of Distinct Non-Detects | 16 |
| Minimum Detect | 7.4000E-5 | Minimum Non-Detect | 0.0033 |
| Maximum Detect | 0.27 | Maximum Non-Detect | 0.0079 |
| Variance Detects | 0.00529 | Percent Non-Detects | 84.54% |
| Mean Detects | 0.043 | SD Detects | 0.0727 |
| Median Detects | 0.012 | CV Detects | 1.693 |
| Skewness Detects | 2.569 | Kurtosis Detects | 6.989 |
| Mean of Logged Detects | -4.588 | SD of Logged Detects | 2.282 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.623 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.881 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.32 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.22 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.00672 | KM Standard Error of Mean | 0.00333 |
| KM SD | 0.0317 | 95% KM (BCA) UCL | 0.0156 |
| 95% KM (t) UCL | 0.0122 | 95% KM (Percentile Bootstrap) UCL | 0.0133 |
| 95% KM (z) UCL | 0.0122 | 95% KM Bootstrap t UCL | 0.0211 |
| 90% KM Chebyshev UCL | 0.0167 | 95% KM Chebyshev UCL | 0.0212 |
| 97.5% KM Chebyshev UCL | 0.0275 | 99% KM Chebyshev UCL | 0.0398 |

**Gamma GOF Tests on Detected Observations Only**

| | | | |
|---|---|---|---|
| A-D Test Statistic | 0.487 | **Anderson-Darling GOF Test** | |
| 5% A-D Critical Value | 0.804 | Detected data appear Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.198 | **Kolmogorov-Smirnov GOF** | |
| 5% K-S Critical Value | 0.235 | Detected data appear Gamma Distributed at 5% Significance Level | |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.449 | k star (bias corrected MLE) | 0.403 |
| Theta hat (MLE) | 0.0958 | Theta star (bias corrected MLE) | 0.107 |
| nu hat (MLE) | 13.46 | nu star (bias corrected) | 12.1 |
| Mean (detects) | 0.043 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 7.4000E-5 | Mean | 0.0151 |
| Maximum | 0.27 | Median | 0.01 |
| SD | 0.0302 | CV | 2.003 |
| k hat (MLE) | 1.365 | k star (bias corrected MLE) | 1.329 |
| Theta hat (MLE) | 0.0111 | Theta star (bias corrected MLE) | 0.0114 |
| nu hat (MLE) | 264.7 | nu star (bias corrected) | 257.9 |
| Adjusted Level of Significance (β) | 0.0475 | | |
| Approximate Chi Square Value (257.88, α) | 221.7 | Adjusted Chi Square Value (257.88, β) | 221.2 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.0176 | 95% Gamma Adjusted UCL (use when n<50) | 0.0176 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.00672 | SD (KM) | 0.0317 |
| Variance (KM) | 0.001 | SE of Mean (KM) | 0.00333 |
| k hat (KM) | 0.045 | k star (KM) | 0.0505 |
| nu hat (KM) | 8.727 | nu star (KM) | 9.791 |
| theta hat (KM) | 0.149 | theta star (KM) | 0.133 |
| 80% gamma percentile (KM) | 9.4144E-4 | 90% gamma percentile (KM) | 0.0104 |
| 95% gamma percentile (KM) | 0.0358 | 99% gamma percentile (KM) | 0.146 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (9.79, α) | 3.811 | Adjusted Chi Square Value (9.79, β) | 3.755 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.0173 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.0175 |

**Lognormal GOF Test on Detected Observations Only**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.878 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.881 | Detected Data Not Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.223 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.22 | Detected Data Not Lognormal at 5% Significance Level | |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.00692 | Mean in Log Scale | -8.668 |
| SD in Original Scale | 0.0318 | SD in Log Scale | 2.649 |
| 95% t UCL (assumes normality of ROS data) | 0.0123 | 95% Percentile Bootstrap UCL | 0.0127 |
| 95% BCA Bootstrap UCL | 0.0153 | 95% Bootstrap t UCL | 0.0215 |
| 95% H-UCL (Log ROS) | 0.0182 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -8.637 | KM Geo Mean | 1.7741E-4 |
| KM SD (logged) | 1.944 | 95% Critical H Value (KM-Log) | 3.338 |
| KM Standard Error of Mean (logged) | 0.22 | 95% H-UCL (KM -Log) | 0.00227 |
| KM SD (logged) | 1.944 | 95% Critical H Value (KM-Log) | 3.338 |
| KM Standard Error of Mean (logged) | 0.22 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.00828 | Mean in Log Scale | -6 |
| SD in Original Scale | 0.0315 | SD in Log Scale | 1.069 |
| 95% t UCL (Assumes normality) | 0.0136 | 95% H-Stat UCL | 0.00565 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM Approximate Gamma UCL | 0.0173 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**1,1'-BIPHENYL**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 309 | Number of Distinct Observations | 81 |
| | | Number of Missing Observations | 123 |
| Number of Detects | 62 | Number of Non-Detects | 247 |
| Number of Distinct Detects | 56 | Number of Distinct Non-Detects | 29 |
| Minimum Detect | 0.0023 | Minimum Non-Detect | 0.18 |
| Maximum Detect | 25 | Maximum Non-Detect | 7.9 |
| Variance Detects | 13.29 | Percent Non-Detects | 79.94% |
| Mean Detects | 0.898 | SD Detects | 3.646 |
| Median Detects | 0.0315 | CV Detects | 4.062 |
| Skewness Detects | 5.694 | Kurtosis Detects | 34.44 |
| Mean of Logged Detects | -2.957 | SD of Logged Detects | 2.065 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.278 | **Normal GOF Test on Detected Observations Only** |

| | | | |
|---|---|---|---|
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.405 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.112 | Detected Data Not Normal at 5% Significance Level | |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.21 | KM Standard Error of Mean | 0.0952 |
| KM SD | 1.657 | 95% KM (BCA) UCL | 0.393 |
| 95% KM (t) UCL | 0.367 | 95% KM (Percentile Bootstrap) UCL | 0.389 |
| 95% KM (z) UCL | 0.366 | 95% KM Bootstrap t UCL | 0.963 |
| 90% KM Chebyshev UCL | 0.495 | 95% KM Chebyshev UCL | 0.624 |
| 97.5% KM Chebyshev UCL | 0.804 | 99% KM Chebyshev UCL | 1.157 |

**Gamma GOF Tests on Detected Observations Only**

| | | | |
|---|---|---|---|
| A-D Test Statistic | 8.076 | **Anderson-Darling GOF Test** | |
| 5% A-D Critical Value | 0.889 | Detected Data Not Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.296 | **Kolmogorov-Smirnov GOF** | |
| 5% K-S Critical Value | 0.124 | Detected Data Not Gamma Distributed at 5% Significance Level | |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.249 | k star (bias corrected MLE) | 0.248 |
| Theta hat (MLE) | 3.599 | Theta star (bias corrected MLE) | 3.618 |
| nu hat (MLE) | 30.93 | nu star (bias corrected) | 30.76 |
| Mean (detects) | 0.898 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0023 | Mean | 0.316 |
| Maximum | 25 | Median | 0.01 |
| SD | 1.698 | CV | 5.373 |
| k hat (MLE) | 0.276 | k star (bias corrected MLE) | 0.275 |
| Theta hat (MLE) | 1.146 | Theta star (bias corrected MLE) | 1.148 |
| nu hat (MLE) | 170.4 | nu star (bias corrected) | 170.1 |
| Adjusted Level of Significance (β) | 0.0492 | | |
| Approximate Chi Square Value (170.09, α) | 140.9 | Adjusted Chi Square Value (170.09, β) | 140.8 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.381 | 95% Gamma Adjusted UCL (use when n<50) | 0.382 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.21 | SD (KM) | 1.657 |
| Variance (KM) | 2.746 | SE of Mean (KM) | 0.0952 |
| k hat (KM) | 0.016 | k star (KM) | 0.018 |
| nu hat (KM) | 9.884 | nu star (KM) | 11.12 |
| theta hat (KM) | 13.1 | theta star (KM) | 11.65 |
| 80% gamma percentile (KM) | 2.7337E-5 | 90% gamma percentile (KM) | 0.019 |

| | | | |
|---|---|---|---|
| 95% gamma percentile (KM) | 0.397 | 99% gamma percentile (KM) | 5.913 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (11.12, α) | 4.654 | Adjusted Chi Square Value (11.12, β) | 4.635 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.501 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.503 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.914 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 1.9217E-4 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.163 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.112 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.221 | Mean in Log Scale | -3.575 |
| SD in Original Scale | 1.659 | SD in Log Scale | 1.537 |
| 95% t UCL (assumes normality of ROS data) | 0.377 | 95% Percentile Bootstrap UCL | 0.396 |
| 95% BCA Bootstrap UCL | 0.489 | 95% Bootstrap t UCL | 0.922 |
| 95% H-UCL (Log ROS) | 0.115 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -3.664 | KM Geo Mean | 0.0256 |
| KM SD (logged) | 1.369 | 95% Critical H Value (KM-Log) | 2.442 |
| KM Standard Error of Mean (logged) | 0.154 | 95% H-UCL (KM -Log) | 0.0792 |
| KM SD (logged) | 1.369 | 95% Critical H Value (KM-Log) | 2.442 |
| KM Standard Error of Mean (logged) | 0.154 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.317 | Mean in Log Scale | -2.325 |
| SD in Original Scale | 1.686 | SD in Log Scale | 1.093 |
| 95% t UCL (Assumes normality) | 0.475 | 95% H-Stat UCL | 0.204 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 0.624 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**2-METHYLNAPHTHALENE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 329 | Number of Distinct Observations | 99 |

| | | | |
|---|---|---|---|
| | | Number of Missing Observations | 140 |
| Number of Detects | 111 | Number of Non-Detects | 218 |
| Number of Distinct Detects | 85 | Number of Distinct Non-Detects | 22 |
| Minimum Detect | 0.0048 | Minimum Non-Detect | 0.18 |
| Maximum Detect | 240 | Maximum Non-Detect | 19 |
| Variance Detects | 521.9 | Percent Non-Detects | 66.26% |
| Mean Detects | 3.533 | SD Detects | 22.84 |
| Median Detects | 0.11 | CV Detects | 6.466 |
| Skewness Detects | 10.27 | Kurtosis Detects | 107.1 |
| Mean of Logged Detects | -1.717 | SD of Logged Detects | 2.269 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.153 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.439 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0844 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 1.229 | KM Standard Error of Mean | 0.737 |
| KM SD | 13.31 | 95% KM (BCA) UCL | 2.817 |
| 95% KM (t) UCL | 2.445 | 95% KM (Percentile Bootstrap) UCL | 2.69 |
| 95% KM (z) UCL | 2.441 | 95% KM Bootstrap t UCL | 8.806 |
| 90% KM Chebyshev UCL | 3.44 | 95% KM Chebyshev UCL | 4.442 |
| 97.5% KM Chebyshev UCL | 5.833 | 99% KM Chebyshev UCL | 8.565 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 10.29 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.898 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.228 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0953 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.24 | k star (bias corrected MLE) | 0.24 |
| Theta hat (MLE) | 14.72 | Theta star (bias corrected MLE) | 14.75 |
| nu hat (MLE) | 53.28 | nu star (bias corrected) | 53.17 |
| Mean (detects) | 3.533 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0048 | Mean | 1.227 |
| Maximum | 240 | Median | 0.01 |
| SD | 13.33 | CV | 10.86 |
| k hat (MLE) | 0.198 | k star (bias corrected MLE) | 0.199 |

| | | | |
|---|---|---|---|
| Theta hat (MLE) | 6.187 | Theta star (bias corrected MLE) | 6.18 |
| nu hat (MLE) | 130.5 | nu star (bias corrected) | 130.7 |
| Adjusted Level of Significance (β) | 0.0493 | | |
| Approximate Chi Square Value (130.68, α) | 105.3 | Adjusted Chi Square Value (130.68, β) | 105.2 |
| 95% Gamma Approximate UCL (use when n>=50) | 1.524 | 95% Gamma Adjusted UCL (use when n<50) | 1.525 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 1.229 | SD (KM) | 13.31 |
| Variance (KM) | 177.2 | SE of Mean (KM) | 0.737 |
| k hat (KM) | 0.00852 | k star (KM) | 0.0105 |
| nu hat (KM) | 5.604 | nu star (KM) | 6.886 |
| theta hat (KM) | 144.2 | theta star (KM) | 117.4 |
| 80% gamma percentile (KM) | 3.6557E-8 | 90% gamma percentile (KM) | 0.00282 |
| 95% gamma percentile (KM) | 0.497 | 99% gamma percentile (KM) | 33 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (6.89, α) | 2.108 | Adjusted Chi Square Value (6.89, β) | 2.097 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 4.013 | 95% Gamma Adjusted KM-UCL (use when n<50) | 4.035 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.936 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 2.7219E-5 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.125 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0844 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 1.249 | Mean in Log Scale | -2.698 |
| SD in Original Scale | 13.33 | SD in Log Scale | 1.871 |
| 95% t UCL (assumes normality of ROS data) | 2.462 | 95% Percentile Bootstrap UCL | 2.689 |
| 95% BCA Bootstrap UCL | 3.607 | 95% Bootstrap t UCL | 9.176 |
| 95% H-UCL (Log ROS) | 0.526 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -2.804 | KM Geo Mean | 0.0606 |
| KM SD (logged) | 1.699 | 95% Critical H Value (KM-Log) | 2.775 |
| KM Standard Error of Mean (logged) | 0.127 | 95% H-UCL (KM -Log) | 0.333 |
| KM SD (logged) | 1.699 | 95% Critical H Value (KM-Log) | 2.775 |
| KM Standard Error of Mean (logged) | 0.127 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.323 | Mean in Log Scale | -2.025 |
| SD in Original Scale | 13.34 | SD in Log Scale | 1.407 |
| 95% t UCL (Assumes normality) | 2.536 | 95% H-Stat UCL | 0.431 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 4.442 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

BENZO(A)ANTHRACENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 329 | Number of Distinct Observations | 128 |
| | | Number of Missing Observations | 140 |
| Number of Detects | 181 | Number of Non-Detects | 148 |
| Number of Distinct Detects | 115 | Number of Distinct Non-Detects | 25 |
| Minimum Detect | 0.0031 | Minimum Non-Detect | 0.18 |
| Maximum Detect | 80 | Maximum Non-Detect | 19 |
| Variance Detects | 65.8 | Percent Non-Detects | 44.98% |
| Mean Detects | 1.599 | SD Detects | 8.112 |
| Median Detects | 0.13 | CV Detects | 5.074 |
| Skewness Detects | 7.858 | Kurtosis Detects | 66.46 |
| Mean of Logged Detects | -1.789 | SD of Logged Detects | 1.664 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.208 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.429 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0663 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.92 | KM Standard Error of Mean | 0.334 |
| KM SD | 6.048 | 95% KM (BCA) UCL | 1.538 |
| 95% KM (t) UCL | 1.471 | 95% KM (Percentile Bootstrap) UCL | 1.486 |
| 95% KM (z) UCL | 1.47 | 95% KM Bootstrap t UCL | 2.276 |
| 90% KM Chebyshev UCL | 1.923 | 95% KM Chebyshev UCL | 2.377 |
| 97.5% KM Chebyshev UCL | 3.008 | 99% KM Chebyshev UCL | 4.247 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 24 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.868 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.273 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0744 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.305 | k star (bias corrected MLE) | 0.303 |
| Theta hat (MLE) | 5.248 | Theta star (bias corrected MLE) | 5.272 |

| | | | |
|---|---|---|---|
| nu hat (MLE) | 110.3 | nu star (bias corrected) | 109.8 |
| Mean (detects) | 1.599 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0031 | Mean | 0.891 |
| Maximum | 80 | Median | 0.034 |
| SD | 6.06 | CV | 6.803 |
| k hat (MLE) | 0.247 | k star (bias corrected MLE) | 0.247 |
| Theta hat (MLE) | 3.603 | Theta star (bias corrected MLE) | 3.607 |
| nu hat (MLE) | 162.7 | nu star (bias corrected) | 162.5 |
| Adjusted Level of Significance (β) | 0.0493 | | |
| Approximate Chi Square Value (162.52, α) | 134 | Adjusted Chi Square Value (162.52, β) | 133.9 |
| 95% Gamma Approximate UCL (use when n>=50) | 1.08 | 95% Gamma Adjusted UCL (use when n<50) | 1.081 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.92 | SD (KM) | 6.048 |
| Variance (KM) | 36.57 | SE of Mean (KM) | 0.334 |
| k hat (KM) | 0.0231 | k star (KM) | 0.0249 |
| nu hat (KM) | 15.22 | nu star (KM) | 16.42 |
| theta hat (KM) | 39.76 | theta star (KM) | 36.87 |
| 80% gamma percentile (KM) | 0.00276 | 90% gamma percentile (KM) | 0.312 |
| 95% gamma percentile (KM) | 2.916 | 99% gamma percentile (KM) | 24.8 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (16.42, α) | 8.257 | Adjusted Chi Square Value (16.42, β) | 8.231 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1.829 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1.834 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.944 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 2.0311E-7 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0935 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0663 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.921 | Mean in Log Scale | -2.217 |
| SD in Original Scale | 6.056 | SD in Log Scale | 1.466 |
| 95% t UCL (assumes normality of ROS data) | 1.472 | 95% Percentile Bootstrap UCL | 1.504 |
| 95% BCA Bootstrap UCL | 1.766 | 95% Bootstrap t UCL | 2.341 |
| 95% H-UCL (Log ROS) | 0.392 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -2.233 | KM Geo Mean | 0.107 |
| KM SD (logged) | 1.448 | 95% Critical H Value (KM-Log) | 2.521 |

| | | | |
|---|---|---|---|
| KM Standard Error of Mean (logged) | 0.0926 | 95% H-UCL (KM -Log) | 0.374 |
| KM SD (logged) | 1.448 | 95% Critical H Value (KM-Log) | 2.521 |
| KM Standard Error of Mean (logged) | 0.0926 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.033 | Mean in Log Scale | -1.875 |
| SD in Original Scale | 6.081 | SD in Log Scale | 1.369 |
| 95% t UCL (Assumes normality) | 1.586 | 95% H-Stat UCL | 0.47 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 2.377 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

BENZO(A)PYRENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 329 | Number of Distinct Observations | 159 |
| | | Number of Missing Observations | 140 |
| Number of Detects | 210 | Number of Non-Detects | 119 |
| Number of Distinct Detects | 134 | Number of Distinct Non-Detects | 41 |
| Minimum Detect | 6.6000E-4 | Minimum Non-Detect | 0.0035 |
| Maximum Detect | 69 | Maximum Non-Detect | 19 |
| Variance Detects | 44.49 | Percent Non-Detects | 36.17% |
| Mean Detects | 1.296 | SD Detects | 6.67 |
| Median Detects | 0.105 | CV Detects | 5.145 |
| Skewness Detects | 8.047 | Kurtosis Detects | 70.79 |
| Mean of Logged Detects | -2.276 | SD of Logged Detects | 1.988 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.207 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.428 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0616 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.846 | KM Standard Error of Mean | 0.296 |
| KM SD | 5.351 | 95% KM (BCA) UCL | 1.383 |
| 95% KM (t) UCL | 1.334 | 95% KM (Percentile Bootstrap) UCL | 1.354 |
| 95% KM (z) UCL | 1.333 | 95% KM Bootstrap t UCL | 1.993 |

| | | | |
|---|---|---|---|
| 90% KM Chebyshev UCL | 1.734 | 95% KM Chebyshev UCL | 2.136 |
| 97.5% KM Chebyshev UCL | 2.694 | 99% KM Chebyshev UCL | 3.79 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 22.85 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.882 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.263 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0683 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.276 | k star (bias corrected MLE) | 0.275 |
| Theta hat (MLE) | 4.702 | Theta star (bias corrected MLE) | 4.715 |
| nu hat (MLE) | 115.8 | nu star (bias corrected) | 115.5 |
| Mean (detects) | 1.296 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 6.6000E-4 | Mean | 0.835 |
| Maximum | 69 | Median | 0.029 |
| SD | 5.36 | CV | 6.416 |
| k hat (MLE) | 0.246 | k star (bias corrected MLE) | 0.245 |
| Theta hat (MLE) | 3.401 | Theta star (bias corrected MLE) | 3.404 |
| nu hat (MLE) | 161.6 | nu star (bias corrected) | 161.5 |
| Adjusted Level of Significance (β) | 0.0493 | | |
| Approximate Chi Square Value (161.47, α) | 133.1 | Adjusted Chi Square Value (161.47, β) | 133 |
| 95% Gamma Approximate UCL (use when n>=50) | 1.013 | 95% Gamma Adjusted UCL (use when n<50) | 1.014 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.846 | SD (KM) | 5.351 |
| Variance (KM) | 28.64 | SE of Mean (KM) | 0.296 |
| k hat (KM) | 0.025 | k star (KM) | 0.0268 |
| nu hat (KM) | 16.46 | nu star (KM) | 17.64 |
| theta hat (KM) | 33.83 | theta star (KM) | 31.56 |
| 80% gamma percentile (KM) | 0.0044 | 90% gamma percentile (KM) | 0.36 |
| 95% gamma percentile (KM) | 2.921 | 99% gamma percentile (KM) | 22.47 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (17.64, α) | 9.134 | Adjusted Chi Square Value (17.64, β) | 9.107 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1.635 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1.64 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.969 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.00914 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.07 | **Lilliefors GOF Test** |

| | | | |
|---|---|---|---|
| 5% Lilliefors Critical Value | 0.0616 | Detected Data Not Lognormal at 5% Significance Level | |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.839 | Mean in Log Scale | -3.048 |
| SD in Original Scale | 5.359 | SD in Log Scale | 2.106 |
| 95% t UCL (assumes normality of ROS data) | 1.327 | 95% Percentile Bootstrap UCL | 1.36 |
| 95% BCA Bootstrap UCL | 1.555 | 95% Bootstrap t UCL | 1.919 |
| 95% H-UCL (Log ROS) | 0.633 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -3.137 | KM Geo Mean | 0.0434 |
| KM SD (logged) | 2.318 | 95% Critical H Value (KM-Log) | 3.441 |
| KM Standard Error of Mean (logged) | 0.146 | 95% H-UCL (KM -Log) | 0.99 |
| KM SD (logged) | 2.318 | 95% Critical H Value (KM-Log) | 3.441 |
| KM Standard Error of Mean (logged) | 0.146 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.951 | Mean in Log Scale | -2.558 |
| SD in Original Scale | 5.388 | SD in Log Scale | 2.059 |
| 95% t UCL (Assumes normality) | 1.441 | 95% H-Stat UCL | 0.925 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 2.136 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**BENZO(B)FLUORANTHENE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 329 | Number of Distinct Observations | 125 |
| | | Number of Missing Observations | 140 |
| Number of Detects | 181 | Number of Non-Detects | 148 |
| Number of Distinct Detects | 114 | Number of Distinct Non-Detects | 27 |
| Minimum Detect | 0.0065 | Minimum Non-Detect | 0.18 |
| Maximum Detect | 65 | Maximum Non-Detect | 19 |
| Variance Detects | 54.81 | Percent Non-Detects | 44.98% |
| Mean Detects | 1.606 | SD Detects | 7.403 |
| Median Detects | 0.17 | CV Detects | 4.61 |
| Skewness Detects | 7.565 | Kurtosis Detects | 60.73 |
| Mean of Logged Detects | -1.547 | SD of Logged Detects | 1.628 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.22 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.414 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0663 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.93 | KM Standard Error of Mean | 0.306 |
| KM SD | 5.528 | 95% KM (BCA) UCL | 1.516 |
| 95% KM (t) UCL | 1.434 | 95% KM (Percentile Bootstrap) UCL | 1.516 |
| 95% KM (z) UCL | 1.433 | 95% KM Bootstrap t UCL | 2.232 |
| 90% KM Chebyshev UCL | 1.847 | 95% KM Chebyshev UCL | 2.263 |
| 97.5% KM Chebyshev UCL | 2.839 | 99% KM Chebyshev UCL | 3.972 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 20.68 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.86 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.257 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0741 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.335 | k star (bias corrected MLE) | 0.333 |
| Theta hat (MLE) | 4.791 | Theta star (bias corrected MLE) | 4.818 |
| nu hat (MLE) | 121.3 | nu star (bias corrected) | 120.7 |
| Mean (detects) | 1.606 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0065 | Mean | 0.89 |
| Maximum | 65 | Median | 0.042 |
| SD | 5.541 | CV | 6.224 |
| k hat (MLE) | 0.255 | k star (bias corrected MLE) | 0.255 |
| Theta hat (MLE) | 3.488 | Theta star (bias corrected MLE) | 3.492 |
| nu hat (MLE) | 168 | nu star (bias corrected) | 167.8 |
| Adjusted Level of Significance (β) | 0.0493 | | |
| Approximate Chi Square Value (167.79, α) | 138.8 | Adjusted Chi Square Value (167.79, β) | 138.7 |
| 95% Gamma Approximate UCL (use when n>=50) | 1.076 | 95% Gamma Adjusted UCL (use when n<50) | 1.077 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.93 | SD (KM) | 5.528 |
| Variance (KM) | 30.56 | SE of Mean (KM) | 0.306 |
| k hat (KM) | 0.0283 | k star (KM) | 0.0301 |

| | | | |
|---|---|---|---|
| nu hat (KM) | 18.63 | nu star (KM) | 19.79 |
| theta hat (KM) | 32.86 | theta star (KM) | 30.93 |
| 80% gamma percentile (KM) | 0.0107 | 90% gamma percentile (KM) | 0.545 |
| 95% gamma percentile (KM) | 3.609 | 99% gamma percentile (KM) | 24 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (19.79, α) | 10.7 | Adjusted Chi Square Value (19.79, β) | 10.67 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1.721 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1.726 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.947 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 1.0289E-6 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0943 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0663 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.93 | Mean in Log Scale | -2.02 |
| SD in Original Scale | 5.535 | SD in Log Scale | 1.45 |
| 95% t UCL (assumes normality of ROS data) | 1.434 | 95% Percentile Bootstrap UCL | 1.477 |
| 95% BCA Bootstrap UCL | 1.684 | 95% Bootstrap t UCL | 2.2 |
| 95% H-UCL (Log ROS) | 0.465 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -2.03 | KM Geo Mean | 0.131 |
| KM SD (logged) | 1.427 | 95% Critical H Value (KM-Log) | 2.501 |
| KM Standard Error of Mean (logged) | 0.0904 | 95% H-UCL (KM -Log) | 0.443 |
| KM SD (logged) | 1.427 | 95% Critical H Value (KM-Log) | 2.501 |
| KM Standard Error of Mean (logged) | 0.0904 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.043 | Mean in Log Scale | -1.732 |
| SD in Original Scale | 5.564 | SD in Log Scale | 1.365 |
| 95% t UCL (Assumes normality) | 1.549 | 95% H-Stat UCL | 0.54 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 2.263 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

BENZO(K)FLUORANTHENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 329 | Number of Distinct Observations | 119 |
| | | Number of Missing Observations | 140 |
| Number of Detects | 168 | Number of Non-Detects | 161 |
| Number of Distinct Detects | 104 | Number of Distinct Non-Detects | 30 |
| Minimum Detect | 0.0097 | Minimum Non-Detect | 0.18 |
| Maximum Detect | 59 | Maximum Non-Detect | 19 |
| Variance Detects | 30.09 | Percent Non-Detects | 48.94% |
| Mean Detects | 1.152 | SD Detects | 5.486 |
| Median Detects | 0.15 | CV Detects | 4.761 |
| Skewness Detects | 8.33 | Kurtosis Detects | 78.9 |
| Mean of Logged Detects | -1.771 | SD of Logged Detects | 1.531 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.22 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.418 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0688 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.636 | KM Standard Error of Mean | 0.218 |
| KM SD | 3.945 | 95% KM (BCA) UCL | 1.068 |
| 95% KM (t) UCL | 0.996 | 95% KM (Percentile Bootstrap) UCL | 1.024 |
| 95% KM (z) UCL | 0.995 | 95% KM Bootstrap t UCL | 1.56 |
| 90% KM Chebyshev UCL | 1.291 | 95% KM Chebyshev UCL | 1.587 |
| 97.5% KM Chebyshev UCL | 1.999 | 99% KM Chebyshev UCL | 2.808 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 20.02 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.856 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.268 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0776 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.351 | k star (bias corrected MLE) | 0.349 |
| Theta hat (MLE) | 3.28 | Theta star (bias corrected MLE) | 3.301 |
| nu hat (MLE) | 118.1 | nu star (bias corrected) | 117.3 |
| Mean (detects) | 1.152 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0097 | Mean | 0.61 |
| Maximum | 59 | Median | 0.029 |
| SD | 3.955 | CV | 6.483 |
| k hat (MLE) | 0.277 | k star (bias corrected MLE) | 0.276 |
| Theta hat (MLE) | 2.206 | Theta star (bias corrected MLE) | 2.21 |
| nu hat (MLE) | 181.9 | nu star (bias corrected) | 181.6 |
| Adjusted Level of Significance (β) | 0.0493 | | |
| Approximate Chi Square Value (181.62, α) | 151.5 | Adjusted Chi Square Value (181.62, β) | 151.3 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.732 | 95% Gamma Adjusted UCL (use when n<50) | 0.732 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.636 | SD (KM) | 3.945 |
| Variance (KM) | 15.56 | SE of Mean (KM) | 0.218 |
| k hat (KM) | 0.026 | k star (KM) | 0.0278 |
| nu hat (KM) | 17.12 | nu star (KM) | 18.29 |
| theta hat (KM) | 24.46 | theta star (KM) | 22.89 |
| 80% gamma percentile (KM) | 0.00429 | 90% gamma percentile (KM) | 0.301 |
| 95% gamma percentile (KM) | 2.283 | 99% gamma percentile (KM) | 16.75 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (18.29, α) | 9.603 | Adjusted Chi Square Value (18.29, β) | 9.575 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1.212 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1.216 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.936 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 1.9531E-8 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0964 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0688 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.638 | Mean in Log Scale | -2.181 |
| SD in Original Scale | 3.95 | SD in Log Scale | 1.32 |
| 95% t UCL (assumes normality of ROS data) | 0.997 | 95% Percentile Bootstrap UCL | 1.037 |
| 95% BCA Bootstrap UCL | 1.162 | 95% Bootstrap t UCL | 1.541 |
| 95% H-UCL (Log ROS) | 0.321 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -2.202 | KM Geo Mean | 0.111 |
| KM SD (logged) | 1.301 | 95% Critical H Value (KM-Log) | 2.382 |
| KM Standard Error of Mean (logged) | 0.0852 | 95% H-UCL (KM -Log) | 0.306 |
| KM SD (logged) | 1.301 | 95% Critical H Value (KM-Log) | 2.382 |
| KM Standard Error of Mean (logged) | 0.0852 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.758 | Mean in Log Scale | -1.859 |
| SD in Original Scale | 3.998 | SD in Log Scale | 1.263 |
| 95% t UCL (Assumes normality) | 1.122 | 95% H-Stat UCL | 0.408 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 1.587 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

CARBAZOLE

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 329 | Number of Distinct Observations | 101 |
| | | Number of Missing Observations | 140 |
| Number of Detects | 100 | Number of Non-Detects | 229 |
| Number of Distinct Detects | 70 | Number of Distinct Non-Detects | 34 |
| Minimum Detect | 0.0044 | Minimum Non-Detect | 0.18 |
| Maximum Detect | 35 | Maximum Non-Detect | 19 |
| Variance Detects | 21.65 | Percent Non-Detects | 69.6% |
| Mean Detects | 0.783 | SD Detects | 4.653 |
| Median Detects | 0.032 | CV Detects | 5.943 |
| Skewness Detects | 6.923 | Kurtosis Detects | 47.4 |
| Mean of Logged Detects | -3.153 | SD of Logged Detects | 1.628 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.17 | Normal GOF Test on Detected Observations Only |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.473 | Lilliefors GOF Test |
| 5% Lilliefors Critical Value | 0.0889 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 0.27 | KM Standard Error of Mean | 0.143 |
| KM SD | 2.575 | 95% KM (BCA) UCL | 0.49 |
| 95% KM (t) UCL | 0.505 | 95% KM (Percentile Bootstrap) UCL | 0.514 |
| 95% KM (z) UCL | 0.504 | 95% KM Bootstrap t UCL | 2.446 |
| 90% KM Chebyshev UCL | 0.698 | 95% KM Chebyshev UCL | 0.892 |
| 97.5% KM Chebyshev UCL | 1.161 | 99% KM Chebyshev UCL | 1.69 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 19.29 | Anderson-Darling GOF Test |
| 5% A-D Critical Value | 0.895 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.344 | Kolmogorov-Smirnov GOF |
| 5% K-S Critical Value | 0.0983 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.245 | k star (bias corrected MLE) | 0.244 |
| Theta hat (MLE) | 3.195 | Theta star (bias corrected MLE) | 3.204 |
| nu hat (MLE) | 49.01 | nu star (bias corrected) | 48.87 |
| Mean (detects) | 0.783 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0044 | Mean | 0.416 |
| Maximum | 35 | Median | 0.01 |
| SD | 2.628 | CV | 6.324 |
| k hat (MLE) | 0.263 | k star (bias corrected MLE) | 0.263 |
| Theta hat (MLE) | 1.578 | Theta star (bias corrected MLE) | 1.58 |
| nu hat (MLE) | 173.3 | nu star (bias corrected) | 173.1 |
| Adjusted Level of Significance (β) | 0.0493 | | |
| Approximate Chi Square Value (173.05, α) | 143.6 | Adjusted Chi Square Value (173.05, β) | 143.5 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.501 | 95% Gamma Adjusted UCL (use when n<50) | 0.501 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.27 | SD (KM) | 2.575 |
| Variance (KM) | 6.632 | SE of Mean (KM) | 0.143 |
| k hat (KM) | 0.011 | k star (KM) | 0.0129 |
| nu hat (KM) | 7.207 | nu star (KM) | 8.475 |
| theta hat (KM) | 24.61 | theta star (KM) | 20.93 |
| 80% gamma percentile (KM) | 3.5514E-7 | 90% gamma percentile (KM) | 0.00333 |
| 95% gamma percentile (KM) | 0.224 | 99% gamma percentile (KM) | 7.544 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (8.47, α) | 3.013 | Adjusted Chi Square Value (8.47, β) | 2.999 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.758 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.762 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.878 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 1.425E-11 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.118 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0889 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.273 | Mean in Log Scale | -3.401 |
| SD in Original Scale | 2.579 | SD in Log Scale | 1.277 |
| 95% t UCL (assumes normality of ROS data) | 0.508 | 95% Percentile Bootstrap UCL | 0.503 |
| 95% BCA Bootstrap UCL | 0.673 | 95% Bootstrap t UCL | 2.711 |
| 95% H-UCL (Log ROS) | 0.089 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -3.453 | KM Geo Mean | 0.0316 |
| KM SD (logged) | 1.239 | 95% Critical H Value (KM-Log) | 2.325 |
| KM Standard Error of Mean (logged) | 0.11 | 95% H-UCL (KM -Log) | 0.0799 |
| KM SD (logged) | 1.239 | 95% Critical H Value (KM-Log) | 2.325 |
| KM Standard Error of Mean (logged) | 0.11 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.459 | Mean in Log Scale | -2.329 |
| SD in Original Scale | 2.671 | SD in Log Scale | 1.277 |
| 95% t UCL (Assumes normality) | 0.702 | 95% H-Stat UCL | 0.26 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 0.892 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

CHRYSENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 329 | Number of Distinct Observations | 129 |
| | | Number of Missing Observations | 140 |
| Number of Detects | 184 | Number of Non-Detects | 145 |
| Number of Distinct Detects | 117 | Number of Distinct Non-Detects | 27 |
| Minimum Detect | 0.0057 | Minimum Non-Detect | 0.18 |
| Maximum Detect | 78 | Maximum Non-Detect | 19 |
| Variance Detects | 58.89 | Percent Non-Detects | 44.07% |
| Mean Detects | 1.582 | SD Detects | 7.674 |
| Median Detects | 0.16 | CV Detects | 4.851 |
| Skewness Detects | 7.891 | Kurtosis Detects | 68.04 |
| Mean of Logged Detects | -1.586 | SD of Logged Detects | 1.592 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.216 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.419 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0657 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.931 | KM Standard Error of Mean | 0.319 |
| KM SD | 5.771 | 95% KM (BCA) UCL | 1.519 |
| 95% KM (t) UCL | 1.457 | 95% KM (Percentile Bootstrap) UCL | 1.506 |
| 95% KM (z) UCL | 1.456 | 95% KM Bootstrap t UCL | 2.053 |
| 90% KM Chebyshev UCL | 1.888 | 95% KM Chebyshev UCL | 2.322 |
| 97.5% KM Chebyshev UCL | 2.924 | 99% KM Chebyshev UCL | 4.106 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 22.71 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.861 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.266 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0733 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.332 | k star (bias corrected MLE) | 0.33 |
| Theta hat (MLE) | 4.769 | Theta star (bias corrected MLE) | 4.795 |
| nu hat (MLE) | 122.1 | nu star (bias corrected) | 121.4 |
| Mean (detects) | 1.582 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0057 | Mean | 0.891 |
| Maximum | 78 | Median | 0.039 |
| SD | 5.785 | CV | 6.496 |
| k hat (MLE) | 0.255 | k star (bias corrected MLE) | 0.254 |
| Theta hat (MLE) | 3.498 | Theta star (bias corrected MLE) | 3.502 |
| nu hat (MLE) | 167.5 | nu star (bias corrected) | 167.3 |
| Adjusted Level of Significance (β) | 0.0493 | | |
| Approximate Chi Square Value (167.32, α) | 138.4 | Adjusted Chi Square Value (167.32, β) | 138.3 |
| 95% Gamma Approximate UCL (use when n>=50) | 1.077 | 95% Gamma Adjusted UCL (use when n<50) | 1.077 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.931 | SD (KM) | 5.771 |
| Variance (KM) | 33.31 | SE of Mean (KM) | 0.319 |
| k hat (KM) | 0.026 | k star (KM) | 0.0278 |
| nu hat (KM) | 17.11 | nu star (KM) | 18.29 |
| theta hat (KM) | 35.79 | theta star (KM) | 33.48 |
| 80% gamma percentile (KM) | 0.00628 | 90% gamma percentile (KM) | 0.44 |
| 95% gamma percentile (KM) | 3.34 | 99% gamma percentile (KM) | 24.5 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (18.29, α) | 9.602 | Adjusted Chi Square Value (18.29, β) | 9.574 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1.773 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1.778 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.947 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 1.1598E-6 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0887 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0657 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.929 | Mean in Log Scale | -2.039 |
| SD in Original Scale | 5.779 | SD in Log Scale | 1.422 |
| 95% t UCL (assumes normality of ROS data) | 1.455 | 95% Percentile Bootstrap UCL | 1.495 |
| 95% BCA Bootstrap UCL | 1.706 | 95% Bootstrap t UCL | 2.166 |
| 95% H-UCL (Log ROS) | 0.436 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -2.043 | KM Geo Mean | 0.13 |
| KM SD (logged) | 1.409 | 95% Critical H Value (KM-Log) | 2.484 |
| KM Standard Error of Mean (logged) | 0.0896 | 95% H-UCL (KM -Log) | 0.424 |
| KM SD (logged) | 1.409 | 95% Critical H Value (KM-Log) | 2.484 |
| KM Standard Error of Mean (logged) | 0.0896 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.052 | Mean in Log Scale | -1.727 |
| SD in Original Scale | 5.806 | SD in Log Scale | 1.356 |
| 95% t UCL (Assumes normality) | 1.58 | 95% H-Stat UCL | 0.535 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 2.322 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**DIBENZO(A,H)ANTHRACENE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 327 | Number of Distinct Observations | 137 |
| | | Number of Missing Observations | 142 |
| Number of Detects | 149 | Number of Non-Detects | 178 |
| Number of Distinct Detects | 107 | Number of Distinct Non-Detects | 41 |
| Minimum Detect | 1.1000E-4 | Minimum Non-Detect | 0.0036 |
| Maximum Detect | 13 | Maximum Non-Detect | 19 |

| | | | |
|---|---|---|---|
| Variance Detects | 2.512 | Percent Non-Detects | 54.43% |
| Mean Detects | 0.369 | SD Detects | 1.585 |
| Median Detects | 0.032 | CV Detects | 4.293 |
| Skewness Detects | 5.993 | Kurtosis Detects | 38.04 |
| Mean of Logged Detects | -3.702 | SD of Logged Detects | 2.384 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.253 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.427 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.073 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.183 | KM Standard Error of Mean | 0.0604 |
| KM SD | 1.084 | 95% KM (BCA) UCL | 0.298 |
| 95% KM (t) UCL | 0.282 | 95% KM (Percentile Bootstrap) UCL | 0.289 |
| 95% KM (z) UCL | 0.282 | 95% KM Bootstrap t UCL | 0.382 |
| 90% KM Chebyshev UCL | 0.364 | 95% KM Chebyshev UCL | 0.446 |
| 97.5% KM Chebyshev UCL | 0.56 | 99% KM Chebyshev UCL | 0.783 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 13.48 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.888 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.253 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0842 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.261 | k star (bias corrected MLE) | 0.26 |
| Theta hat (MLE) | 1.416 | Theta star (bias corrected MLE) | 1.42 |
| nu hat (MLE) | 77.7 | nu star (bias corrected) | 77.47 |
| Mean (detects) | 0.369 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 1.1000E-4 | Mean | 0.206 |
| Maximum | 13 | Median | 0.01 |
| SD | 1.087 | CV | 5.287 |
| k hat (MLE) | 0.294 | k star (bias corrected MLE) | 0.293 |
| Theta hat (MLE) | 0.699 | Theta star (bias corrected MLE) | 0.701 |
| nu hat (MLE) | 192.4 | nu star (bias corrected) | 191.9 |
| Adjusted Level of Significance (β) | 0.0493 | | |
| Approximate Chi Square Value (191.94, α) | 160.9 | Adjusted Chi Square Value (191.94, β) | 160.8 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.245 | 95% Gamma Adjusted UCL (use when n<50) | 0.246 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.183 | SD (KM) | 1.084 |
| Variance (KM) | 1.175 | SE of Mean (KM) | 0.0604 |
| k hat (KM) | 0.0285 | k star (KM) | 0.0302 |
| nu hat (KM) | 18.61 | nu star (KM) | 19.78 |
| theta hat (KM) | 6.424 | theta star (KM) | 6.047 |
| 80% gamma percentile (KM) | 0.00217 | 90% gamma percentile (KM) | 0.109 |
| 95% gamma percentile (KM) | 0.713 | 99% gamma percentile (KM) | 4.711 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (19.78, α) | 10.69 | Adjusted Chi Square Value (19.78, β) | 10.66 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.338 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.339 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.929 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 9.0410E-9 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.166 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.073 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.179 | Mean in Log Scale | -4.534 |
| SD in Original Scale | 1.082 | SD in Log Scale | 2.194 |
| 95% t UCL (assumes normality of ROS data) | 0.278 | 95% Percentile Bootstrap UCL | 0.283 |
| 95% BCA Bootstrap UCL | 0.323 | 95% Bootstrap t UCL | 0.379 |
| 95% H-UCL (Log ROS) | 0.178 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -4.661 | KM Geo Mean | 0.00945 |
| KM SD (logged) | 2.496 | 95% Critical H Value (KM-Log) | 3.633 |
| KM Standard Error of Mean (logged) | 0.186 | 95% H-UCL (KM -Log) | 0.352 |
| KM SD (logged) | 2.496 | 95% Critical H Value (KM-Log) | 3.633 |
| KM Standard Error of Mean (logged) | 0.186 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.31 | Mean in Log Scale | -3.237 |
| SD in Original Scale | 1.276 | SD in Log Scale | 2.125 |
| 95% t UCL (Assumes normality) | 0.427 | 95% H-Stat UCL | 0.55 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 0.446 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

DIBENZOFURAN

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 329 | Number of Distinct Observations | 106 |
| | | Number of Missing Observations | 140 |
| Number of Detects | 100 | Number of Non-Detects | 229 |
| Number of Distinct Detects | 79 | Number of Distinct Non-Detects | 34 |
| Minimum Detect | 0.0045 | Minimum Non-Detect | 0.18 |
| Maximum Detect | 26 | Maximum Non-Detect | 19 |
| Variance Detects | 14.56 | Percent Non-Detects | 69.6% |
| Mean Detects | 0.794 | SD Detects | 3.815 |
| Median Detects | 0.0425 | CV Detects | 4.808 |
| Skewness Detects | 5.627 | Kurtosis Detects | 31.37 |
| Mean of Logged Detects | -3.036 | SD of Logged Detects | 1.692 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.221 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.472 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0889 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.273 | KM Standard Error of Mean | 0.118 |
| KM SD | 2.122 | 95% KM (BCA) UCL | 0.498 |
| 95% KM (t) UCL | 0.467 | 95% KM (Percentile Bootstrap) UCL | 0.49 |
| 95% KM (z) UCL | 0.466 | 95% KM Bootstrap t UCL | 1.204 |
| 90% KM Chebyshev UCL | 0.626 | 95% KM Chebyshev UCL | 0.785 |
| 97.5% KM Chebyshev UCL | 1.007 | 99% KM Chebyshev UCL | 1.443 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 18.49 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.891 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.348 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0981 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.253 | k star (bias corrected MLE) | 0.252 |
| Theta hat (MLE) | 3.139 | Theta star (bias corrected MLE) | 3.15 |
| nu hat (MLE) | 50.56 | nu star (bias corrected) | 50.38 |
| Mean (detects) | 0.794 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0045 | Mean | 0.396 |
| Maximum | 26 | Median | 0.01 |
| SD | 2.166 | CV | 5.469 |
| k hat (MLE) | 0.269 | k star (bias corrected MLE) | 0.269 |
| Theta hat (MLE) | 1.47 | Theta star (bias corrected MLE) | 1.473 |
| nu hat (MLE) | 177.2 | nu star (bias corrected) | 177 |
| Adjusted Level of Significance (β) | 0.0493 | | |
| Approximate Chi Square Value (176.96, α) | 147.2 | Adjusted Chi Square Value (176.96, β) | 147.1 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.476 | 95% Gamma Adjusted UCL (use when n<50) | 0.477 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.273 | SD (KM) | 2.122 |
| Variance (KM) | 4.502 | SE of Mean (KM) | 0.118 |
| k hat (KM) | 0.0165 | k star (KM) | 0.0184 |
| nu hat (KM) | 10.87 | nu star (KM) | 12.1 |
| theta hat (KM) | 16.51 | theta star (KM) | 14.83 |
| 80% gamma percentile (KM) | 4.5476E-5 | 90% gamma percentile (KM) | 0.0275 |
| 95% gamma percentile (KM) | 0.538 | 99% gamma percentile (KM) | 7.682 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (12.10, α) | 5.294 | Adjusted Chi Square Value (12.10, β) | 5.275 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.623 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.626 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.867 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 6.787E-13 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.122 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0889 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.278 | Mean in Log Scale | -3.335 |
| SD in Original Scale | 2.124 | SD in Log Scale | 1.318 |
| 95% t UCL (assumes normality of ROS data) | 0.471 | 95% Percentile Bootstrap UCL | 0.472 |
| 95% BCA Bootstrap UCL | 0.589 | 95% Bootstrap t UCL | 0.615 |
| 95% H-UCL (Log ROS) | 0.101 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -3.392 | KM Geo Mean | 0.0336 |
| KM SD (logged) | 1.256 | 95% Critical H Value (KM-Log) | 2.341 |
| KM Standard Error of Mean (logged) | 0.109 | 95% H-UCL (KM -Log) | 0.087 |
| KM SD (logged) | 1.256 | 95% Critical H Value (KM-Log) | 2.341 |
| KM Standard Error of Mean (logged) | 0.109 | | |

**DL/2 Statistics**

| DL/2 Normal | | DL/2 Log-Transformed | |
|---|---|---|---|
| Mean in Original Scale | 0.446 | Mean in Log Scale | -2.336 |
| SD in Original Scale | 2.234 | SD in Log Scale | 1.244 |
| 95% t UCL (Assumes normality) | 0.649 | 95% H-Stat UCL | 0.246 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 0.785 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

INDENO(1,2,3-CD)PYRENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 328 | Number of Distinct Observations | 122 |
| | | Number of Missing Observations | 141 |
| Number of Detects | 166 | Number of Non-Detects | 162 |
| Number of Distinct Detects | 106 | Number of Distinct Non-Detects | 29 |
| Minimum Detect | 0.0036 | Minimum Non-Detect | 0.081 |
| Maximum Detect | 37 | Maximum Non-Detect | 19 |
| Variance Detects | 16.41 | Percent Non-Detects | 49.39% |
| Mean Detects | 0.829 | SD Detects | 4.051 |
| Median Detects | 0.084 | CV Detects | 4.884 |
| Skewness Detects | 7.735 | Kurtosis Detects | 62.89 |
| Mean of Logged Detects | -2.16 | SD of Logged Detects | 1.49 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.208 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.421 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0692 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.458 | KM Standard Error of Mean | 0.161 |
| KM SD | 2.899 | 95% KM (BCA) UCL | 0.752 |
| 95% KM (t) UCL | 0.724 | 95% KM (Percentile Bootstrap) UCL | 0.744 |
| 95% KM (z) UCL | 0.723 | 95% KM Bootstrap t UCL | 1.259 |
| 90% KM Chebyshev UCL | 0.941 | 95% KM Chebyshev UCL | 1.159 |
| 97.5% KM Chebyshev UCL | 1.462 | 99% KM Chebyshev UCL | 2.057 |

**Gamma GOF Tests on Detected Observations Only**

| | | | |
|---|---|---|---|
| A-D Test Statistic | 22.86 | **Anderson-Darling GOF Test** | |
| 5% A-D Critical Value | 0.858 | Detected Data Not Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.281 | **Kolmogorov-Smirnov GOF** | |
| 5% K-S Critical Value | 0.0782 | Detected Data Not Gamma Distributed at 5% Significance Level | |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.342 | k star (bias corrected MLE) | 0.34 |
| Theta hat (MLE) | 2.424 | Theta star (bias corrected MLE) | 2.44 |
| nu hat (MLE) | 113.6 | nu star (bias corrected) | 112.9 |
| Mean (detects) | 0.829 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0036 | Mean | 0.465 |
| Maximum | 37 | Median | 0.03 |
| SD | 2.907 | CV | 6.25 |
| k hat (MLE) | 0.295 | k star (bias corrected MLE) | 0.294 |
| Theta hat (MLE) | 1.579 | Theta star (bias corrected MLE) | 1.582 |
| nu hat (MLE) | 193.2 | nu star (bias corrected) | 192.8 |
| Adjusted Level of Significance (β) | 0.0493 | | |
| Approximate Chi Square Value (192.79, α) | 161.7 | Adjusted Chi Square Value (192.79, β) | 161.5 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.555 | 95% Gamma Adjusted UCL (use when n<50) | 0.555 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.458 | SD (KM) | 2.899 |
| Variance (KM) | 8.406 | SE of Mean (KM) | 0.161 |
| k hat (KM) | 0.025 | k star (KM) | 0.0268 |
| nu hat (KM) | 16.4 | nu star (KM) | 17.59 |
| theta hat (KM) | 18.33 | theta star (KM) | 17.1 |
| 80% gamma percentile (KM) | 0.00238 | 90% gamma percentile (KM) | 0.195 |
| 95% gamma percentile (KM) | 1.582 | 99% gamma percentile (KM) | 12.17 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (17.59, α) | 9.094 | Adjusted Chi Square Value (17.59, β) | 9.067 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.887 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.889 |

**Lognormal GOF Test on Detected Observations Only**

| | | | |
|---|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.915 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk P Value | 1.474E-13 | Detected Data Not Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.11 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.0692 | Detected Data Not Lognormal at 5% Significance Level | |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.462 | Mean in Log Scale | -2.467 |
| SD in Original Scale | 2.902 | SD in Log Scale | 1.263 |
| 95% t UCL (assumes normality of ROS data) | 0.726 | 95% Percentile Bootstrap UCL | 0.756 |
| 95% BCA Bootstrap UCL | 0.871 | 95% Bootstrap t UCL | 1.262 |
| 95% H-UCL (Log ROS) | 0.222 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -2.508 | KM Geo Mean | 0.0814 |
| KM SD (logged) | 1.238 | 95% Critical H Value (KM-Log) | 2.324 |
| KM Standard Error of Mean (logged) | 0.0811 | 95% H-UCL (KM -Log) | 0.205 |
| KM SD (logged) | 1.238 | 95% Critical H Value (KM-Log) | 2.324 |
| KM Standard Error of Mean (logged) | 0.0811 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.578 | Mean in Log Scale | -2.084 |
| SD in Original Scale | 2.972 | SD in Log Scale | 1.217 |
| 95% t UCL (Assumes normality) | 0.849 | 95% H-Stat UCL | 0.305 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 1.159 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**NAPHTHALENE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 333 | Number of Distinct Observations | 123 |
| | | Number of Missing Observations | 136 |
| Number of Detects | 139 | Number of Non-Detects | 194 |
| Number of Distinct Detects | 109 | Number of Distinct Non-Detects | 17 |
| Minimum Detect | 0.0032 | Minimum Non-Detect | 0.18 |
| Maximum Detect | 580 | Maximum Non-Detect | 9.3 |
| Variance Detects | 2530 | Percent Non-Detects | 58.26% |
| Mean Detects | 8.145 | SD Detects | 50.3 |
| Median Detects | 0.084 | CV Detects | 6.175 |
| Skewness Detects | 10.86 | Kurtosis Detects | 123.5 |
| Mean of Logged Detects | -1.765 | SD of Logged Detects | 2.71 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.171 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.436 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0755 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 3.427 | KM Standard Error of Mean | 1.794 |
| KM SD | 32.62 | 95% KM (BCA) UCL | 7.125 |
| 95% KM (t) UCL | 6.387 | 95% KM (Percentile Bootstrap) UCL | 6.826 |
| 95% KM (z) UCL | 6.378 | 95% KM Bootstrap t UCL | 16.51 |
| 90% KM Chebyshev UCL | 8.81 | 95% KM Chebyshev UCL | 11.25 |
| 97.5% KM Chebyshev UCL | 14.63 | 99% KM Chebyshev UCL | 21.28 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 14.87 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.927 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.256 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0884 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.192 | k star (bias corrected MLE) | 0.192 |
| Theta hat (MLE) | 42.47 | Theta star (bias corrected MLE) | 42.32 |
| nu hat (MLE) | 53.32 | nu star (bias corrected) | 53.5 |
| Mean (detects) | 8.145 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0032 | Mean | 3.448 |
| Maximum | 580 | Median | 0.01 |
| SD | 32.67 | CV | 9.476 |
| k hat (MLE) | 0.167 | k star (bias corrected MLE) | 0.167 |
| Theta hat (MLE) | 20.67 | Theta star (bias corrected MLE) | 20.61 |
| nu hat (MLE) | 111.1 | nu star (bias corrected) | 111.4 |
| Adjusted Level of Significance (β) | 0.0493 | | |
| Approximate Chi Square Value (111.40, α) | 88.04 | Adjusted Chi Square Value (111.40, β) | 87.95 |
| 95% Gamma Approximate UCL (use when n>=50) | 4.363 | 95% Gamma Adjusted UCL (use when n<50) | 4.367 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 3.427 | SD (KM) | 32.62 |
| Variance (KM) | 1064 | SE of Mean (KM) | 1.794 |
| k hat (KM) | 0.011 | k star (KM) | 0.0129 |
| nu hat (KM) | 7.35 | nu star (KM) | 8.617 |

| | | | |
|---|---|---|---|
| theta hat (KM) | 310.6 | theta star (KM) | 264.9 |
| 80% gamma percentile (KM) | 4.8598E-6 | 90% gamma percentile (KM) | 0.0437 |
| 95% gamma percentile (KM) | 2.883 | 99% gamma percentile (KM) | 95.98 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (8.62, α) | 3.097 | Adjusted Chi Square Value (8.62, β) | 3.083 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 9.535 | 95% Gamma Adjusted KM-UCL (use when n<50) | 9.579 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.917 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 2.844E-10 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.142 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0755 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 3.455 | Mean in Log Scale | -2.689 |
| SD in Original Scale | 32.67 | SD in Log Scale | 2.293 |
| 95% t UCL (assumes normality of ROS data) | 6.408 | 95% Percentile Bootstrap UCL | 6.829 |
| 95% BCA Bootstrap UCL | 9.482 | 95% Bootstrap t UCL | 16.02 |
| 95% H-UCL (Log ROS) | 1.447 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -2.817 | KM Geo Mean | 0.0598 |
| KM SD (logged) | 2.122 | 95% Critical H Value (KM-Log) | 3.23 |
| KM Standard Error of Mean (logged) | 0.142 | 95% H-UCL (KM -Log) | 0.827 |
| KM SD (logged) | 2.122 | 95% Critical H Value (KM-Log) | 3.23 |
| KM Standard Error of Mean (logged) | 0.142 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 3.483 | Mean in Log Scale | -2.025 |
| SD in Original Scale | 32.67 | SD in Log Scale | 1.789 |
| 95% t UCL (Assumes normality) | 6.436 | 95% H-Stat UCL | 0.868 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 11.25 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

BENZENE

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 198 | Number of Distinct Observations | 91 |
| | | Number of Missing Observations | 271 |
| Number of Detects | 22 | Number of Non-Detects | 176 |
| Number of Distinct Detects | 21 | Number of Distinct Non-Detects | 77 |
| Minimum Detect | 0.0013 | Minimum Non-Detect | 0.0044 |
| Maximum Detect | 37 | Maximum Non-Detect | 80 |
| Variance Detects | 68.72 | Percent Non-Detects | 88.89% |
| Mean Detects | 3.175 | SD Detects | 8.289 |
| Median Detects | 0.18 | CV Detects | 2.611 |
| Skewness Detects | 3.648 | Kurtosis Detects | 14.31 |
| Mean of Logged Detects | -1.754 | SD of Logged Detects | 2.865 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.44 | Shapiro Wilk GOF Test |
| 5% Shapiro Wilk Critical Value | 0.911 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.375 | Lilliefors GOF Test |
| 5% Lilliefors Critical Value | 0.184 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 0.38 | KM Standard Error of Mean | 0.215 |
| KM SD | 2.914 | 95% KM (BCA) UCL | 0.785 |
| 95% KM (t) UCL | 0.735 | 95% KM (Percentile Bootstrap) UCL | 0.766 |
| 95% KM (z) UCL | 0.733 | 95% KM Bootstrap t UCL | 1.615 |
| 90% KM Chebyshev UCL | 1.025 | 95% KM Chebyshev UCL | 1.317 |
| 97.5% KM Chebyshev UCL | 1.722 | 99% KM Chebyshev UCL | 2.518 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 1.16 | Anderson-Darling GOF Test |
| 5% A-D Critical Value | 0.875 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.239 | Kolmogorov-Smirnov GOF |
| 5% K-S Critical Value | 0.204 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.245 | k star (bias corrected MLE) | 0.242 |
| Theta hat (MLE) | 12.96 | Theta star (bias corrected MLE) | 13.13 |
| nu hat (MLE) | 10.78 | nu star (bias corrected) | 10.64 |
| Mean (detects) | 3.175 | | |

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0013 | Mean | 0.362 |
| Maximum | 37 | Median | 0.01 |
| SD | 2.884 | CV | 7.975 |
| k hat (MLE) | 0.221 | k star (bias corrected MLE) | 0.221 |
| Theta hat (MLE) | 1.634 | Theta star (bias corrected MLE) | 1.634 |
| nu hat (MLE) | 87.67 | nu star (bias corrected) | 87.68 |
| Adjusted Level of Significance (β) | 0.0488 | | |
| Approximate Chi Square Value (87.68, α) | 67.09 | Adjusted Chi Square Value (87.68, β) | 66.96 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.473 | 95% Gamma Adjusted UCL (use when n<50) | 0.474 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.38 | SD (KM) | 2.914 |
| Variance (KM) | 8.49 | SE of Mean (KM) | 0.215 |
| k hat (KM) | 0.017 | k star (KM) | 0.0201 |
| nu hat (KM) | 6.734 | nu star (KM) | 7.965 |
| theta hat (KM) | 22.34 | theta star (KM) | 18.89 |
| 80% gamma percentile (KM) | 1.6388E-4 | 90% gamma percentile (KM) | 0.0574 |
| 95% gamma percentile (KM) | 0.881 | 99% gamma percentile (KM) | 10.61 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (7.96, α) | 2.715 | Adjusted Chi Square Value (7.96, β) | 2.692 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1.115 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1.124 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.962 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.911 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.11 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.184 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.354 | Mean in Log Scale | -6.904 |
| SD in Original Scale | 2.885 | SD in Log Scale | 2.68 |
| 95% t UCL (assumes normality of ROS data) | 0.693 | 95% Percentile Bootstrap UCL | 0.744 |
| 95% BCA Bootstrap UCL | 1.028 | 95% Bootstrap t UCL | 1.7 |
| 95% H-UCL (Log ROS) | 0.079 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -5.472 | KM Geo Mean | 0.0042 |
| KM SD (logged) | 1.88 | 95% Critical H Value (KM-Log) | 3.086 |
| KM Standard Error of Mean (logged) | 0.331 | 95% H-UCL (KM -Log) | 0.0372 |
| KM SD (logged) | 1.88 | 95% Critical H Value (KM-Log) | 3.086 |
| KM Standard Error of Mean (logged) | 0.331 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.757 | Mean in Log Scale | -3.237 |
| SD in Original Scale | 5.359 | SD in Log Scale | 3.118 |
| 95% t UCL (Assumes normality) | 2.386 | 95% H-Stat UCL | 14.11 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Lognormal Distributed at 5% Significance Level

Suggested UCL to Use

| | |
|---|---|
| KM H-UCL | 0.0372 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

ETHYLBENZENE

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 198 | Number of Distinct Observations | 106 |
| | | Number of Missing Observations | 271 |
| Number of Detects | 70 | Number of Non-Detects | 128 |
| Number of Distinct Detects | 63 | Number of Distinct Non-Detects | 50 |
| Minimum Detect | 9.4000E-5 | Minimum Non-Detect | 0.0044 |
| Maximum Detect | 770 | Maximum Non-Detect | 25 |
| Variance Detects | 10480 | Percent Non-Detects | 64.65% |
| Mean Detects | 37.27 | SD Detects | 102.4 |
| Median Detects | 4.5 | CV Detects | 2.747 |
| Skewness Detects | 5.738 | Kurtosis Detects | 38.92 |
| Mean of Logged Detects | 0.495 | SD of Logged Detects | 3.656 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.405 | Normal GOF Test on Detected Observations Only |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.358 | Lilliefors GOF Test |
| 5% Lilliefors Critical Value | 0.106 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 13.2 | KM Standard Error of Mean | 4.51 |
| KM SD | 63 | 95% KM (BCA) UCL | 21.41 |
| 95% KM (t) UCL | 20.66 | 95% KM (Percentile Bootstrap) UCL | 21.21 |
| 95% KM (z) UCL | 20.62 | 95% KM Bootstrap t UCL | 28.41 |
| 90% KM Chebyshev UCL | 26.73 | 95% KM Chebyshev UCL | 32.86 |
| 97.5% KM Chebyshev UCL | 41.37 | 99% KM Chebyshev UCL | 58.08 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 0.801 | Anderson-Darling GOF Test |
| 5% A-D Critical Value | 0.9 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.132 | Kolmogorov-Smirnov GOF |
| 5% K-S Critical Value | 0.117 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected data follow Appr. Gamma Distribution at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.23 | k star (bias corrected MLE) | 0.23 |
| Theta hat (MLE) | 161.8 | Theta star (bias corrected MLE) | 162 |
| nu hat (MLE) | 32.26 | nu star (bias corrected) | 32.21 |
| Mean (detects) | 37.27 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 9.4000E-5 | Mean | 13.18 |
| Maximum | 770 | Median | 0.01 |
| SD | 63.16 | CV | 4.791 |
| k hat (MLE) | 0.144 | k star (bias corrected MLE) | 0.145 |
| Theta hat (MLE) | 91.73 | Theta star (bias corrected MLE) | 90.98 |
| nu hat (MLE) | 56.91 | nu star (bias corrected) | 57.38 |
| Adjusted Level of Significance (β) | 0.0488 | | |
| Approximate Chi Square Value (57.38, α) | 40.97 | Adjusted Chi Square Value (57.38, β) | 40.87 |
| 95% Gamma Approximate UCL (use when n>=50) | 18.47 | 95% Gamma Adjusted UCL (use when n<50) | 18.51 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 13.2 | SD (KM) | 63 |
| Variance (KM) | 3969 | SE of Mean (KM) | 4.51 |
| k hat (KM) | 0.0439 | k star (KM) | 0.0466 |
| nu hat (KM) | 17.4 | nu star (KM) | 18.47 |
| theta hat (KM) | 300.6 | theta star (KM) | 283.2 |
| 80% gamma percentile (KM) | 1.385 | 90% gamma percentile (KM) | 18.32 |
| 95% gamma percentile (KM) | 68.34 | 99% gamma percentile (KM) | 295.1 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (18.47, α) | 9.728 | Adjusted Chi Square Value (18.47, β) | 9.682 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 25.06 | 95% Gamma Adjusted KM-UCL (use when n<50) | 25.18 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.936 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.00207 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.121 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.106 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 13.18 | Mean in Log Scale | -4.109 |
| SD in Original Scale | 63.16 | SD in Log Scale | 4.417 |
| 95% t UCL (assumes normality of ROS data) | 20.6 | 95% Percentile Bootstrap UCL | 21.32 |
| 95% BCA Bootstrap UCL | 25.05 | 95% Bootstrap t UCL | 29.27 |
| 95% H-UCL (Log ROS) | 2062 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -4.286 | KM Geo Mean | 0.0138 |
| KM SD (logged) | 4.375 | 95% Critical H Value (KM-Log) | 6.263 |
| KM Standard Error of Mean (logged) | 0.479 | 95% H-UCL (KM -Log) | 1389 |
| KM SD (logged) | 4.375 | 95% Critical H Value (KM-Log) | 6.263 |
| KM Standard Error of Mean (logged) | 0.479 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 13.53 | Mean in Log Scale | -2.778 |
| SD in Original Scale | 63.11 | SD in Log Scale | 3.806 |
| 95% t UCL (Assumes normality) | 20.94 | 95% H-Stat UCL | 387.8 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM Approximate Gamma UCL | 25.06 |

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

METHYLCYCLOHEXANE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 160 | Number of Distinct Observations | 94 |
| | | Number of Missing Observations | 272 |
| Number of Detects | 74 | Number of Non-Detects | 86 |
| Number of Distinct Detects | 67 | Number of Distinct Non-Detects | 29 |
| Minimum Detect | 0.0036 | Minimum Non-Detect | 0.0044 |
| Maximum Detect | 2900 | Maximum Non-Detect | 1 |
| Variance Detects | 126909 | Percent Non-Detects | 53.75% |
| Mean Detects | 114.2 | SD Detects | 356.2 |
| Median Detects | 4.8 | CV Detects | 3.119 |
| Skewness Detects | 6.81 | Kurtosis Detects | 52.61 |
| Mean of Logged Detects | 1.445 | SD of Logged Detects | 3.475 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.348 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.374 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.103 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 52.83 | KM Standard Error of Mean | 19.68 |
| KM SD | 247.3 | 95% KM (BCA) UCL | 91.99 |
| 95% KM (t) UCL | 85.39 | 95% KM (Percentile Bootstrap) UCL | 87.89 |
| 95% KM (z) UCL | 85.2 | 95% KM Bootstrap t UCL | 128.9 |
| 90% KM Chebyshev UCL | 111.9 | 95% KM Chebyshev UCL | 138.6 |
| 97.5% KM Chebyshev UCL | 175.7 | 99% KM Chebyshev UCL | 248.7 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 1.541 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.905 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.13 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.115 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.22 | k star (bias corrected MLE) | 0.22 |
| Theta hat (MLE) | 518.9 | Theta star (bias corrected MLE) | 518.7 |
| nu hat (MLE) | 32.58 | nu star (bias corrected) | 32.59 |
| Mean (detects) | 114.2 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0036 | Mean | 52.83 |
| Maximum | 2900 | Median | 0.01 |
| SD | 248.1 | CV | 4.695 |
| k hat (MLE) | 0.135 | k star (bias corrected MLE) | 0.137 |
| Theta hat (MLE) | 391 | Theta star (bias corrected MLE) | 386.3 |
| nu hat (MLE) | 43.24 | nu star (bias corrected) | 43.76 |
| Adjusted Level of Significance (β) | 0.0485 | | |
| Approximate Chi Square Value (43.76, α) | 29.59 | Adjusted Chi Square Value (43.76, β) | 29.48 |
| 95% Gamma Approximate UCL (use when n>=50) | 78.13 | 95% Gamma Adjusted UCL (use when n<50) | 78.41 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 52.83 | SD (KM) | 247.3 |
| Variance (KM) | 61145 | SE of Mean (KM) | 19.68 |
| k hat (KM) | 0.0456 | k star (KM) | 0.049 |
| nu hat (KM) | 14.61 | nu star (KM) | 15.67 |
| theta hat (KM) | 1157 | theta star (KM) | 1079 |
| 80% gamma percentile (KM) | 6.644 | 90% gamma percentile (KM) | 78.41 |
| 95% gamma percentile (KM) | 278.8 | 99% gamma percentile (KM) | 1159 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (15.67, α) | 7.727 | Adjusted Chi Square Value (15.67, β) | 7.676 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 107.1 | 95% Gamma Adjusted KM-UCL (use when n<50) | 107.8 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.945 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.00642 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0906 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.103 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Approximate Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 52.83 | Mean in Log Scale | -2.822 |
| SD in Original Scale | 248.1 | SD in Log Scale | 4.894 |
| 95% t UCL (assumes normality of ROS data) | 85.27 | 95% Percentile Bootstrap UCL | 88.18 |
| 95% BCA Bootstrap UCL | 114.7 | 95% Bootstrap t UCL | 133.4 |
| 95% H-UCL (Log ROS) | 152605 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -2.294 | KM Geo Mean | 0.101 |
| KM SD (logged) | 4.194 | 95% Critical H Value (KM-Log) | 6.205 |
| KM Standard Error of Mean (logged) | 0.336 | 95% H-UCL (KM -Log) | 5252 |
| KM SD (logged) | 4.194 | 95% Critical H Value (KM-Log) | 6.205 |
| KM Standard Error of Mean (logged) | 0.336 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 52.84 | Mean in Log Scale | -2.328 |
| SD in Original Scale | 248 | SD in Log Scale | 4.316 |
| 95% t UCL (Assumes normality) | 85.28 | 95% H-Stat UCL | 9554 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 5252 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**TRICHLOROETHYLENE (TCE)**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 194 | Number of Distinct Observations | 88 |
| | | Number of Missing Observations | 275 |
| Number of Detects | 11 | Number of Non-Detects | 183 |

| | | | |
|---|---|---|---|
| Number of Distinct Detects | 11 | Number of Distinct Non-Detects | 78 |
| Minimum Detect | 0.00195 | Minimum Non-Detect | 0.0044 |
| Maximum Detect | 0.92 | Maximum Non-Detect | 80 |
| Variance Detects | 0.0864 | Percent Non-Detects | 94.33% |
| Mean Detects | 0.177 | SD Detects | 0.294 |
| Median Detects | 0.061 | CV Detects | 1.665 |
| Skewness Detects | 2.1 | Kurtosis Detects | 3.919 |
| Mean of Logged Detects | -3.166 | SD of Logged Detects | 1.962 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.657 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.85 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.34 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.251 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.0159 | KM Standard Error of Mean | 0.00785 |
| KM SD | 0.0899 | 95% KM (BCA) UCL | 0.0323 |
| 95% KM (t) UCL | 0.0289 | 95% KM (Percentile Bootstrap) UCL | 0.0309 |
| 95% KM (z) UCL | 0.0289 | 95% KM Bootstrap t UCL | 0.057 |
| 90% KM Chebyshev UCL | 0.0395 | 95% KM Chebyshev UCL | 0.0502 |
| 97.5% KM Chebyshev UCL | 0.065 | 99% KM Chebyshev UCL | 0.094 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.43 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.791 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.18 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.271 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.451 | k star (bias corrected MLE) | 0.389 |
| Theta hat (MLE) | 0.392 | Theta star (bias corrected MLE) | 0.454 |
| nu hat (MLE) | 9.919 | nu star (bias corrected) | 8.547 |
| Mean (detects) | 0.177 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.00195 | Mean | 0.0194 |
| Maximum | 0.92 | Median | 0.01 |
| SD | 0.0773 | CV | 3.973 |
| k hat (MLE) | 0.991 | k star (bias corrected MLE) | 0.979 |
| Theta hat (MLE) | 0.0196 | Theta star (bias corrected MLE) | 0.0199 |
| nu hat (MLE) | 384.3 | nu star (bias corrected) | 379.7 |

| | | | |
|---|---|---|---|
| Adjusted Level of Significance (β) | 0.0488 | | |
| Approximate Chi Square Value (379.72, α) | 335.6 | Adjusted Chi Square Value (379.72, β) | 335.3 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.022 | 95% Gamma Adjusted UCL (use when n<50) | 0.022 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.0159 | SD (KM) | 0.0899 |
| Variance (KM) | 0.00809 | SE of Mean (KM) | 0.00785 |
| k hat (KM) | 0.0314 | k star (KM) | 0.0344 |
| nu hat (KM) | 12.2 | nu star (KM) | 13.35 |
| theta hat (KM) | 0.507 | theta star (KM) | 0.464 |
| 80% gamma percentile (KM) | 4.0796E-4 | 90% gamma percentile (KM) | 0.0128 |
| 95% gamma percentile (KM) | 0.0693 | 99% gamma percentile (KM) | 0.396 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (13.35, α) | 6.127 | Adjusted Chi Square Value (13.35, β) | 6.09 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.0347 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.0349 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.964 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.85 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.16 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.251 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.0112 | Mean in Log Scale | -7.22 |
| SD in Original Scale | 0.0783 | SD in Log Scale | 1.681 |
| 95% t UCL (assumes normality of ROS data) | 0.0204 | 95% Percentile Bootstrap UCL | 0.0213 |
| 95% BCA Bootstrap UCL | 0.0271 | 95% Bootstrap t UCL | 0.0503 |
| 95% H-UCL (Log ROS) | 0.00424 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -5.962 | KM Geo Mean | 0.00257 |
| KM SD (logged) | 1.019 | 95% Critical H Value (KM-Log) | 2.191 |
| KM Standard Error of Mean (logged) | 0.0955 | 95% H-UCL (KM -Log) | 0.00508 |
| KM SD (logged) | 1.019 | 95% Critical H Value (KM-Log) | 2.191 |
| KM Standard Error of Mean (logged) | 0.0955 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.581 | Mean in Log Scale | -3.329 |
| SD in Original Scale | 4.905 | SD in Log Scale | 3.065 |
| 95% t UCL (Assumes normality) | 2.163 | 95% H-Stat UCL | 10.67 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM Approximate Gamma UCL | 0.0347 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

XYLENES (TOTAL)

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 196 | Number of Distinct Observations | 120 |
| | | Number of Missing Observations | 273 |
| Number of Detects | 72 | Number of Non-Detects | 124 |
| Number of Distinct Detects | 69 | Number of Distinct Non-Detects | 56 |
| Minimum Detect | 4.4000E-5 | Minimum Non-Detect | 0.0044 |
| Maximum Detect | 6600 | Maximum Non-Detect | 59 |
| Variance Detects | 633980 | Percent Non-Detects | 63.27% |
| Mean Detects | 167.3 | SD Detects | 796.2 |
| Median Detects | 0.83 | CV Detects | 4.758 |
| Skewness Detects | 7.678 | Kurtosis Detects | 62.22 |
| Mean of Logged Detects | -0.684 | SD of Logged Detects | 5.057 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.23 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.417 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.104 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 61.51 | KM Standard Error of Mean | 34.96 |
| KM SD | 486 | 95% KM (BCA) UCL | 137 |
| 95% KM (t) UCL | 119.3 | 95% KM (Percentile Bootstrap) UCL | 128.3 |
| 95% KM (z) UCL | 119 | 95% KM Bootstrap t UCL | 299.5 |
| 90% KM Chebyshev UCL | 166.4 | 95% KM Chebyshev UCL | 213.9 |
| 97.5% KM Chebyshev UCL | 279.8 | 99% KM Chebyshev UCL | 409.3 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 2.35 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.98 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.14 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.119 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.134 | k star (bias corrected MLE) | 0.138 |
| Theta hat (MLE) | 1244 | Theta star (bias corrected MLE) | 1211 |
| nu hat (MLE) | 19.37 | nu star (bias corrected) | 19.89 |

| | |
|---|---|
| Mean (detects) | 167.3 |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 4.4000E-5 | Mean | 61.47 |
| Maximum | 6600 | Median | 0.01 |
| SD | 487.2 | CV | 7.925 |
| k hat (MLE) | 0.11 | k star (bias corrected MLE) | 0.112 |
| Theta hat (MLE) | 558.2 | Theta star (bias corrected MLE) | 549.6 |
| nu hat (MLE) | 43.17 | nu star (bias corrected) | 43.84 |
| Adjusted Level of Significance (β) | 0.0488 | | |
| Approximate Chi Square Value (43.84, α) | 29.66 | Adjusted Chi Square Value (43.84, β) | 29.57 |
| 95% Gamma Approximate UCL (use when n>=50) | 90.87 | 95% Gamma Adjusted UCL (use when n<50) | 91.14 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 61.51 | SD (KM) | 486 |
| Variance (KM) | 236159 | SE of Mean (KM) | 34.96 |
| k hat (KM) | 0.016 | k star (KM) | 0.0192 |
| nu hat (KM) | 6.28 | nu star (KM) | 7.517 |
| theta hat (KM) | 3839 | theta star (KM) | 3208 |
| 80% gamma percentile (KM) | 0.0162 | 90% gamma percentile (KM) | 7.535 |
| 95% gamma percentile (KM) | 131.2 | 99% gamma percentile (KM) | 1726 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (7.52, α) | 2.459 | Adjusted Chi Square Value (7.52, β) | 2.437 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 188.1 | 95% Gamma Adjusted KM-UCL (use when n<50) | 189.7 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.944 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.00548 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0805 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.104 | Detected Data appear Lognormal at 5% Significance Level |

**Detected Data appear Approximate Lognormal at 5% Significance Level**

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 61.47 | Mean in Log Scale | -4.825 |
| SD in Original Scale | 487.2 | SD in Log Scale | 4.775 |
| 95% t UCL (assumes normality of ROS data) | 119 | 95% Percentile Bootstrap UCL | 126 |
| 95% BCA Bootstrap UCL | 171 | 95% Bootstrap t UCL | 292 |
| 95% H-UCL (Log ROS) | 7254 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -5.053 | KM Geo Mean | 0.00639 |
| KM SD (logged) | 4.836 | 95% Critical H Value (KM-Log) | 6.857 |
| KM Standard Error of Mean (logged) | 0.445 | 95% H-UCL (KM -Log) | 8213 |

| | | | |
|---|---|---|---|
| KM SD (logged) | 4.836 | 95% Critical H Value (KM-Log) | 6.857 |
| KM Standard Error of Mean (logged) | 0.445 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 62.12 | Mean in Log Scale | -2.806 |
| SD in Original Scale | 487.1 | SD in Log Scale | 4.147 |
| 95% t UCL (Assumes normality) | 119.6 | 95% H-Stat UCL | 1932 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 99% KM (Chebyshev) UCL | 409.3 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

| Analyte | Group | Matrix | Valid Obs | Rec. UCL | Method | Max | UCL>Max |
|---|---|---|---|---|---|---|---|
| CHROMIUM, HEXAVALENT | NA | NA | 46 | 1.458 | 95% KM (Chebyshev) UCL | 6.8 | |

0-10soil_Cr6_NFA no outliers.xlsx

## UCL Statistics for Data Sets with Non-Detects

**0-10soil_Cr6_NFA no outliers.xlsx**

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.11/12/2017 10:17:06 AM |
| From File | ProUCL_FMPHHRA_01.12.17 input_b.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**CHROMIUM, HEXAVALENT**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 46 | Number of Distinct Observations | 30 |
| | | Number of Missing Observations | 373 |
| Number of Detects | 27 | Number of Non-Detects | 19 |
| Number of Distinct Detects | 22 | Number of Distinct Non-Detects | 8 |
| Minimum Detect | 0.38 | Minimum Non-Detect | 0.205 |
| Maximum Detect | 6.8 | Maximum Non-Detect | 0.265 |
| Variance Detects | 1.621 | Percent Non-Detects | 41.3% |
| Mean Detects | 1.151 | SD Detects | 1.273 |
| Median Detects | 0.72 | CV Detects | 1.106 |
| Skewness Detects | 3.687 | Kurtosis Detects | 15.59 |
| Mean of Logged Detects | -0.136 | SD of Logged Detects | 0.652 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.545 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.923 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.285 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.167 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.76 | KM Standard Error of Mean | 0.16 |
| KM SD | 1.065 | 95% KM (BCA) UCL | 1.055 |
| 95% KM (t) UCL | 1.029 | 95% KM (Percentile Bootstrap) UCL | 1.037 |
| 95% KM (z) UCL | 1.024 | 95% KM Bootstrap t UCL | 1.302 |
| 90% KM Chebyshev UCL | 1.24 | 95% KM Chebyshev UCL | 1.458 |
| 97.5% KM Chebyshev UCL | 1.759 | 99% KM Chebyshev UCL | 2.352 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 2.108 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.757 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.244 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.171 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.954 | k star (bias corrected MLE) | 1.762 |
| Theta hat (MLE) | 0.589 | Theta star (bias corrected MLE) | 0.653 |

| | | | |
|---|---|---|---|
| nu hat (MLE) | 105.5 | nu star (bias corrected) | 95.15 |
| Mean (detects) | 1.151 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 0.68 |
| Maximum | 6.8 | Median | 0.51 |
| SD | 1.122 | CV | 1.651 |
| k hat (MLE) | 0.411 | k star (bias corrected MLE) | 0.398 |
| Theta hat (MLE) | 1.656 | Theta star (bias corrected MLE) | 1.707 |
| nu hat (MLE) | 37.77 | nu star (bias corrected) | 36.64 |
| Adjusted Level of Significance (β) | 0.0448 | | |
| Approximate Chi Square Value (36.64, α) | 23.78 | Adjusted Chi Square Value (36.64, β) | 23.45 |
| 95% Gamma Approximate UCL (use when n>=50) | 1.047 | 95% Gamma Adjusted UCL (use when n<50) | 1.062 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.76 | SD (KM) | 1.065 |
| Variance (KM) | 1.134 | SE of Mean (KM) | 0.16 |
| k hat (KM) | 0.51 | k star (KM) | 0.491 |
| nu hat (KM) | 46.93 | nu star (KM) | 45.21 |
| theta hat (KM) | 1.491 | theta star (KM) | 1.548 |
| 80% gamma percentile (KM) | 1.248 | 90% gamma percentile (KM) | 2.065 |
| 95% gamma percentile (KM) | 2.939 | 99% gamma percentile (KM) | 5.094 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (45.21, α) | 30.78 | Adjusted Chi Square Value (45.21, β) | 30.4 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1.117 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1.131 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.859 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.923 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.192 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.167 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.752 | Mean in Log Scale | -0.799 |
| SD in Original Scale | 1.081 | SD in Log Scale | 0.965 |
| 95% t UCL (assumes normality of ROS data) | 1.02 | 95% Percentile Bootstrap UCL | 1.034 |
| 95% BCA Bootstrap UCL | 1.131 | 95% Bootstrap t UCL | 1.323 |
| 95% H-UCL (Log ROS) | 0.996 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -0.735 | KM Geo Mean | 0.48 |
| KM SD (logged) | 0.865 | 95% Critical H Value (KM-Log) | 2.19 |

| | | | |
|---|---|---|---|
| KM Standard Error of Mean (logged) | 0.13 | 95% H-UCL (KM -Log) | 0.925 |
| KM SD (logged) | 0.865 | 95% Critical H Value (KM-Log) | 2.19 |
| KM Standard Error of Mean (logged) | 0.13 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.722 | Mean in Log Scale | -0.984 |
| SD in Original Scale | 1.097 | SD in Log Scale | 1.136 |
| 95% t UCL (Assumes normality) | 0.994 | 95% H-Stat UCL | 1.084 |

**DL/2 is not a recommended method, provided for comparisons and historical reasons**

**Nonparametric Distribution Free UCL Statistics**

**Data do not follow a Discernible Distribution at 5% Significance Level**

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 1.458 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

| Analyte | Group | Matrix | Valid Obs | Rec. UCL | Method | Max | UCL>Max |
|---|---|---|---|---|---|---|---|
| ALUMINUM | NA | NA | 127 | 2728 | 95% Chebyshev (Mean, Sd) UCL | 10100 | |
| ANTIMONY | NA | NA | 127 | 51.32 | 95% KM (Chebyshev) UCL | 1090 | |
| ARSENIC | NA | NA | 111 | 25.79 | 95% KM (Chebyshev) UCL | 142 | |
| BARIUM | NA | NA | 141 | 473.7 | KM H-UCL | 4630 | |
| CADMIUM | NA | NA | 120 | 0.47 | KM H-UCL | 401 | |
| CHROMIUM, HEXAVALENT | NA | NA | 30 | 0.912 | KM H-UCL | 6.2 | |
| COBALT | NA | NA | 127 | 1.845 | 95% KM Approximate Gamma UCL | 7.2 | |
| CYANIDE | NA | NA | 138 | 6.865 | 95% KM Approximate Gamma UCL | 62.3 | |
| IRON | NA | NA | 123 | 6234 | 95% Approximate Gamma UCL | 30500 | |
| LEAD | NA | NA | 159 | 3733 | 95% KM (Chebyshev) UCL | 103000 | |
| MANGANESE | NA | NA | 116 | 46.73 | 95% H-UCL | 524 | |
| MERCURY | NA | NA | 126 | 0.414 | 95% KM Approximate Gamma UCL | 4.1 | |
| THALLIUM | NA | NA | 127 | 0.473 | 95% KM (t) UCL | 2.2 | |
| VANADIUM | NA | NA | 127 | 11.38 | 95% KM (Chebyshev) UCL | 45.4 | |
| ZINC | NA | NA | 127 | 470.6 | KM H-UCL | 12300 | |
| AROCLOR-1254 | NA | NA | 90 | 0.0423 | KM H-UCL | 0.49 | |
| 2-METHYLNAPHTHALENE | NA | NA | 121 | 2.92 | 95% KM (Chebyshev) UCL | 38 | |
| BENZO(A)ANTHRACENE | NA | NA | 149 | 3.157 | 95% KM (Chebyshev) UCL | 32 | |
| BENZO(A)PYRENE | NA | NA | 149 | 2.814 | KM H-UCL | 37 | |
| BENZO(B)FLUORANTHENE | NA | NA | 149 | 4.562 | 95% KM (Chebyshev) UCL | 44 | |
| BENZO(K)FLUORANTHENE | NA | NA | 149 | 2.985 | 95% KM (Chebyshev) UCL | 41 | |
| CHRYSENE | NA | NA | 149 | 4.358 | 95% KM (Chebyshev) UCL | 55 | |
| DIBENZO(A,H)ANTHRACENE | NA | NA | 149 | 1.409 | KM H-UCL | 14 | |
| INDENO(1,2,3-CD)PYRENE | NA | NA | 148 | 2.54 | 95% KM (Chebyshev) UCL | 37 | |
| NAPHTHALENE | NA | NA | 149 | 7.911 | 95% KM (Chebyshev) UCL | 150 | |
| PENTACHLOROPHENOL | NA | NA | 121 | 0.299 | KM H-UCL | 15 | |
| BENZENE | NA | NA | 96 | 0.199 | 95% KM (t) UCL | 3.2 | |
| ETHYLBENZENE | NA | NA | 96 | 3.915 | 95% KM Approximate Gamma UCL | 61 | |
| XYLENES (TOTAL) | NA | NA | 97 | 35.15 | 97.5% KM (Chebyshev) UCL | 370 | |

0-10soil_SFA.xlsx

**UCL Statistics for Data Sets with Non-Detects**

**0-10soil_SFA.xlsx**

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.11/18/2017 10:11:20 AM |
| From File | ProUCL_FMPHHRA_01.18.17 input_c.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**ALUMINUM**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 127 | Number of Distinct Observations | 111 |
| | | Number of Missing Observations | 88 |
| Minimum | 136 | Mean | 2153 |
| Maximum | 10100 | Median | 1755 |
| SD | 1489 | Std. Error of Mean | 132.1 |
| Coefficient of Variation | 0.692 | Skewness | 2.196 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.825 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.183 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.079 | Data Not Normal at 5% Significance Level |

**Data Not Normal at 5% Significance Level**

**Assuming Normal Distribution**

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 2371 | 95% Adjusted-CLT UCL (Chen-1995) | 2397 |
| | | 95% Modified-t UCL (Johnson-1978) | 2376 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 1.321 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.762 | Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.0999 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.0833 | Data Not Gamma Distributed at 5% Significance Level |

**Data Not Gamma Distributed at 5% Significance Level**

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 2.571 | k star (bias corrected MLE) | 2.515 |
| Theta hat (MLE) | 837.3 | Theta star (bias corrected MLE) | 855.7 |
| nu hat (MLE) | 653 | nu star (bias corrected) | 638.9 |
| MLE Mean (bias corrected) | 2153 | MLE Sd (bias corrected) | 1357 |
| | | Approximate Chi Square Value (0.05) | 581.3 |
| Adjusted Level of Significance | 0.0481 | Adjusted Chi Square Value | 580.7 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 2366 | 95% Adjusted Gamma UCL (use when n<50) | 2369 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.964 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk P Value | 0.0226 | Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.11 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.079 | Data Not Lognormal at 5% Significance Level |

Data Not Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | 4.913 | Mean of logged Data | 7.467 |
| Maximum of Logged Data | 9.22 | SD of logged Data | 0.676 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 2472 | 90% Chebyshev (MVUE) UCL | 2630 |
| 95% Chebyshev (MVUE) UCL | 2827 | 97.5% Chebyshev (MVUE) UCL | 3100 |
| 99% Chebyshev (MVUE) UCL | 3637 | | |

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution (0.05)

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 2370 | 95% Jackknife UCL | 2371 |
| 95% Standard Bootstrap UCL | 2368 | 95% Bootstrap-t UCL | 2399 |
| 95% Hall's Bootstrap UCL | 2411 | 95% Percentile Bootstrap UCL | 2366 |
| 95% BCA Bootstrap UCL | 2402 | | |
| 90% Chebyshev(Mean, Sd) UCL | 2549 | 95% Chebyshev(Mean, Sd) UCL | 2728 |
| 97.5% Chebyshev(Mean, Sd) UCL | 2978 | 99% Chebyshev(Mean, Sd) UCL | 3467 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% Chebyshev (Mean, Sd) UCL | 2728 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

ANTIMONY

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 127 | Number of Distinct Observations | 78 |
| | | Number of Missing Observations | 88 |
| Number of Detects | 50 | Number of Non-Detects | 77 |
| Number of Distinct Detects | 43 | Number of Distinct Non-Detects | 42 |
| Minimum Detect | 0.3 | Minimum Non-Detect | 0.47 |
| Maximum Detect | 1090 | Maximum Non-Detect | 7.3 |
| Variance Detects | 24042 | Percent Non-Detects | 60.63% |
| Mean Detects | 32.11 | SD Detects | 155.1 |
| Median Detects | 1.7 | CV Detects | 4.829 |
| Skewness Detects | 6.757 | Kurtosis Detects | 46.8 |

| | | | |
|---|---|---|---|
| Mean of Logged Detects | 0.947 | SD of Logged Detects | 1.748 |

**Normal GOF Test on Detects Only**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.218 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.947 | Detected Data Not Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.419 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.125 | Detected Data Not Normal at 5% Significance Level | |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 13.22 | KM Standard Error of Mean | 8.741 |
| KM SD | 97.51 | 95% KM (BCA) UCL | 31.5 |
| 95% KM (t) UCL | 27.71 | 95% KM (Percentile Bootstrap) UCL | 30.44 |
| 95% KM (z) UCL | 27.6 | 95% KM Bootstrap t UCL | 106.9 |
| 90% KM Chebyshev UCL | 39.44 | 95% KM Chebyshev UCL | 51.32 |
| 97.5% KM Chebyshev UCL | 67.81 | 99% KM Chebyshev UCL | 100.2 |

**Gamma GOF Tests on Detected Observations Only**

| | | | |
|---|---|---|---|
| A-D Test Statistic | 7.573 | **Anderson-Darling GOF Test** | |
| 5% A-D Critical Value | 0.874 | Detected Data Not Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.314 | **Kolmogorov-Smirnov GOF** | |
| 5% K-S Critical Value | 0.137 | Detected Data Not Gamma Distributed at 5% Significance Level | |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.277 | k star (bias corrected MLE) | 0.274 |
| Theta hat (MLE) | 115.9 | Theta star (bias corrected MLE) | 117.3 |
| nu hat (MLE) | 27.7 | nu star (bias corrected) | 27.37 |
| Mean (detects) | 32.11 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 12.74 |
| Maximum | 1090 | Median | 0.01 |
| SD | 97.96 | CV | 7.688 |
| k hat (MLE) | 0.156 | k star (bias corrected MLE) | 0.157 |
| Theta hat (MLE) | 81.82 | Theta star (bias corrected MLE) | 81.01 |
| nu hat (MLE) | 39.55 | nu star (bias corrected) | 39.95 |
| Adjusted Level of Significance (β) | 0.0481 | | |
| Approximate Chi Square Value (39.95, α) | 26.47 | Adjusted Chi Square Value (39.95, β) | 26.35 |
| 95% Gamma Approximate UCL (use when n>=50) | 19.23 | 95% Gamma Adjusted UCL (use when n<50) | 19.32 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 13.22 | SD (KM) | 97.51 |
| Variance (KM) | 9508 | SE of Mean (KM) | 8.741 |
| k hat (KM) | 0.0184 | k star (KM) | 0.0232 |

| | | | |
|---|---|---|---|
| nu hat (KM) | 4.67 | nu star (KM) | 5.893 |
| theta hat (KM) | 719.1 | theta star (KM) | 569.9 |
| 80% gamma percentile (KM) | 0.0217 | 90% gamma percentile (KM) | 3.497 |
| 95% gamma percentile (KM) | 38.11 | 99% gamma percentile (KM) | 361.5 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (5.89, α) | 1.585 | Adjusted Chi Square Value (5.89, β) | 1.56 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 49.15 | 95% Gamma Adjusted KM-UCL (use when n<50) | 49.94 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.881 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.947 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.176 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.125 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 13.2 | Mean in Log Scale | 0.133 |
| SD in Original Scale | 97.9 | SD in Log Scale | 1.418 |
| 95% t UCL (assumes normality of ROS data) | 27.59 | 95% Percentile Bootstrap UCL | 29.86 |
| 95% BCA Bootstrap UCL | 40.72 | 95% Bootstrap t UCL | 106.9 |
| 95% H-UCL (Log ROS) | 4.335 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 0.175 | KM Geo Mean | 1.191 |
| KM SD (logged) | 1.367 | 95% Critical H Value (KM-Log) | 2.545 |
| KM Standard Error of Mean (logged) | 0.142 | 95% H-UCL (KM -Log) | 4.135 |
| KM SD (logged) | 1.367 | 95% Critical H Value (KM-Log) | 2.545 |
| KM Standard Error of Mean (logged) | 0.142 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 14.06 | Mean in Log Scale | 0.754 |
| SD in Original Scale | 97.79 | SD in Log Scale | 1.269 |
| 95% t UCL (Assumes normality) | 28.44 | 95% H-Stat UCL | 6.267 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 51.32 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

ARSENIC

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 111 | Number of Distinct Observations | 86 |
| | | Number of Missing Observations | 104 |
| Number of Detects | 107 | Number of Non-Detects | 4 |
| Number of Distinct Detects | 86 | Number of Distinct Non-Detects | 3 |
| Minimum Detect | 0.52 | Minimum Non-Detect | 0.96 |
| Maximum Detect | 142 | Maximum Non-Detect | 1.1 |
| Variance Detects | 748.6 | Percent Non-Detects | 3.604% |
| Mean Detects | 15.13 | SD Detects | 27.36 |
| Median Detects | 5.2 | CV Detects | 1.808 |
| Skewness Detects | 3.292 | Kurtosis Detects | 11.27 |
| Mean of Logged Detects | 1.697 | SD of Logged Detects | 1.41 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.545 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.297 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0859 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 14.62 | KM Standard Error of Mean | 2.563 |
| KM SD | 26.87 | 95% KM (BCA) UCL | 19.39 |
| 95% KM (t) UCL | 18.87 | 95% KM (Percentile Bootstrap) UCL | 19.31 |
| 95% KM (z) UCL | 18.83 | 95% KM Bootstrap t UCL | 20.05 |
| 90% KM Chebyshev UCL | 22.3 | 95% KM Chebyshev UCL | 25.79 |
| 97.5% KM Chebyshev UCL | 30.62 | 99% KM Chebyshev UCL | 40.11 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 3.807 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.809 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.133 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.092 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.605 | k star (bias corrected MLE) | 0.594 |
| Theta hat (MLE) | 25.02 | Theta star (bias corrected MLE) | 25.47 |
| nu hat (MLE) | 129.4 | nu star (bias corrected) | 127.2 |
| Mean (detects) | 15.13 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 14.59 |
| Maximum | 142 | Median | 5 |
| SD | 27.01 | CV | 1.851 |
| k hat (MLE) | 0.521 | k star (bias corrected MLE) | 0.513 |
| Theta hat (MLE) | 27.99 | Theta star (bias corrected MLE) | 28.43 |
| nu hat (MLE) | 115.7 | nu star (bias corrected) | 113.9 |
| Adjusted Level of Significance (β) | 0.0478 | | |
| Approximate Chi Square Value (113.93, α) | 90.29 | Adjusted Chi Square Value (113.93, β) | 90.01 |
| 95% Gamma Approximate UCL (use when n>=50) | 18.41 | 95% Gamma Adjusted UCL (use when n<50) | 18.47 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 14.62 | SD (KM) | 26.87 |
| Variance (KM) | 722.1 | SE of Mean (KM) | 2.563 |
| k hat (KM) | 0.296 | k star (KM) | 0.294 |
| nu hat (KM) | 65.68 | nu star (KM) | 65.24 |
| theta hat (KM) | 49.4 | theta star (KM) | 49.74 |
| 80% gamma percentile (KM) | 22.3 | 90% gamma percentile (KM) | 43.21 |
| 95% gamma percentile (KM) | 67.31 | 99% gamma percentile (KM) | 130.1 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (65.24, α) | 47.66 | Adjusted Chi Square Value (65.24, β) | 47.46 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 20.01 | 95% Gamma Adjusted KM-UCL (use when n<50) | 20.09 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.946 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 6.7593E-4 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0999 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0859 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 14.61 | Mean in Log Scale | 1.615 |
| SD in Original Scale | 27 | SD in Log Scale | 1.449 |
| 95% t UCL (assumes normality of ROS data) | 18.86 | 95% Percentile Bootstrap UCL | 19.17 |
| 95% BCA Bootstrap UCL | 20.23 | 95% Bootstrap t UCL | 20.25 |
| 95% H-UCL (Log ROS) | 20.78 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 1.626 | KM Geo Mean | 5.082 |
| KM SD (logged) | 1.427 | 95% Critical H Value (KM-Log) | 2.648 |
| KM Standard Error of Mean (logged) | 0.136 | 95% H-UCL (KM -Log) | 20.16 |
| KM SD (logged) | 1.427 | 95% Critical H Value (KM-Log) | 2.648 |
| KM Standard Error of Mean (logged) | 0.136 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 14.61 | Mean in Log Scale | 1.611 |
| SD in Original Scale | 27 | SD in Log Scale | 1.454 |
| 95% t UCL (Assumes normality) | 18.86 | 95% H-Stat UCL | 20.9 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 25.79 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

BARIUM

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 141 | Number of Distinct Observations | 130 |
| | | Number of Missing Observations | 74 |
| Number of Detects | 129 | Number of Non-Detects | 12 |
| Number of Distinct Detects | 123 | Number of Distinct Non-Detects | 7 |
| Minimum Detect | 3.3 | Minimum Non-Detect | 10 |
| Maximum Detect | 4630 | Maximum Non-Detect | 23 |
| Variance Detects | 448538 | Percent Non-Detects | 8.511% |
| Mean Detects | 290.1 | SD Detects | 669.7 |
| Median Detects | 74.6 | CV Detects | 2.309 |
| Skewness Detects | 4.614 | Kurtosis Detects | 23.49 |
| Mean of Logged Detects | 4.267 | SD of Logged Detects | 1.76 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.446 | Normal GOF Test on Detected Observations Only |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.334 | Lilliefors GOF Test |
| 5% Lilliefors Critical Value | 0.0784 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 266.1 | KM Standard Error of Mean | 54.36 |
| KM SD | 642.9 | 95% KM (BCA) UCL | 364.9 |
| 95% KM (t) UCL | 356.1 | 95% KM (Percentile Bootstrap) UCL | 357.4 |
| 95% KM (z) UCL | 355.5 | 95% KM Bootstrap t UCL | 398.5 |
| 90% KM Chebyshev UCL | 429.1 | 95% KM Chebyshev UCL | 503 |
| 97.5% KM Chebyshev UCL | 605.5 | 99% KM Chebyshev UCL | 806.9 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 3.389 | Anderson-Darling GOF Test |
| 5% A-D Critical Value | 0.829 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.107 | Kolmogorov-Smirnov GOF |
| 5% K-S Critical Value | 0.0872 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.459 | k star (bias corrected MLE) | 0.453 |
| Theta hat (MLE) | 632.4 | Theta star (bias corrected MLE) | 640.1 |
| nu hat (MLE) | 118.3 | nu star (bias corrected) | 116.9 |
| Mean (detects) | 290.1 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 265.4 |
| Maximum | 4630 | Median | 61.45 |
| SD | 645.5 | CV | 2.432 |
| k hat (MLE) | 0.328 | k star (bias corrected MLE) | 0.326 |
| Theta hat (MLE) | 808.4 | Theta star (bias corrected MLE) | 814 |
| nu hat (MLE) | 92.58 | nu star (bias corrected) | 91.94 |
| Adjusted Level of Significance (β) | 0.0483 | | |
| Approximate Chi Square Value (91.94, α) | 70.83 | Adjusted Chi Square Value (91.94, β) | 70.64 |
| 95% Gamma Approximate UCL (use when n>=50) | 344.5 | 95% Gamma Adjusted UCL (use when n<50) | 345.4 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 266.1 | SD (KM) | 642.9 |
| Variance (KM) | 413382 | SE of Mean (KM) | 54.36 |
| k hat (KM) | 0.171 | k star (KM) | 0.172 |
| nu hat (KM) | 48.29 | nu star (KM) | 48.6 |
| theta hat (KM) | 1554 | theta star (KM) | 1544 |
| 80% gamma percentile (KM) | 321 | 90% gamma percentile (KM) | 800.3 |
| 95% gamma percentile (KM) | 1422 | 99% gamma percentile (KM) | 3178 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (48.60, α) | 33.6 | Adjusted Chi Square Value (48.60, β) | 33.47 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 384.9 | 95% Gamma Adjusted KM-UCL (use when n<50) | 386.4 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.956 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.00195 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0623 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0784 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Approximate Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 266.2 | Mean in Log Scale | 4.088 |
| SD in Original Scale | 645.2 | SD in Log Scale | 1.787 |
| 95% t UCL (assumes normality of ROS data) | 356.2 | 95% Percentile Bootstrap UCL | 361.4 |
| 95% BCA Bootstrap UCL | 386.7 | 95% Bootstrap t UCL | 391.1 |
| 95% H-UCL (Log ROS) | 464.5 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 4.068 | KM Geo Mean | 58.47 |
| KM SD (logged) | 1.804 | 95% Critical H Value (KM-Log) | 3.047 |
| KM Standard Error of Mean (logged) | 0.153 | 95% H-UCL (KM -Log) | 473.7 |
| KM SD (logged) | 1.804 | 95% Critical H Value (KM-Log) | 3.047 |
| KM Standard Error of Mean (logged) | 0.153 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 266.2 | Mean in Log Scale | 4.09 |
| SD in Original Scale | 645.2 | SD in Log Scale | 1.782 |
| 95% t UCL (Assumes normality) | 356.1 | 95% H-Stat UCL | 460.4 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 473.7 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**CADMIUM**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 120 | Number of Distinct Observations | 73 |
| | | Number of Missing Observations | 95 |
| Number of Detects | 89 | Number of Non-Detects | 31 |
| Number of Distinct Detects | 62 | Number of Distinct Non-Detects | 20 |
| Minimum Detect | 0.034 | Minimum Non-Detect | 0.04 |
| Maximum Detect | 401 | Maximum Non-Detect | 0.62 |
| Variance Detects | 1804 | Percent Non-Detects | 25.83% |
| Mean Detects | 4.841 | SD Detects | 42.47 |
| Median Detects | 0.17 | CV Detects | 8.774 |
| Skewness Detects | 9.433 | Kurtosis Detects | 88.98 |
| Mean of Logged Detects | -1.535 | SD of Logged Detects | 1.283 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.112 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.514 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0941 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 3.616 | KM Standard Error of Mean | 3.344 |
| KM SD | 36.43 | 95% KM (BCA) UCL | 10.32 |
| 95% KM (t) UCL | 9.16 | 95% KM (Percentile Bootstrap) UCL | 10.27 |
| 95% KM (z) UCL | 9.117 | 95% KM Bootstrap t UCL | 393.6 |
| 90% KM Chebyshev UCL | 13.65 | 95% KM Chebyshev UCL | 18.19 |
| 97.5% KM Chebyshev UCL | 24.5 | 99% KM Chebyshev UCL | 36.89 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 22.39 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.901 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.404 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.104 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.231 | k star (bias corrected MLE) | 0.231 |
| Theta hat (MLE) | 20.94 | Theta star (bias corrected MLE) | 20.97 |
| nu hat (MLE) | 41.14 | nu star (bias corrected) | 41.09 |
| Mean (detects) | 4.841 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 3.593 |
| Maximum | 401 | Median | 0.11 |
| SD | 36.59 | CV | 10.18 |
| k hat (MLE) | 0.203 | k star (bias corrected MLE) | 0.204 |
| Theta hat (MLE) | 17.66 | Theta star (bias corrected MLE) | 17.62 |
| nu hat (MLE) | 48.83 | nu star (bias corrected) | 48.95 |
| Adjusted Level of Significance (β) | 0.048 | | |
| Approximate Chi Square Value (48.95, α) | 33.89 | Adjusted Chi Square Value (48.95, β) | 33.73 |
| 95% Gamma Approximate UCL (use when n>=50) | 5.189 | 95% Gamma Adjusted UCL (use when n<50) | 5.213 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 3.616 | SD (KM) | 36.43 |
| Variance (KM) | 1327 | SE of Mean (KM) | 3.344 |
| k hat (KM) | 0.00985 | k star (KM) | 0.0152 |
| nu hat (KM) | 2.364 | nu star (KM) | 3.639 |
| theta hat (KM) | 367 | theta star (KM) | 238.5 |
| 80% gamma percentile (KM) | 5.4977E-5 | 90% gamma percentile (KM) | 0.13 |
| 95% gamma percentile (KM) | 4.691 | 99% gamma percentile (KM) | 102.4 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (3.64, α) | 0.584 | Adjusted Chi Square Value (3.64, β) | 0.571 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 22.51 | 95% Gamma Adjusted KM-UCL (use when n<50) | 23.05 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.849 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 6.520E-13 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0916 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0941 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Approximate Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 3.611 | Mean in Log Scale | -1.854 |
| SD in Original Scale | 36.58 | SD in Log Scale | 1.286 |
| 95% t UCL (assumes normality of ROS data) | 9.147 | 95% Percentile Bootstrap UCL | 10.28 |
| 95% BCA Bootstrap UCL | 16.97 | 95% Bootstrap t UCL | 401.2 |
| 95% H-UCL (Log ROS) | 0.482 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.809 | KM Geo Mean | 0.164 |
| KM SD (logged) | 1.243 | 95% Critical H Value (KM-Log) | 2.464 |
| KM Standard Error of Mean (logged) | 0.118 | 95% H-UCL (KM -Log) | 0.47 |
| KM SD (logged) | 1.243 | 95% Critical H Value (KM-Log) | 2.464 |
| KM Standard Error of Mean (logged) | 0.118 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 3.626 | Mean in Log Scale | -1.751 |
| SD in Original Scale | 36.58 | SD in Log Scale | 1.261 |
| 95% t UCL (Assumes normality) | 9.162 | 95% H-Stat UCL | 0.513 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 0.47 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

CHROMIUM, HEXAVALENT

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 30 | Number of Distinct Observations | 20 |
| | | Number of Missing Observations | 146 |
| Number of Detects | 17 | Number of Non-Detects | 13 |
| Number of Distinct Detects | 16 | Number of Distinct Non-Detects | 8 |
| Minimum Detect | 0.43 | Minimum Non-Detect | 0.43 |
| Maximum Detect | 6.2 | Maximum Non-Detect | 0.54 |
| Variance Detects | 1.845 | Percent Non-Detects | 43.33% |
| Mean Detects | 1.108 | SD Detects | 1.358 |
| Median Detects | 0.65 | CV Detects | 1.226 |
| Skewness Detects | 3.685 | Kurtosis Detects | 14.35 |
| Mean of Logged Detects | -0.195 | SD of Logged Detects | 0.656 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.478 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.892 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.326 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.207 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.816 | KM Standard Error of Mean | 0.197 |
| KM SD | 1.047 | 95% KM (BCA) UCL | 1.179 |
| 95% KM (t) UCL | 1.151 | 95% KM (Percentile Bootstrap) UCL | 1.196 |
| 95% KM (z) UCL | 1.14 | 95% KM Bootstrap t UCL | 1.901 |
| 90% KM Chebyshev UCL | 1.407 | 95% KM Chebyshev UCL | 1.675 |
| 97.5% KM Chebyshev UCL | 2.046 | 99% KM Chebyshev UCL | 2.776 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 1.729 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.752 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.23 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.212 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.829 | k star (bias corrected MLE) | 1.546 |
| Theta hat (MLE) | 0.606 | Theta star (bias corrected MLE) | 0.717 |
| nu hat (MLE) | 62.2 | nu star (bias corrected) | 52.56 |
| Mean (detects) | 1.108 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 0.632 |

| | | | |
|---|---|---|---|
| Maximum | 6.2 | Median | 0.48 |
| SD | 1.151 | CV | 1.82 |
| k hat (MLE) | 0.399 | k star (bias corrected MLE) | 0.382 |
| Theta hat (MLE) | 1.583 | Theta star (bias corrected MLE) | 1.656 |
| nu hat (MLE) | 23.97 | nu star (bias corrected) | 22.9 |
| Adjusted Level of Significance (β) | 0.041 | | |
| Approximate Chi Square Value (22.90, α) | 13.02 | Adjusted Chi Square Value (22.90, β) | 12.59 |
| 95% Gamma Approximate UCL (use when n>=50) | 1.112 | 95% Gamma Adjusted UCL (use when n<50) | 1.151 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.816 | SD (KM) | 1.047 |
| Variance (KM) | 1.096 | SE of Mean (KM) | 0.197 |
| k hat (KM) | 0.607 | k star (KM) | 0.569 |
| nu hat (KM) | 36.43 | nu star (KM) | 34.12 |
| theta hat (KM) | 1.343 | theta star (KM) | 1.434 |
| 80% gamma percentile (KM) | 1.344 | 90% gamma percentile (KM) | 2.147 |
| 95% gamma percentile (KM) | 2.993 | 99% gamma percentile (KM) | 5.047 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (34.12, α) | 21.76 | Adjusted Chi Square Value (34.12, β) | 21.19 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1.279 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1.314 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.808 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.892 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.188 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.207 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Approximate Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.717 | Mean in Log Scale | -0.81 |
| SD in Original Scale | 1.107 | SD in Log Scale | 0.885 |
| 95% t UCL (assumes normality of ROS data) | 1.061 | 95% Percentile Bootstrap UCL | 1.086 |
| 95% BCA Bootstrap UCL | 1.275 | 95% Bootstrap t UCL | 1.646 |
| 95% H-UCL (Log ROS) | 0.967 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -0.473 | KM Geo Mean | 0.623 |
| KM SD (logged) | 0.575 | 95% Critical H Value (KM-Log) | 2.016 |
| KM Standard Error of Mean (logged) | 0.108 | 95% H-UCL (KM -Log) | 0.912 |
| KM SD (logged) | 0.575 | 95% Critical H Value (KM-Log) | 2.016 |
| KM Standard Error of Mean (logged) | 0.108 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.729 | Mean in Log Scale | -0.742 |
| SD in Original Scale | 1.101 | SD in Log Scale | 0.803 |
| 95% t UCL (Assumes normality) | 1.071 | 95% H-Stat UCL | 0.918 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Lognormal Distributed at 5% Significance Level

Suggested UCL to Use

| | |
|---|---|
| KM H-UCL | 0.912 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

COBALT

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 127 | Number of Distinct Observations | 78 |
| | | Number of Missing Observations | 88 |
| Number of Detects | 96 | Number of Non-Detects | 31 |
| Number of Distinct Detects | 61 | Number of Distinct Non-Detects | 25 |
| Minimum Detect | 0.069 | Minimum Non-Detect | 0.31 |
| Maximum Detect | 7.2 | Maximum Non-Detect | 5.9 |
| Variance Detects | 2.23 | Percent Non-Detects | 24.41% |
| Mean Detects | 1.765 | SD Detects | 1.493 |
| Median Detects | 1.4 | CV Detects | 0.846 |
| Skewness Detects | 1.591 | Kurtosis Detects | 2.866 |
| Mean of Logged Detects | 0.167 | SD of Logged Detects | 1.012 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.849 | Normal GOF Test on Detected Observations Only |
| 5% Shapiro Wilk P Value | 3.220E-14 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.13 | Lilliefors GOF Test |
| 5% Lilliefors Critical Value | 0.0907 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 1.613 | KM Standard Error of Mean | 0.134 |
| KM SD | 1.418 | 95% KM (BCA) UCL | 1.858 |
| 95% KM (t) UCL | 1.835 | 95% KM (Percentile Bootstrap) UCL | 1.846 |
| 95% KM (z) UCL | 1.834 | 95% KM Bootstrap t UCL | 1.853 |
| 90% KM Chebyshev UCL | 2.016 | 95% KM Chebyshev UCL | 2.198 |
| 97.5% KM Chebyshev UCL | 2.452 | 99% KM Chebyshev UCL | 2.949 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 0.415 | Anderson-Darling GOF Test |
| 5% A-D Critical Value | 0.773 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.0789 | Kolmogorov-Smirnov GOF |
| 5% K-S Critical Value | 0.0933 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.389 | k star (bias corrected MLE) | 1.353 |
| Theta hat (MLE) | 1.27 | Theta star (bias corrected MLE) | 1.305 |
| nu hat (MLE) | 266.7 | nu star (bias corrected) | 259.7 |
| Mean (detects) | 1.765 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.069 | Mean | 1.574 |
| Maximum | 7.2 | Median | 1.2 |
| SD | 1.364 | CV | 0.866 |
| k hat (MLE) | 1.455 | k star (bias corrected MLE) | 1.426 |
| Theta hat (MLE) | 1.082 | Theta star (bias corrected MLE) | 1.104 |
| nu hat (MLE) | 369.6 | nu star (bias corrected) | 362.2 |
| Adjusted Level of Significance (β) | 0.0481 | | |
| Approximate Chi Square Value (362.22, α) | 319.1 | Adjusted Chi Square Value (362.22, β) | 318.7 |
| 95% Gamma Approximate UCL (use when n>=50) | 1.787 | 95% Gamma Adjusted UCL (use when n<50) | 1.79 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 1.613 | SD (KM) | 1.418 |
| Variance (KM) | 2.01 | SE of Mean (KM) | 0.134 |
| k hat (KM) | 1.294 | k star (KM) | 1.269 |
| nu hat (KM) | 328.7 | nu star (KM) | 322.3 |
| theta hat (KM) | 1.246 | theta star (KM) | 1.271 |
| 80% gamma percentile (KM) | 2.539 | 90% gamma percentile (KM) | 3.501 |
| 95% gamma percentile (KM) | 4.446 | 99% gamma percentile (KM) | 6.604 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (322.25, α) | 281.7 | Adjusted Chi Square Value (322.25, β) | 281.2 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1.845 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1.848 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.942 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 5.9589E-4 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.138 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0907 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 1.545 | Mean in Log Scale | 0.0564 |
| SD in Original Scale | 1.369 | SD in Log Scale | 0.943 |
| 95% t UCL (assumes normality of ROS data) | 1.747 | 95% Percentile Bootstrap UCL | 1.742 |
| 95% BCA Bootstrap UCL | 1.763 | 95% Bootstrap t UCL | 1.79 |
| 95% H-UCL (Log ROS) | 1.975 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 0.0295 | KM Geo Mean | 1.03 |
| KM SD (logged) | 1.065 | 95% Critical H Value (KM-Log) | 2.248 |
| KM Standard Error of Mean (logged) | 0.106 | 95% H-UCL (KM -Log) | 2.248 |
| KM SD (logged) | 1.065 | 95% Critical H Value (KM-Log) | 2.248 |
| KM Standard Error of Mean (logged) | 0.106 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.819 | Mean in Log Scale | 0.212 |
| SD in Original Scale | 1.391 | SD in Log Scale | 1.022 |
| 95% t UCL (Assumes normality) | 2.024 | 95% H-Stat UCL | 2.55 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | | | |
|---|---|---|---|
| 95% KM Approximate Gamma UCL | 1.845 | 95% GROS Approximate Gamma UCL | 1.787 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

CYANIDE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 138 | Number of Distinct Observations | 83 |
| | | Number of Missing Observations | 63 |
| Number of Detects | 70 | Number of Non-Detects | 68 |
| Number of Distinct Detects | 61 | Number of Distinct Non-Detects | 26 |
| Minimum Detect | 0.057 | Minimum Non-Detect | 0.07 |
| Maximum Detect | 62.3 | Maximum Non-Detect | 10 |
| Variance Detects | 168.6 | Percent Non-Detects | 49.28% |
| Mean Detects | 9.232 | SD Detects | 12.99 |
| Median Detects | 4 | CV Detects | 1.407 |
| Skewness Detects | 2.502 | Kurtosis Detects | 6.684 |
| Mean of Logged Detects | 1.368 | SD of Logged Detects | 1.431 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.674 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.26 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.106 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 5.051 | KM Standard Error of Mean | 0.874 |
| KM SD | 10.15 | 95% KM (BCA) UCL | 6.504 |
| 95% KM (t) UCL | 6.499 | 95% KM (Percentile Bootstrap) UCL | 6.627 |
| 95% KM (z) UCL | 6.489 | 95% KM Bootstrap t UCL | 6.924 |
| 90% KM Chebyshev UCL | 7.674 | 95% KM Chebyshev UCL | 8.862 |
| 97.5% KM Chebyshev UCL | 10.51 | 99% KM Chebyshev UCL | 13.75 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.948 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.797 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.108 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.111 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data follow Appr. Gamma Distribution at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.706 | k star (bias corrected MLE) | 0.686 |
| Theta hat (MLE) | 13.07 | Theta star (bias corrected MLE) | 13.46 |
| nu hat (MLE) | 98.9 | nu star (bias corrected) | 95.99 |
| Mean (detects) | 9.232 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 4.887 |
| Maximum | 62.3 | Median | 0.515 |
| SD | 10.29 | CV | 2.105 |
| k hat (MLE) | 0.245 | k star (bias corrected MLE) | 0.245 |
| Theta hat (MLE) | 19.93 | Theta star (bias corrected MLE) | 19.97 |
| nu hat (MLE) | 67.69 | nu star (bias corrected) | 67.55 |
| Adjusted Level of Significance (β) | 0.0483 | | |
| Approximate Chi Square Value (67.55, α) | 49.63 | Adjusted Chi Square Value (67.55, β) | 49.47 |
| 95% Gamma Approximate UCL (use when n>=50) | 6.652 | 95% Gamma Adjusted UCL (use when n<50) | 6.673 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 5.051 | SD (KM) | 10.15 |
| Variance (KM) | 103.1 | SE of Mean (KM) | 0.874 |
| k hat (KM) | 0.247 | k star (KM) | 0.247 |
| nu hat (KM) | 68.3 | nu star (KM) | 68.15 |
| theta hat (KM) | 20.41 | theta star (KM) | 20.46 |
| 80% gamma percentile (KM) | 7.304 | 90% gamma percentile (KM) | 15.18 |
| 95% gamma percentile (KM) | 24.54 | 99% gamma percentile (KM) | 49.52 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (68.15, α) | 50.15 | Adjusted Chi Square Value (68.15, β) | 49.99 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 6.865 | 95% Gamma Adjusted KM-UCL (use when n<50) | 6.887 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.981 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.684 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0678 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.106 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 5.017 | Mean in Log Scale | 0.206 |
| SD in Original Scale | 10.19 | SD in Log Scale | 1.719 |
| 95% t UCL (assumes normality of ROS data) | 6.454 | 95% Percentile Bootstrap UCL | 6.494 |
| 95% BCA Bootstrap UCL | 6.916 | 95% Bootstrap t UCL | 6.958 |
| 95% H-UCL (Log ROS) | 8.302 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 0.0957 | KM Geo Mean | 1.1 |
| KM SD (logged) | 1.894 | 95% Critical H Value (KM-Log) | 3.149 |
| KM Standard Error of Mean (logged) | 0.213 | 95% H-UCL (KM -Log) | 11.01 |
| KM SD (logged) | 1.894 | 95% Critical H Value (KM-Log) | 3.149 |
| KM Standard Error of Mean (logged) | 0.213 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 5.575 | Mean in Log Scale | 0.656 |
| SD in Original Scale | 10.02 | SD in Log Scale | 1.543 |
| 95% t UCL (Assumes normality) | 6.988 | 95% H-Stat UCL | 9.098 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM Approximate Gamma UCL | 6.865 |

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

IRON

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 123 | Number of Distinct Observations | 119 |
| | | Number of Missing Observations | 92 |
| Minimum | 117 | Mean | 5582 |
| Maximum | 30500 | Median | 4540 |
| SD | 4701 | Std. Error of Mean | 423.9 |
| Coefficient of Variation | 0.842 | Skewness | 2.815 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.747 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.176 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0802 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

**Assuming Normal Distribution**

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 6284 | 95% Adjusted-CLT UCL (Chen-1995) | 6394 |
| | | 95% Modified-t UCL (Johnson-1978) | 6302 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 1.023 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.766 | Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.077 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.0847 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data follow Appr. Gamma Distribution at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.958 | k star (bias corrected MLE) | 1.916 |
| Theta hat (MLE) | 2850 | Theta star (bias corrected MLE) | 2913 |
| nu hat (MLE) | 481.7 | nu star (bias corrected) | 471.3 |
| MLE Mean (bias corrected) | 5582 | MLE Sd (bias corrected) | 4032 |
| | | Approximate Chi Square Value (0.05) | 422 |
| Adjusted Level of Significance | 0.048 | Adjusted Chi Square Value | 421.4 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50) | 6234 | 95% Adjusted Gamma UCL (use when n<50) | 6242 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.966 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk P Value | 0.0398 | Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0771 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.0802 | Data appear Lognormal at 5% Significance Level |

Data appear Approximate Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | 4.762 | Mean of logged Data | 8.351 |
| Maximum of Logged Data | 10.33 | SD of logged Data | 0.788 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 6667 | 90% Chebyshev (MVUE) UCL | 7147 |
| 95% Chebyshev (MVUE) UCL | 7777 | 97.5% Chebyshev (MVUE) UCL | 8651 |
| 99% Chebyshev (MVUE) UCL | 10368 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 6279 | 95% Jackknife UCL | 6284 |
| 95% Standard Bootstrap UCL | 6279 | 95% Bootstrap-t UCL | 6454 |
| 95% Hall's Bootstrap UCL | 6456 | 95% Percentile Bootstrap UCL | 6289 |
| 95% BCA Bootstrap UCL | 6337 | | |
| 90% Chebyshev(Mean, Sd) UCL | 6853 | 95% Chebyshev(Mean, Sd) UCL | 7429 |
| 97.5% Chebyshev(Mean, Sd) UCL | 8229 | 99% Chebyshev(Mean, Sd) UCL | 9799 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% Approximate Gamma UCL | 6234 |

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**LEAD**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 159 | Number of Distinct Observations | 144 |
| | | Number of Missing Observations | 57 |
| Number of Detects | 155 | Number of Non-Detects | 4 |
| Number of Distinct Detects | 143 | Number of Distinct Non-Detects | 2 |
| Minimum Detect | 1.5 | Minimum Non-Detect | 3.5 |
| Maximum Detect | 103000 | Maximum Non-Detect | 10 |
| Variance Detects | 68352596 | Percent Non-Detects | 2.516% |
| Mean Detects | 934.2 | SD Detects | 8268 |
| Median Detects | 88 | CV Detects | 8.85 |
| Skewness Detects | 12.38 | Kurtosis Detects | 153.8 |
| Mean of Logged Detects | 4.174 | SD of Logged Detects | 2.115 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.105 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.455 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0716 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 910.8 | KM Standard Error of Mean | 647.5 |
| KM SD | 8138 | 95% KM (BCA) UCL | 2214 |
| 95% KM (t) UCL | 1982 | 95% KM (Percentile Bootstrap) UCL | 2199 |
| 95% KM (z) UCL | 1976 | 95% KM Bootstrap t UCL | 15447 |
| 90% KM Chebyshev UCL | 2853 | 95% KM Chebyshev UCL | 3733 |
| 97.5% KM Chebyshev UCL | 4954 | 99% KM Chebyshev UCL | 7353 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 12.86 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.887 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.232 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0824 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.264 | k star (bias corrected MLE) | 0.263 |
| Theta hat (MLE) | 3537 | Theta star (bias corrected MLE) | 3548 |
| nu hat (MLE) | 81.87 | nu star (bias corrected) | 81.62 |
| Mean (detects) | 934.2 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 910.7 |
| Maximum | 103000 | Median | 81.3 |
| SD | 8164 | CV | 8.964 |
| k hat (MLE) | 0.248 | k star (bias corrected MLE) | 0.248 |
| Theta hat (MLE) | 3665 | Theta star (bias corrected MLE) | 3672 |
| nu hat (MLE) | 79.02 | nu star (bias corrected) | 78.86 |
| Adjusted Level of Significance (β) | 0.0485 | | |
| Approximate Chi Square Value (78.86, α) | 59.4 | Adjusted Chi Square Value (78.86, β) | 59.25 |
| 95% Gamma Approximate UCL (use when n>=50) | 1209 | 95% Gamma Adjusted UCL (use when n<50) | 1212 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 910.8 | SD (KM) | 8138 |
| Variance (KM) | 66224388 | SE of Mean (KM) | 647.5 |
| k hat (KM) | 0.0125 | k star (KM) | 0.0165 |
| nu hat (KM) | 3.983 | nu star (KM) | 5.241 |
| theta hat (KM) | 72712 | theta star (KM) | 55258 |
| 80% gamma percentile (KM) | 0.0415 | 90% gamma percentile (KM) | 52.7 |
| 95% gamma percentile (KM) | 1436 | 99% gamma percentile (KM) | 25798 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (5.24, α) | 1.265 | Adjusted Chi Square Value (5.24, β) | 1.248 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 3773 | 95% Gamma Adjusted KM-UCL (use when n<50) | 3825 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.945 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 6.3169E-6 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0931 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0716 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 910.8 | Mean in Log Scale | 4.105 |
| SD in Original Scale | 8164 | SD in Log Scale | 2.134 |
| 95% t UCL (assumes normality of ROS data) | 1982 | 95% Percentile Bootstrap UCL | 2204 |
| 95% BCA Bootstrap UCL | 3442 | 95% Bootstrap t UCL | 15491 |
| 95% H-UCL (Log ROS) | 1065 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 4.097 | KM Geo Mean | 60.18 |
| KM SD (logged) | 2.137 | 95% Critical H Value (KM-Log) | 3.477 |
| KM Standard Error of Mean (logged) | 0.17 | 95% H-UCL (KM -Log) | 1065 |
| KM SD (logged) | 2.137 | 95% Critical H Value (KM-Log) | 3.477 |
| KM Standard Error of Mean (logged) | 0.17 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 910.8 | Mean in Log Scale | 4.103 |
| SD in Original Scale | 8164 | SD in Log Scale | 2.136 |
| 95% t UCL (Assumes normality) | 1982 | 95% H-Stat UCL | 1070 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 3733 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

MANGANESE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 116 | Number of Distinct Observations | 109 |
| | | Number of Missing Observations | 99 |
| Minimum | 3.7 | Mean | 42.82 |
| Maximum | 524 | Median | 20.78 |
| SD | 75.03 | Std. Error of Mean | 6.966 |
| Coefficient of Variation | 1.752 | Skewness | 4.277 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.498 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.301 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0826 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

**Assuming Normal Distribution**

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 54.37 | 95% Adjusted-CLT UCL (Chen-1995) | 57.23 |
| | | 95% Modified-t UCL (Johnson-1978) | 54.83 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 5.471 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.788 | Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.165 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.0882 | Data Not Gamma Distributed at 5% Significance Level |

Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.889 | k star (bias corrected MLE) | 0.872 |
| Theta hat (MLE) | 48.17 | Theta star (bias corrected MLE) | 49.12 |
| nu hat (MLE) | 206.2 | nu star (bias corrected) | 202.2 |
| MLE Mean (bias corrected) | 42.82 | MLE Sd (bias corrected) | 45.86 |
| | | Approximate Chi Square Value (0.05) | 170.3 |
| Adjusted Level of Significance | 0.0479 | Adjusted Chi Square Value | 170 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 50.84 | 95% Adjusted Gamma UCL (use when n<50) | 50.95 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.942 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk P Value | 7.9612E-5 | Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0797 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.0826 | Data appear Lognormal at 5% Significance Level |

Data appear Approximate Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | 1.308 | Mean of logged Data | 3.098 |

| | | | |
|---|---|---|---|
| Maximum of Logged Data | 6.261 | SD of logged Data | 1.03 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 46.73 | 90% Chebyshev (MVUE) UCL | 50.42 |
| 95% Chebyshev (MVUE) UCL | 56.32 | 97.5% Chebyshev (MVUE) UCL | 64.5 |
| 99% Chebyshev (MVUE) UCL | 80.58 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 54.28 | 95% Jackknife UCL | 54.37 |
| 95% Standard Bootstrap UCL | 54.07 | 95% Bootstrap-t UCL | 60.22 |
| 95% Hall's Bootstrap UCL | 59.98 | 95% Percentile Bootstrap UCL | 55.86 |
| 95% BCA Bootstrap UCL | 58.79 | | |
| 90% Chebyshev(Mean, Sd) UCL | 63.72 | 95% Chebyshev(Mean, Sd) UCL | 73.18 |
| 97.5% Chebyshev(Mean, Sd) UCL | 86.32 | 99% Chebyshev(Mean, Sd) UCL | 112.1 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% H-UCL | 46.73 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

MERCURY

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 126 | Number of Distinct Observations | 77 |
| | | Number of Missing Observations | 89 |
| Number of Detects | 84 | Number of Non-Detects | 42 |
| Number of Distinct Detects | 66 | Number of Distinct Non-Detects | 17 |
| Minimum Detect | 0.011 | Minimum Non-Detect | 0.041 |
| Maximum Detect | 4.1 | Maximum Non-Detect | 0.12 |
| Variance Detects | 0.423 | Percent Non-Detects | 33.33% |
| Mean Detects | 0.444 | SD Detects | 0.65 |
| Median Detects | 0.195 | CV Detects | 1.465 |
| Skewness Detects | 3.278 | Kurtosis Detects | 13.7 |
| Mean of Logged Detects | -1.633 | SD of Logged Detects | 1.358 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.648 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |

| | | | |
|---|---|---|---|
| Lilliefors Test Statistic | 0.253 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.0968 | Detected Data Not Normal at 5% Significance Level | |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.31 | KM Standard Error of Mean | 0.0503 |
| KM SD | 0.561 | 95% KM (BCA) UCL | 0.401 |
| 95% KM (t) UCL | 0.393 | 95% KM (Percentile Bootstrap) UCL | 0.395 |
| 95% KM (z) UCL | 0.393 | 95% KM Bootstrap t UCL | 0.423 |
| 90% KM Chebyshev UCL | 0.461 | 95% KM Chebyshev UCL | 0.529 |
| 97.5% KM Chebyshev UCL | 0.624 | 99% KM Chebyshev UCL | 0.81 |

**Gamma GOF Tests on Detected Observations Only**

| | | | |
|---|---|---|---|
| A-D Test Statistic | 1.191 | **Anderson-Darling GOF Test** | |
| 5% A-D Critical Value | 0.795 | Detected Data Not Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.089 | **Kolmogorov-Smirnov GOF** | |
| 5% K-S Critical Value | 0.102 | Detected data appear Gamma Distributed at 5% Significance Level | |

Detected data follow Appr. Gamma Distribution at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.732 | k star (bias corrected MLE) | 0.714 |
| Theta hat (MLE) | 0.606 | Theta star (bias corrected MLE) | 0.622 |
| nu hat (MLE) | 122.9 | nu star (bias corrected) | 119.9 |
| Mean (detects) | 0.444 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 0.3 |
| Maximum | 4.1 | Median | 0.066 |
| SD | 0.568 | CV | 1.891 |
| k hat (MLE) | 0.465 | k star (bias corrected MLE) | 0.459 |
| Theta hat (MLE) | 0.646 | Theta star (bias corrected MLE) | 0.654 |
| nu hat (MLE) | 117.1 | nu star (bias corrected) | 115.6 |
| Adjusted Level of Significance (β) | 0.0481 | | |
| Approximate Chi Square Value (115.62, α) | 91.8 | Adjusted Chi Square Value (115.62, β) | 91.55 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.378 | 95% Gamma Adjusted UCL (use when n<50) | 0.379 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.31 | SD (KM) | 0.561 |
| Variance (KM) | 0.314 | SE of Mean (KM) | 0.0503 |
| k hat (KM) | 0.306 | k star (KM) | 0.304 |
| nu hat (KM) | 77.12 | nu star (KM) | 76.62 |
| theta hat (KM) | 1.014 | theta star (KM) | 1.02 |
| 80% gamma percentile (KM) | 0.477 | 90% gamma percentile (KM) | 0.913 |
| 95% gamma percentile (KM) | 1.413 | 99% gamma percentile (KM) | 2.709 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (76.62, α) | 57.45 | Adjusted Chi Square Value (76.62, β) | 57.26 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.414 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.415 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.97 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.192 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0736 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0968 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.312 | Mean in Log Scale | -2.156 |
| SD in Original Scale | 0.562 | SD in Log Scale | 1.377 |
| 95% t UCL (assumes normality of ROS data) | 0.395 | 95% Percentile Bootstrap UCL | 0.406 |
| 95% BCA Bootstrap UCL | 0.42 | 95% Bootstrap t UCL | 0.427 |
| 95% H-UCL (Log ROS) | 0.409 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -2.185 | KM Geo Mean | 0.112 |
| KM SD (logged) | 1.388 | 95% Critical H Value (KM-Log) | 2.567 |
| KM Standard Error of Mean (logged) | 0.132 | 95% H-UCL (KM -Log) | 0.406 |
| KM SD (logged) | 1.388 | 95% Critical H Value (KM-Log) | 2.567 |
| KM Standard Error of Mean (logged) | 0.132 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.312 | Mean in Log Scale | -2.118 |
| SD in Original Scale | 0.562 | SD in Log Scale | 1.314 |
| 95% t UCL (Assumes normality) | 0.395 | 95% H-Stat UCL | 0.382 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM Approximate Gamma UCL | 0.414 |

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

THALLIUM

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 127 | Number of Distinct Observations | 51 |
| | | Number of Missing Observations | 88 |
| Number of Detects | 12 | Number of Non-Detects | 115 |
| Number of Distinct Detects | 12 | Number of Distinct Non-Detects | 40 |
| Minimum Detect | 0.4 | Minimum Non-Detect | 0.2 |
| Maximum Detect | 2.2 | Maximum Non-Detect | 3.8 |
| Variance Detects | 0.25 | Percent Non-Detects | 90.55% |
| Mean Detects | 0.676 | SD Detects | 0.5 |
| Median Detects | 0.5 | CV Detects | 0.739 |
| Skewness Detects | 3.038 | Kurtosis Detects | 9.656 |
| Mean of Logged Detects | -0.529 | SD of Logged Detects | 0.47 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.541 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.859 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.346 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.243 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.393 | KM Standard Error of Mean | 0.048 |
| KM SD | 0.283 | 95% KM (BCA) UCL | 0.495 |
| 95% KM (t) UCL | 0.473 | 95% KM (Percentile Bootstrap) UCL | 0.48 |
| 95% KM (z) UCL | 0.472 | 95% KM Bootstrap t UCL | 0.476 |
| 90% KM Chebyshev UCL | 0.537 | 95% KM Chebyshev UCL | 0.602 |
| 97.5% KM Chebyshev UCL | 0.693 | 99% KM Chebyshev UCL | 0.87 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 1.708 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.736 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.297 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.247 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 3.812 | k star (bias corrected MLE) | 2.915 |
| Theta hat (MLE) | 0.177 | Theta star (bias corrected MLE) | 0.232 |
| nu hat (MLE) | 91.49 | nu star (bias corrected) | 69.95 |
| Mean (detects) | 0.676 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 0.281 |
| Maximum | 2.2 | Median | 0.205 |
| SD | 0.3 | CV | 1.069 |
| k hat (MLE) | 0.707 | k star (bias corrected MLE) | 0.696 |
| Theta hat (MLE) | 0.397 | Theta star (bias corrected MLE) | 0.404 |
| nu hat (MLE) | 179.7 | nu star (bias corrected) | 176.8 |
| Adjusted Level of Significance (β) | 0.0481 | | |
| Approximate Chi Square Value (176.77, α) | 147 | Adjusted Chi Square Value (176.77, β) | 146.7 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.338 | 95% Gamma Adjusted UCL (use when n<50) | 0.338 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.393 | SD (KM) | 0.283 |
| Variance (KM) | 0.0802 | SE of Mean (KM) | 0.048 |
| k hat (KM) | 1.928 | k star (KM) | 1.888 |
| nu hat (KM) | 489.7 | nu star (KM) | 479.5 |
| theta hat (KM) | 0.204 | theta star (KM) | 0.208 |
| 80% gamma percentile (KM) | 0.593 | 90% gamma percentile (KM) | 0.775 |
| 95% gamma percentile (KM) | 0.95 | 99% gamma percentile (KM) | 1.339 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (479.48, α) | 429.7 | Adjusted Chi Square Value (479.48, β) | 429.2 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.439 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.439 |

**Lognormal GOF Test on Detected Observations Only**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.713 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.859 | Detected Data Not Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.264 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.243 | Detected Data Not Lognormal at 5% Significance Level | |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.388 | Mean in Log Scale | -1.049 |
| SD in Original Scale | 0.223 | SD in Log Scale | 0.431 |
| 95% t UCL (assumes normality of ROS data) | 0.421 | 95% Percentile Bootstrap UCL | 0.423 |
| 95% BCA Bootstrap UCL | 0.432 | 95% Bootstrap t UCL | 0.435 |
| 95% H-UCL (Log ROS) | 0.412 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.097 | KM Geo Mean | 0.334 |
| KM SD (logged) | 0.539 | 95% Critical H Value (KM-Log) | 1.846 |
| KM Standard Error of Mean (logged) | 0.112 | 95% H-UCL (KM -Log) | 0.422 |
| KM SD (logged) | 0.539 | 95% Critical H Value (KM-Log) | 1.846 |
| KM Standard Error of Mean (logged) | 0.112 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.936 | Mean in Log Scale | -0.218 |
| SD in Original Scale | 0.416 | SD in Log Scale | 0.641 |
| 95% t UCL (Assumes normality) | 0.998 | 95% H-Stat UCL | 1.101 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

| | | | |
|---|---|---|---|
| 95% KM (t) UCL | 0.473 | KM H-UCL | 0.422 |
| 95% KM (BCA) UCL | 0.495 | | |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

VANADIUM

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 127 | Number of Distinct Observations | 91 |
| | | Number of Missing Observations | 88 |
| Number of Detects | 124 | Number of Non-Detects | 3 |
| Number of Distinct Detects | 89 | Number of Distinct Non-Detects | 3 |
| Minimum Detect | 1 | Minimum Non-Detect | 3.9 |
| Maximum Detect | 45.4 | Maximum Non-Detect | 5.55 |
| Variance Detects | 43.6 | Percent Non-Detects | 2.362% |
| Mean Detects | 8.971 | SD Detects | 6.603 |
| Median Detects | 7.3 | CV Detects | 0.736 |
| Skewness Detects | 2.872 | Kurtosis Detects | 11.03 |
| Mean of Logged Detects | 1.999 | SD of Logged Detects | 0.626 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.742 | Normal GOF Test on Detected Observations Only |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.175 | Lilliefors GOF Test |
| 5% Lilliefors Critical Value | 0.0799 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 8.835 | KM Standard Error of Mean | 0.585 |
| KM SD | 6.559 | 95% KM (BCA) UCL | 9.858 |
| 95% KM (t) UCL | 9.804 | 95% KM (Percentile Bootstrap) UCL | 9.835 |
| 95% KM (z) UCL | 9.796 | 95% KM Bootstrap t UCL | 10.03 |
| 90% KM Chebyshev UCL | 10.59 | 95% KM Chebyshev UCL | 11.38 |
| 97.5% KM Chebyshev UCL | 12.49 | 99% KM Chebyshev UCL | 14.65 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 1.97 | Anderson-Darling GOF Test |
| 5% A-D Critical Value | 0.761 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.0968 | Kolmogorov-Smirnov GOF |
| 5% K-S Critical Value | 0.084 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 2.726 | k star (bias corrected MLE) | 2.665 |
| Theta hat (MLE) | 3.291 | Theta star (bias corrected MLE) | 3.366 |
| nu hat (MLE) | 676 | nu star (bias corrected) | 660.9 |
| Mean (detects) | 8.971 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 1 | Mean | 8.804 |
| Maximum | 45.4 | Median | 7.2 |
| SD | 6.612 | CV | 0.751 |
| k hat (MLE) | 2.555 | k star (bias corrected MLE) | 2.499 |
| Theta hat (MLE) | 3.446 | Theta star (bias corrected MLE) | 3.522 |
| nu hat (MLE) | 648.9 | nu star (bias corrected) | 634.9 |
| Adjusted Level of Significance (β) | 0.0481 | | |
| Approximate Chi Square Value (634.86, α) | 577.4 | Adjusted Chi Square Value (634.86, β) | 576.8 |
| 95% Gamma Approximate UCL (use when n>=50) | 9.68 | 95% Gamma Adjusted UCL (use when n<50) | 9.691 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 8.835 | SD (KM) | 6.559 |
| Variance (KM) | 43.02 | SE of Mean (KM) | 0.585 |
| k hat (KM) | 1.814 | k star (KM) | 1.777 |
| nu hat (KM) | 460.8 | nu star (KM) | 451.3 |
| theta hat (KM) | 4.869 | theta star (KM) | 4.973 |
| 80% gamma percentile (KM) | 13.41 | 90% gamma percentile (KM) | 17.67 |
| 95% gamma percentile (KM) | 21.77 | 99% gamma percentile (KM) | 30.91 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (451.29, α) | 403 | Adjusted Chi Square Value (451.29, β) | 402.5 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 9.893 | 95% Gamma Adjusted KM-UCL (use when n<50) | 9.905 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.965 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.0314 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0854 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0799 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 8.834 | Mean in Log Scale | 1.98 |
| SD in Original Scale | 6.583 | SD in Log Scale | 0.632 |
| 95% t UCL (assumes normality of ROS data) | 9.802 | 95% Percentile Bootstrap UCL | 9.839 |
| 95% BCA Bootstrap UCL | 9.959 | 95% Bootstrap t UCL | 10.02 |

| | |
|---|---|
| 95% H-UCL (Log ROS) | 9.843 |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 1.978 | KM Geo Mean | 7.226 |
| KM SD (logged) | 0.636 | 95% Critical H Value (KM-Log) | 1.907 |
| KM Standard Error of Mean (logged) | 0.0571 | 95% H-UCL (KM -Log) | 9.858 |
| KM SD (logged) | 0.636 | 95% Critical H Value (KM-Log) | 1.907 |
| KM Standard Error of Mean (logged) | 0.0571 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 8.815 | Mean in Log Scale | 1.972 |
| SD in Original Scale | 6.601 | SD in Log Scale | 0.644 |
| 95% t UCL (Assumes normality) | 9.786 | 95% H-Stat UCL | 9.866 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 11.38 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**ZINC**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 127 | Number of Distinct Observations | 125 |
| | | Number of Missing Observations | 88 |
| Number of Detects | 126 | Number of Non-Detects | 1 |
| Number of Distinct Detects | 124 | Number of Distinct Non-Detects | 1 |
| Minimum Detect | 1.3 | Minimum Non-Detect | 6.3 |
| Maximum Detect | 12300 | Maximum Non-Detect | 6.3 |
| Variance Detects | 1239792 | Percent Non-Detects | 0.787% |
| Mean Detects | 252.2 | SD Detects | 1113 |
| Median Detects | 58.65 | CV Detects | 4.414 |
| Skewness Detects | 10.35 | Kurtosis Detects | 112.1 |
| Mean of Logged Detects | 3.866 | SD of Logged Detects | 1.887 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.203 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.411 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0793 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 250.3 | KM Standard Error of Mean | 98.43 |
| KM SD | 1105 | 95% KM (BCA) UCL | 451.8 |
| 95% KM (t) UCL | 413.4 | 95% KM (Percentile Bootstrap) UCL | 442.2 |
| 95% KM (z) UCL | 412.2 | 95% KM Bootstrap t UCL | 1016 |
| 90% KM Chebyshev UCL | 545.6 | 95% KM Chebyshev UCL | 679.3 |
| 97.5% KM Chebyshev UCL | 865 | 99% KM Chebyshev UCL | 1230 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 3.738 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.845 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.117 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0887 | Detected Data Not Gamma Distributed at 5% Significance Level |

**Detected Data Not Gamma Distributed at 5% Significance Level**

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.396 | k star (bias corrected MLE) | 0.392 |
| Theta hat (MLE) | 637 | Theta star (bias corrected MLE) | 643.8 |
| nu hat (MLE) | 99.78 | nu star (bias corrected) | 98.74 |
| Mean (detects) | 252.2 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 250.3 |
| Maximum | 12300 | Median | 58.4 |
| SD | 1109 | CV | 4.432 |
| k hat (MLE) | 0.384 | k star (bias corrected MLE) | 0.38 |
| Theta hat (MLE) | 651.2 | Theta star (bias corrected MLE) | 657.7 |
| nu hat (MLE) | 97.61 | nu star (bias corrected) | 96.64 |
| Adjusted Level of Significance (β) | 0.0481 | | |
| Approximate Chi Square Value (96.64, α) | 74.97 | Adjusted Chi Square Value (96.64, β) | 74.75 |
| 95% Gamma Approximate UCL (use when n>=50) | 322.6 | 95% Gamma Adjusted UCL (use when n<50) | 323.6 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 250.3 | SD (KM) | 1105 |
| Variance (KM) | 1220754 | SE of Mean (KM) | 98.43 |
| k hat (KM) | 0.0513 | k star (KM) | 0.0554 |
| nu hat (KM) | 13.03 | nu star (KM) | 14.06 |
| theta hat (KM) | 4878 | theta star (KM) | 4522 |
| 80% gamma percentile (KM) | 47.57 | 90% gamma percentile (KM) | 432.2 |
| 95% gamma percentile (KM) | 1375 | 99% gamma percentile (KM) | 5224 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (14.06, α) | 6.612 | Adjusted Chi Square Value (14.06, β) | 6.553 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 532.2 | 95% Gamma Adjusted KM-UCL (use when n<50) | 537 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.955 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.002 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0715 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0793 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Approximate Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 250.3 | Mean in Log Scale | 3.846 |
| SD in Original Scale | 1109 | SD in Log Scale | 1.892 |
| 95% t UCL (assumes normality of ROS data) | 413.4 | 95% Percentile Bootstrap UCL | 433.8 |
| 95% BCA Bootstrap UCL | 624.9 | 95% Bootstrap t UCL | 995.4 |
| 95% H-UCL (Log ROS) | 475.6 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 3.843 | KM Geo Mean | 46.67 |
| KM SD (logged) | 1.889 | 95% Critical H Value (KM-Log) | 3.127 |
| KM Standard Error of Mean (logged) | 0.168 | 95% H-UCL (KM -Log) | 470.6 |
| KM SD (logged) | 1.889 | 95% Critical H Value (KM-Log) | 3.127 |
| KM Standard Error of Mean (logged) | 0.168 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 250.3 | Mean in Log Scale | 3.844 |
| SD in Original Scale | 1109 | SD in Log Scale | 1.894 |
| 95% t UCL (Assumes normality) | 413.4 | 95% H-Stat UCL | 477.2 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 470.6 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**AROCLOR-1254**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 90 | Number of Distinct Observations | 46 |
| | | Number of Missing Observations | 100 |
| Number of Detects | 30 | Number of Non-Detects | 60 |
| Number of Distinct Detects | 29 | Number of Distinct Non-Detects | 22 |
| Minimum Detect | 0.011 | Minimum Non-Detect | 0.017 |
| Maximum Detect | 0.49 | Maximum Non-Detect | 0.088 |
| Variance Detects | 0.0101 | Percent Non-Detects | 66.67% |
| Mean Detects | 0.0881 | SD Detects | 0.101 |

| | | | |
|---|---|---|---|
| Median Detects | 0.059 | CV Detects | 1.141 |
| Skewness Detects | 2.687 | Kurtosis Detects | 8.357 |
| Mean of Logged Detects | -2.851 | SD of Logged Detects | 0.9 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.672 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.927 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.298 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.159 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.0404 | KM Standard Error of Mean | 0.00724 |
| KM SD | 0.0666 | 95% KM (BCA) UCL | 0.0548 |
| 95% KM (t) UCL | 0.0525 | 95% KM (Percentile Bootstrap) UCL | 0.0538 |
| 95% KM (z) UCL | 0.0524 | 95% KM Bootstrap t UCL | 0.058 |
| 90% KM Chebyshev UCL | 0.0622 | 95% KM Chebyshev UCL | 0.072 |
| 97.5% KM Chebyshev UCL | 0.0857 | 99% KM Chebyshev UCL | 0.112 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 1.009 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.767 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.183 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.164 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.325 | k star (bias corrected MLE) | 1.215 |
| Theta hat (MLE) | 0.0665 | Theta star (bias corrected MLE) | 0.0725 |
| nu hat (MLE) | 79.52 | nu star (bias corrected) | 72.9 |
| Mean (detects) | 0.0881 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 0.0363 |
| Maximum | 0.49 | Median | 0.01 |
| SD | 0.0682 | CV | 1.877 |
| k hat (MLE) | 0.858 | k star (bias corrected MLE) | 0.837 |
| Theta hat (MLE) | 0.0423 | Theta star (bias corrected MLE) | 0.0434 |
| nu hat (MLE) | 154.5 | nu star (bias corrected) | 150.7 |
| Adjusted Level of Significance (β) | 0.0473 | | |
| Approximate Chi Square Value (150.69, α) | 123.3 | Adjusted Chi Square Value (150.69, β) | 122.9 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.0444 | 95% Gamma Adjusted UCL (use when n<50) | 0.0446 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.0404 | SD (KM) | 0.0666 |

| | | | |
|---|---|---|---|
| Variance (KM) | 0.00444 | SE of Mean (KM) | 0.00724 |
| k hat (KM) | 0.368 | k star (KM) | 0.363 |
| nu hat (KM) | 66.29 | nu star (KM) | 65.41 |
| theta hat (KM) | 0.11 | theta star (KM) | 0.111 |
| 80% gamma percentile (KM) | 0.0644 | 90% gamma percentile (KM) | 0.116 |
| 95% gamma percentile (KM) | 0.174 | 99% gamma percentile (KM) | 0.32 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (65.41, α) | 47.8 | Adjusted Chi Square Value (65.41, β) | 47.56 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.0553 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.0556 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.97 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.927 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.116 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.159 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.0388 | Mean in Log Scale | -3.891 |
| SD in Original Scale | 0.0676 | SD in Log Scale | 1.015 |
| 95% t UCL (assumes normality of ROS data) | 0.0507 | 95% Percentile Bootstrap UCL | 0.0516 |
| 95% BCA Bootstrap UCL | 0.057 | 95% Bootstrap t UCL | 0.0571 |
| 95% H-UCL (Log ROS) | 0.0436 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -3.744 | KM Geo Mean | 0.0237 |
| KM SD (logged) | 0.876 | 95% Critical H Value (KM-Log) | 2.128 |
| KM Standard Error of Mean (logged) | 0.114 | 95% H-UCL (KM -Log) | 0.0423 |
| KM SD (logged) | 0.876 | 95% Critical H Value (KM-Log) | 2.128 |
| KM Standard Error of Mean (logged) | 0.114 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.0419 | Mean in Log Scale | -3.638 |
| SD in Original Scale | 0.0664 | SD in Log Scale | 0.805 |
| 95% t UCL (Assumes normality) | 0.0535 | 95% H-Stat UCL | 0.0434 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 0.0423 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

2-METHYLNAPHTHALENE

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 121 | Number of Distinct Observations | 64 |
| | | Number of Missing Observations | 94 |
| Number of Detects | 44 | Number of Non-Detects | 77 |
| Number of Distinct Detects | 40 | Number of Distinct Non-Detects | 27 |
| Minimum Detect | 0.0025 | Minimum Non-Detect | 0.17 |
| Maximum Detect | 38 | Maximum Non-Detect | 5.3 |
| Variance Detects | 48.7 | Percent Non-Detects | 63.64% |
| Mean Detects | 3.075 | SD Detects | 6.978 |
| Median Detects | 0.17 | CV Detects | 2.269 |
| Skewness Detects | 3.639 | Kurtosis Detects | 15.24 |
| Mean of Logged Detects | -1.445 | SD of Logged Detects | 2.664 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.512 | Shapiro Wilk GOF Test |
| 5% Shapiro Wilk Critical Value | 0.944 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.33 | Lilliefors GOF Test |
| 5% Lilliefors Critical Value | 0.132 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 1.152 | KM Standard Error of Mean | 0.406 |
| KM SD | 4.409 | 95% KM (BCA) UCL | 1.855 |
| 95% KM (t) UCL | 1.825 | 95% KM (Percentile Bootstrap) UCL | 1.859 |
| 95% KM (z) UCL | 1.819 | 95% KM Bootstrap t UCL | 2.359 |
| 90% KM Chebyshev UCL | 2.369 | 95% KM Chebyshev UCL | 2.92 |
| 97.5% KM Chebyshev UCL | 3.685 | 99% KM Chebyshev UCL | 5.188 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 1.951 | Anderson-Darling GOF Test |
| 5% A-D Critical Value | 0.875 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.188 | Kolmogorov-Smirnov GOF |
| 5% K-S Critical Value | 0.146 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.273 | k star (bias corrected MLE) | 0.269 |
| Theta hat (MLE) | 11.28 | Theta star (bias corrected MLE) | 11.42 |
| nu hat (MLE) | 24 | nu star (bias corrected) | 23.7 |
| Mean (detects) | 3.075 | | |

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0025 | Mean | 1.131 |
| Maximum | 38 | Median | 0.01 |
| SD | 4.431 | CV | 3.918 |
| k hat (MLE) | 0.209 | k star (bias corrected MLE) | 0.209 |
| Theta hat (MLE) | 5.413 | Theta star (bias corrected MLE) | 5.404 |
| nu hat (MLE) | 50.56 | nu star (bias corrected) | 50.64 |
| Adjusted Level of Significance (β) | 0.048 | | |
| Approximate Chi Square Value (50.64, α) | 35.3 | Adjusted Chi Square Value (50.64, β) | 35.15 |
| 95% Gamma Approximate UCL (use when n>=50) | 1.622 | 95% Gamma Adjusted UCL (use when n<50) | 1.63 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 1.152 | SD (KM) | 4.409 |
| Variance (KM) | 19.44 | SE of Mean (KM) | 0.406 |
| k hat (KM) | 0.0683 | k star (KM) | 0.0721 |
| nu hat (KM) | 16.53 | nu star (KM) | 17.45 |
| theta hat (KM) | 16.87 | theta star (KM) | 15.97 |
| 80% gamma percentile (KM) | 0.442 | 90% gamma percentile (KM) | 2.544 |
| 95% gamma percentile (KM) | 6.65 | 99% gamma percentile (KM) | 21.42 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (17.45, α) | 8.998 | Adjusted Chi Square Value (17.45, β) | 8.925 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 2.235 | 95% Gamma Adjusted KM-UCL (use when n<50) | 2.254 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.934 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.944 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.142 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.132 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 1.158 | Mean in Log Scale | -2.683 |
| SD in Original Scale | 4.424 | SD in Log Scale | 2.099 |
| 95% t UCL (assumes normality of ROS data) | 1.825 | 95% Percentile Bootstrap UCL | 1.858 |
| 95% BCA Bootstrap UCL | 2.085 | 95% Bootstrap t UCL | 2.422 |
| 95% H-UCL (Log ROS) | 1.18 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -2.853 | KM Geo Mean | 0.0577 |
| KM SD (logged) | 2.103 | 95% Critical H Value (KM-Log) | 3.373 |
| KM Standard Error of Mean (logged) | 0.248 | 95% H-UCL (KM -Log) | 1.007 |
| KM SD (logged) | 2.103 | 95% Critical H Value (KM-Log) | 3.373 |
| KM Standard Error of Mean (logged) | 0.248 | | |

**DL/2 Statistics**

| DL/2 Normal | | DL/2 Log-Transformed | |
|---|---|---|---|
| Mean in Original Scale | 1.289 | Mean in Log Scale | -1.7 |
| SD in Original Scale | 4.408 | SD in Log Scale | 1.728 |
| 95% t UCL (Assumes normality) | 1.953 | 95% H-Stat UCL | 1.29 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 2.92 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

BENZO(A)ANTHRACENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 149 | Number of Distinct Observations | 91 |
| | | Number of Missing Observations | 66 |
| Number of Detects | 93 | Number of Non-Detects | 56 |
| Number of Distinct Detects | 73 | Number of Distinct Non-Detects | 28 |
| Minimum Detect | 0.0058 | Minimum Non-Detect | 0.04 |
| Maximum Detect | 32 | Maximum Non-Detect | 9.1 |
| Variance Detects | 31.97 | Percent Non-Detects | 37.58% |
| Mean Detects | 2.342 | SD Detects | 5.654 |
| Median Detects | 0.25 | CV Detects | 2.414 |
| Skewness Detects | 3.302 | Kurtosis Detects | 11.32 |
| Mean of Logged Detects | -1.157 | SD of Logged Detects | 1.976 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.475 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.357 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0921 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 1.513 | KM Standard Error of Mean | 0.377 |
| KM SD | 4.574 | 95% KM (BCA) UCL | 2.23 |
| 95% KM (t) UCL | 2.137 | 95% KM (Percentile Bootstrap) UCL | 2.18 |
| 95% KM (z) UCL | 2.134 | 95% KM Bootstrap t UCL | 2.385 |
| 90% KM Chebyshev UCL | 2.645 | 95% KM Chebyshev UCL | 3.157 |
| 97.5% KM Chebyshev UCL | 3.869 | 99% KM Chebyshev UCL | 5.266 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 7.14 | **Anderson-Darling GOF Test** |

| | | | |
|---|---|---|---|
| 5% A-D Critical Value | 0.859 | Detected Data Not Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.246 | **Kolmogorov-Smirnov GOF** | |
| 5% K-S Critical Value | 0.1 | Detected Data Not Gamma Distributed at 5% Significance Level | |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.337 | k star (bias corrected MLE) | 0.333 |
| Theta hat (MLE) | 6.95 | Theta star (bias corrected MLE) | 7.027 |
| nu hat (MLE) | 62.68 | nu star (bias corrected) | 61.99 |
| Mean (detects) | 2.342 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0058 | Mean | 1.465 |
| Maximum | 32 | Median | 0.055 |
| SD | 4.6 | CV | 3.139 |
| k hat (MLE) | 0.25 | k star (bias corrected MLE) | 0.25 |
| Theta hat (MLE) | 5.851 | Theta star (bias corrected MLE) | 5.864 |
| nu hat (MLE) | 74.64 | nu star (bias corrected) | 74.47 |
| Adjusted Level of Significance (β) | 0.0484 | | |
| Approximate Chi Square Value (74.47, α) | 55.59 | Adjusted Chi Square Value (74.47, β) | 55.44 |
| 95% Gamma Approximate UCL (use when n>=50) | 1.963 | 95% Gamma Adjusted UCL (use when n<50) | 1.969 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 1.513 | SD (KM) | 4.574 |
| Variance (KM) | 20.93 | SE of Mean (KM) | 0.377 |
| k hat (KM) | 0.109 | k star (KM) | 0.112 |
| nu hat (KM) | 32.61 | nu star (KM) | 33.28 |
| theta hat (KM) | 13.83 | theta star (KM) | 13.55 |
| 80% gamma percentile (KM) | 1.219 | 90% gamma percentile (KM) | 4.196 |
| 95% gamma percentile (KM) | 8.706 | 99% gamma percentile (KM) | 22.73 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (33.28, α) | 21.09 | Adjusted Chi Square Value (33.28, β) | 21 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 2.388 | 95% Gamma Adjusted KM-UCL (use when n<50) | 2.398 |

**Lognormal GOF Test on Detected Observations Only**

| | | | |
|---|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.947 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk P Value | 0.0021 | Detected Data Not Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.106 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.0921 | Detected Data Not Lognormal at 5% Significance Level | |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 1.5 | Mean in Log Scale | -1.694 |
| SD in Original Scale | 4.589 | SD in Log Scale | 1.786 |

| | | | |
|---|---|---|---|
| 95% t UCL (assumes normality of ROS data) | 2.122 | 95% Percentile Bootstrap UCL | 2.148 |
| 95% BCA Bootstrap UCL | 2.311 | 95% Bootstrap t UCL | 2.355 |
| 95% H-UCL (Log ROS) | 1.413 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.725 | KM Geo Mean | 0.178 |
| KM SD (logged) | 1.839 | 95% Critical H Value (KM-Log) | 3.099 |
| KM Standard Error of Mean (logged) | 0.166 | 95% H-UCL (KM -Log) | 1.545 |
| KM SD (logged) | 1.839 | 95% Critical H Value (KM-Log) | 3.099 |
| KM Standard Error of Mean (logged) | 0.166 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.69 | Mean in Log Scale | -1.282 |
| SD in Original Scale | 4.585 | SD in Log Scale | 1.747 |
| 95% t UCL (Assumes normality) | 2.312 | 95% H-Stat UCL | 1.963 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 3.157 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**BENZO(A)PYRENE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 149 | Number of Distinct Observations | 104 |
| | | Number of Missing Observations | 66 |
| Number of Detects | 102 | Number of Non-Detects | 47 |
| Number of Distinct Detects | 85 | Number of Distinct Non-Detects | 28 |
| Minimum Detect | 0.004 | Minimum Non-Detect | 0.0039 |
| Maximum Detect | 37 | Maximum Non-Detect | 9.1 |
| Variance Detects | 34.09 | Percent Non-Detects | 31.54% |
| Mean Detects | 2.229 | SD Detects | 5.839 |
| Median Detects | 0.215 | CV Detects | 2.62 |
| Skewness Detects | 3.776 | Kurtosis Detects | 15.61 |
| Mean of Logged Detects | -1.427 | SD of Logged Detects | 2.172 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.441 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.366 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.088 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 1.568 | KM Standard Error of Mean | 0.405 |
| KM SD | 4.911 | 95% KM (BCA) UCL | 2.375 |
| 95% KM (t) UCL | 2.238 | 95% KM (Percentile Bootstrap) UCL | 2.307 |
| 95% KM (z) UCL | 2.233 | 95% KM Bootstrap t UCL | 2.491 |
| 90% KM Chebyshev UCL | 2.782 | 95% KM Chebyshev UCL | 3.332 |
| 97.5% KM Chebyshev UCL | 4.095 | 99% KM Chebyshev UCL | 5.595 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 6.639 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.866 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.224 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0964 | Detected Data Not Gamma Distributed at 5% Significance Level |

**Detected Data Not Gamma Distributed at 5% Significance Level**

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.308 | k star (bias corrected MLE) | 0.306 |
| Theta hat (MLE) | 7.233 | Theta star (bias corrected MLE) | 7.293 |
| nu hat (MLE) | 62.85 | nu star (bias corrected) | 62.34 |
| Mean (detects) | 2.229 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.004 | Mean | 1.529 |
| Maximum | 37 | Median | 0.059 |
| SD | 4.933 | CV | 3.227 |
| k hat (MLE) | 0.249 | k star (bias corrected MLE) | 0.248 |
| Theta hat (MLE) | 6.139 | Theta star (bias corrected MLE) | 6.152 |
| nu hat (MLE) | 74.21 | nu star (bias corrected) | 74.05 |
| Adjusted Level of Significance (β) | 0.0484 | | |
| Approximate Chi Square Value (74.05, α) | 55.23 | Adjusted Chi Square Value (74.05, β) | 55.07 |
| 95% Gamma Approximate UCL (use when n>=50) | 2.05 | 95% Gamma Adjusted UCL (use when n<50) | 2.055 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 1.568 | SD (KM) | 4.911 |
| Variance (KM) | 24.12 | SE of Mean (KM) | 0.405 |
| k hat (KM) | 0.102 | k star (KM) | 0.104 |
| nu hat (KM) | 30.36 | nu star (KM) | 31.09 |
| theta hat (KM) | 15.39 | theta star (KM) | 15.03 |
| 80% gamma percentile (KM) | 1.155 | 90% gamma percentile (KM) | 4.243 |
| 95% gamma percentile (KM) | 9.074 | 99% gamma percentile (KM) | 24.38 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (31.09, α) | 19.35 | Adjusted Chi Square Value (31.09, β) | 19.26 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 2.519 | 95% Gamma Adjusted KM-UCL (use when n<50) | 2.53 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.96 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.0212 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0669 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.088 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Approximate Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 1.544 | Mean in Log Scale | -2.063 |
| SD in Original Scale | 4.929 | SD in Log Scale | 2.179 |
| 95% t UCL (assumes normality of ROS data) | 2.213 | 95% Percentile Bootstrap UCL | 2.256 |
| 95% BCA Bootstrap UCL | 2.398 | 95% Bootstrap t UCL | 2.504 |
| 95% H-UCL (Log ROS) | 2.561 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -2.037 | KM Geo Mean | 0.13 |
| KM SD (logged) | 2.204 | 95% Critical H Value (KM-Log) | 3.544 |
| KM Standard Error of Mean (logged) | 0.197 | 95% H-UCL (KM -Log) | 2.814 |
| KM SD (logged) | 2.204 | 95% Critical H Value (KM-Log) | 3.544 |
| KM Standard Error of Mean (logged) | 0.197 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.735 | Mean in Log Scale | -1.557 |
| SD in Original Scale | 4.923 | SD in Log Scale | 2.121 |
| 95% t UCL (Assumes normality) | 2.403 | 95% H-Stat UCL | 3.64 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 2.814 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**BENZO(B)FLUORANTHENE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 149 | Number of Distinct Observations | 93 |
| | | Number of Missing Observations | 66 |
| Number of Detects | 91 | Number of Non-Detects | 58 |
| Number of Distinct Detects | 73 | Number of Distinct Non-Detects | 28 |
| Minimum Detect | 0.012 | Minimum Non-Detect | 0.04 |
| Maximum Detect | 44 | Maximum Non-Detect | 9.1 |
| Variance Detects | 70.32 | Percent Non-Detects | 38.93% |

| | | | |
|---|---|---|---|
| Mean Detects | 3.418 | SD Detects | 8.386 |
| Median Detects | 0.3 | CV Detects | 2.453 |
| Skewness Detects | 3.196 | Kurtosis Detects | 9.873 |
| Mean of Logged Detects | -0.785 | SD of Logged Detects | 1.943 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.461 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.352 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0931 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 2.15 | KM Standard Error of Mean | 0.553 |
| KM SD | 6.713 | 95% KM (BCA) UCL | 3.162 |
| 95% KM (t) UCL | 3.066 | 95% KM (Percentile Bootstrap) UCL | 3.054 |
| 95% KM (z) UCL | 3.06 | 95% KM Bootstrap t UCL | 3.429 |
| 90% KM Chebyshev UCL | 3.81 | 95% KM Chebyshev UCL | 4.562 |
| 97.5% KM Chebyshev UCL | 5.606 | 99% KM Chebyshev UCL | 7.656 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 7.486 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.859 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.243 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.101 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.336 | k star (bias corrected MLE) | 0.332 |
| Theta hat (MLE) | 10.17 | Theta star (bias corrected MLE) | 10.28 |
| nu hat (MLE) | 61.17 | nu star (bias corrected) | 60.49 |
| Mean (detects) | 3.418 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 2.091 |
| Maximum | 44 | Median | 0.078 |
| SD | 6.748 | CV | 3.227 |
| k hat (MLE) | 0.238 | k star (bias corrected MLE) | 0.238 |
| Theta hat (MLE) | 8.792 | Theta star (bias corrected MLE) | 8.804 |
| nu hat (MLE) | 70.89 | nu star (bias corrected) | 70.79 |
| Adjusted Level of Significance (β) | 0.0484 | | |
| Approximate Chi Square Value (70.79, α) | 52.42 | Adjusted Chi Square Value (70.79, β) | 52.27 |
| 95% Gamma Approximate UCL (use when n>=50) | 2.824 | 95% Gamma Adjusted UCL (use when n<50) | 2.833 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 2.15 | SD (KM) | 6.713 |
| Variance (KM) | 45.06 | SE of Mean (KM) | 0.553 |
| k hat (KM) | 0.103 | k star (KM) | 0.105 |
| nu hat (KM) | 30.58 | nu star (KM) | 31.29 |
| theta hat (KM) | 20.96 | theta star (KM) | 20.48 |
| 80% gamma percentile (KM) | 1.598 | 90% gamma percentile (KM) | 5.835 |
| 95% gamma percentile (KM) | 12.44 | 99% gamma percentile (KM) | 33.33 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (31.29, α) | 19.51 | Adjusted Chi Square Value (31.29, β) | 19.42 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 3.448 | 95% Gamma Adjusted KM-UCL (use when n<50) | 3.465 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.935 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 2.0820E-4 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.103 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0931 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 2.133 | Mean in Log Scale | -1.432 |
| SD in Original Scale | 6.736 | SD in Log Scale | 1.808 |
| 95% t UCL (assumes normality of ROS data) | 3.047 | 95% Percentile Bootstrap UCL | 3.098 |
| 95% BCA Bootstrap UCL | 3.275 | 95% Bootstrap t UCL | 3.477 |
| 95% H-UCL (Log ROS) | 1.929 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.431 | KM Geo Mean | 0.239 |
| KM SD (logged) | 1.817 | 95% Critical H Value (KM-Log) | 3.072 |
| KM Standard Error of Mean (logged) | 0.162 | 95% H-UCL (KM -Log) | 1.97 |
| KM SD (logged) | 1.817 | 95% Critical H Value (KM-Log) | 3.072 |
| KM Standard Error of Mean (logged) | 0.162 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 2.318 | Mean in Log Scale | -1.065 |
| SD in Original Scale | 6.717 | SD in Log Scale | 1.739 |
| 95% t UCL (Assumes normality) | 3.229 | 95% H-Stat UCL | 2.393 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 4.562 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

BENZO(K)FLUORANTHENE

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 149 | Number of Distinct Observations | 89 |
| | | Number of Missing Observations | 66 |
| Number of Detects | 90 | Number of Non-Detects | 59 |
| Number of Distinct Detects | 70 | Number of Distinct Non-Detects | 28 |
| Minimum Detect | 0.0087 | Minimum Non-Detect | 0.04 |
| Maximum Detect | 41 | Maximum Non-Detect | 9.1 |
| Variance Detects | 34 | Percent Non-Detects | 39.6% |
| Mean Detects | 2.097 | SD Detects | 5.831 |
| Median Detects | 0.26 | CV Detects | 2.781 |
| Skewness Detects | 4.701 | Kurtosis Detects | 25.44 |
| Mean of Logged Detects | -1.126 | SD of Logged Detects | 1.844 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.408 | Normal GOF Test on Detected Observations Only |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.368 | Lilliefors GOF Test |
| 5% Lilliefors Critical Value | 0.0936 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 1.327 | KM Standard Error of Mean | 0.38 |
| KM SD | 4.612 | 95% KM (BCA) UCL | 2.04 |
| 95% KM (t) UCL | 1.956 | 95% KM (Percentile Bootstrap) UCL | 2.005 |
| 95% KM (z) UCL | 1.952 | 95% KM Bootstrap t UCL | 2.442 |
| 90% KM Chebyshev UCL | 2.468 | 95% KM Chebyshev UCL | 2.985 |
| 97.5% KM Chebyshev UCL | 3.702 | 99% KM Chebyshev UCL | 5.112 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 6.594 | Anderson-Darling GOF Test |
| 5% A-D Critical Value | 0.853 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.218 | Kolmogorov-Smirnov GOF |
| 5% K-S Critical Value | 0.101 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.359 | k star (bias corrected MLE) | 0.354 |
| Theta hat (MLE) | 5.843 | Theta star (bias corrected MLE) | 5.919 |
| nu hat (MLE) | 64.59 | nu star (bias corrected) | 63.77 |
| Mean (detects) | 2.097 | | |

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0087 | Mean | 1.27 |
| Maximum | 41 | Median | 0.065 |
| SD | 4.636 | CV | 3.649 |
| k hat (MLE) | 0.258 | k star (bias corrected MLE) | 0.257 |
| Theta hat (MLE) | 4.93 | Theta star (bias corrected MLE) | 4.944 |
| nu hat (MLE) | 76.79 | nu star (bias corrected) | 76.58 |
| Adjusted Level of Significance (β) | 0.0484 | | |
| Approximate Chi Square Value (76.58, α) | 57.42 | Adjusted Chi Square Value (76.58, β) | 57.26 |
| 95% Gamma Approximate UCL (use when n>=50) | 1.694 | 95% Gamma Adjusted UCL (use when n<50) | 1.699 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 1.327 | SD (KM) | 4.612 |
| Variance (KM) | 21.27 | SE of Mean (KM) | 0.38 |
| k hat (KM) | 0.0828 | k star (KM) | 0.0856 |
| nu hat (KM) | 24.66 | nu star (KM) | 25.5 |
| theta hat (KM) | 16.03 | theta star (KM) | 15.5 |
| 80% gamma percentile (KM) | 0.716 | 90% gamma percentile (KM) | 3.274 |
| 95% gamma percentile (KM) | 7.73 | 99% gamma percentile (KM) | 22.75 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (25.50, α) | 15 | Adjusted Chi Square Value (25.50, β) | 14.92 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 2.256 | 95% Gamma Adjusted KM-UCL (use when n<50) | 2.268 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.957 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.0177 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0996 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0936 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 1.311 | Mean in Log Scale | -1.654 |
| SD in Original Scale | 4.626 | SD in Log Scale | 1.659 |
| 95% t UCL (assumes normality of ROS data) | 1.939 | 95% Percentile Bootstrap UCL | 1.972 |
| 95% BCA Bootstrap UCL | 2.225 | 95% Bootstrap t UCL | 2.475 |
| 95% H-UCL (Log ROS) | 1.123 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.684 | KM Geo Mean | 0.186 |
| KM SD (logged) | 1.71 | 95% Critical H Value (KM-Log) | 2.948 |
| KM Standard Error of Mean (logged) | 0.155 | 95% H-UCL (KM -Log) | 1.211 |
| KM SD (logged) | 1.71 | 95% Critical H Value (KM-Log) | 2.948 |
| KM Standard Error of Mean (logged) | 0.155 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.503 | Mean in Log Scale | -1.267 |
| SD in Original Scale | 4.63 | SD in Log Scale | 1.641 |
| 95% t UCL (Assumes normality) | 2.131 | 95% H-Stat UCL | 1.594 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 2.985 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

CHRYSENE

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 149 | Number of Distinct Observations | 99 |
| | | Number of Missing Observations | 66 |
| Number of Detects | 95 | Number of Non-Detects | 54 |
| Number of Distinct Detects | 78 | Number of Distinct Non-Detects | 26 |
| Minimum Detect | 0.0088 | Minimum Non-Detect | 0.18 |
| Maximum Detect | 55 | Maximum Non-Detect | 9.1 |
| Variance Detects | 65.44 | Percent Non-Detects | 36.24% |
| Mean Detects | 3.026 | SD Detects | 8.09 |
| Median Detects | 0.28 | CV Detects | 2.673 |
| Skewness Detects | 4.176 | Kurtosis Detects | 20.29 |
| Mean of Logged Detects | -0.943 | SD of Logged Detects | 1.968 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.433 | Normal GOF Test on Detected Observations Only |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.355 | Lilliefors GOF Test |
| 5% Lilliefors Critical Value | 0.0911 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 1.995 | KM Standard Error of Mean | 0.542 |
| KM SD | 6.575 | 95% KM (BCA) UCL | 3.012 |
| 95% KM (t) UCL | 2.892 | 95% KM (Percentile Bootstrap) UCL | 2.971 |
| 95% KM (z) UCL | 2.887 | 95% KM Bootstrap t UCL | 3.439 |
| 90% KM Chebyshev UCL | 3.621 | 95% KM Chebyshev UCL | 4.358 |
| 97.5% KM Chebyshev UCL | 5.38 | 99% KM Chebyshev UCL | 7.388 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 7.34 | Anderson-Darling GOF Test |
| 5% A-D Critical Value | 0.86 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.237 | Kolmogorov-Smirnov GOF |
| 5% K-S Critical Value | 0.0993 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.331 | k star (bias corrected MLE) | 0.328 |
| Theta hat (MLE) | 9.142 | Theta star (bias corrected MLE) | 9.238 |
| nu hat (MLE) | 62.89 | nu star (bias corrected) | 62.24 |
| Mean (detects) | 3.026 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0088 | Mean | 1.933 |
| Maximum | 55 | Median | 0.092 |
| SD | 6.609 | CV | 3.419 |
| k hat (MLE) | 0.244 | k star (bias corrected MLE) | 0.244 |
| Theta hat (MLE) | 7.917 | Theta star (bias corrected MLE) | 7.931 |
| nu hat (MLE) | 72.77 | nu star (bias corrected) | 72.64 |
| Adjusted Level of Significance (β) | 0.0484 | | |
| Approximate Chi Square Value (72.64, α) | 54.01 | Adjusted Chi Square Value (72.64, β) | 53.86 |
| 95% Gamma Approximate UCL (use when n>=50) | 2.6 | 95% Gamma Adjusted UCL (use when n<50) | 2.607 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 1.995 | SD (KM) | 6.575 |
| Variance (KM) | 43.24 | SE of Mean (KM) | 0.542 |
| k hat (KM) | 0.0921 | k star (KM) | 0.0947 |
| nu hat (KM) | 27.44 | nu star (KM) | 28.22 |
| theta hat (KM) | 21.67 | theta star (KM) | 21.07 |
| 80% gamma percentile (KM) | 1.276 | 90% gamma percentile (KM) | 5.185 |
| 95% gamma percentile (KM) | 11.61 | 99% gamma percentile (KM) | 32.57 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (28.22, α) | 17.1 | Adjusted Chi Square Value (28.22, β) | 17.02 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 3.293 | 95% Gamma Adjusted KM-UCL (use when n<50) | 3.309 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.951 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.00412 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.101 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0911 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 1.978 | Mean in Log Scale | -1.424 |
| SD in Original Scale | 6.597 | SD in Log Scale | 1.76 |
| 95% t UCL (assumes normality of ROS data) | 2.872 | 95% Percentile Bootstrap UCL | 2.911 |
| 95% BCA Bootstrap UCL | 3.157 | 95% Bootstrap t UCL | 3.402 |
| 95% H-UCL (Log ROS) | 1.75 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.461 | KM Geo Mean | 0.232 |
| KM SD (logged) | 1.817 | 95% Critical H Value (KM-Log) | 3.073 |
| KM Standard Error of Mean (logged) | 0.163 | 95% H-UCL (KM -Log) | 1.913 |
| KM SD (logged) | 1.817 | 95% Critical H Value (KM-Log) | 3.073 |
| KM Standard Error of Mean (logged) | 0.163 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 2.187 | Mean in Log Scale | -1.086 |
| SD in Original Scale | 6.584 | SD in Log Scale | 1.753 |
| 95% t UCL (Assumes normality) | 3.08 | 95% H-Stat UCL | 2.414 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 4.358 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

DIBENZO(A,H)ANTHRACENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 149 | Number of Distinct Observations | 87 |
| | | Number of Missing Observations | 66 |
| Number of Detects | 69 | Number of Non-Detects | 80 |
| Number of Distinct Detects | 60 | Number of Distinct Non-Detects | 37 |
| Minimum Detect | 1.7000E-4 | Minimum Non-Detect | 0.0035 |
| Maximum Detect | 14 | Maximum Non-Detect | 9.1 |
| Variance Detects | 3.983 | Percent Non-Detects | 53.69% |
| Mean Detects | 0.728 | SD Detects | 1.996 |
| Median Detects | 0.088 | CV Detects | 2.74 |
| Skewness Detects | 4.951 | Kurtosis Detects | 29.44 |
| Mean of Logged Detects | -2.292 | SD of Logged Detects | 2.048 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.415 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.364 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.107 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.372 | KM Standard Error of Mean | 0.116 |
| KM SD | 1.4 | 95% KM (BCA) UCL | 0.59 |

| | | | |
|---|---|---|---|
| 95% KM (t) UCL | 0.564 | 95% KM (Percentile Bootstrap) UCL | 0.59 |
| 95% KM (z) UCL | 0.563 | 95% KM Bootstrap t UCL | 0.719 |
| 90% KM Chebyshev UCL | 0.721 | 95% KM Chebyshev UCL | 0.879 |
| 97.5% KM Chebyshev UCL | 1.099 | 99% KM Chebyshev UCL | 1.53 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 4.41 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.855 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.224 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.116 | Detected Data Not Gamma Distributed at 5% Significance Level |

**Detected Data Not Gamma Distributed at 5% Significance Level**

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.342 | k star (bias corrected MLE) | 0.337 |
| Theta hat (MLE) | 2.132 | Theta star (bias corrected MLE) | 2.165 |
| nu hat (MLE) | 47.16 | nu star (bias corrected) | 46.44 |
| Mean (detects) | 0.728 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 1.7000E-4 | Mean | 0.351 |
| Maximum | 14 | Median | 0.01 |
| SD | 1.398 | CV | 3.985 |
| k hat (MLE) | 0.293 | k star (bias corrected MLE) | 0.292 |
| Theta hat (MLE) | 1.197 | Theta star (bias corrected MLE) | 1.203 |
| nu hat (MLE) | 87.34 | nu star (bias corrected) | 86.92 |
| Adjusted Level of Significance (β) | 0.0484 | | |
| Approximate Chi Square Value (86.92, α) | 66.43 | Adjusted Chi Square Value (86.92, β) | 66.25 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.459 | 95% Gamma Adjusted UCL (use when n<50) | 0.46 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.372 | SD (KM) | 1.4 |
| Variance (KM) | 1.96 | SE of Mean (KM) | 0.116 |
| k hat (KM) | 0.0704 | k star (KM) | 0.0735 |
| nu hat (KM) | 20.99 | nu star (KM) | 21.9 |
| theta hat (KM) | 5.275 | theta star (KM) | 5.055 |
| 80% gamma percentile (KM) | 0.148 | 90% gamma percentile (KM) | 0.832 |
| 95% gamma percentile (KM) | 2.148 | 99% gamma percentile (KM) | 6.846 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (21.90, α) | 12.26 | Adjusted Chi Square Value (21.90, β) | 12.19 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.663 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.667 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.978 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.529 | Detected Data appear Lognormal at 5% Significance Level |

| | | | |
|---|---|---|---|
| Lilliefors Test Statistic | 0.104 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.107 | Detected Data appear Lognormal at 5% Significance Level | |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.354 | Mean in Log Scale | -3.32 |
| SD in Original Scale | 1.397 | SD in Log Scale | 1.96 |
| 95% t UCL (assumes normality of ROS data) | 0.543 | 95% Percentile Bootstrap UCL | 0.563 |
| 95% BCA Bootstrap UCL | 0.651 | 95% Bootstrap t UCL | 0.707 |
| 95% H-UCL (Log ROS) | 0.416 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -3.522 | KM Geo Mean | 0.0295 |
| KM SD (logged) | 2.479 | 95% Critical H Value (KM-Log) | 3.89 |
| KM Standard Error of Mean (logged) | 0.307 | 95% H-UCL (KM -Log) | 1.409 |
| KM SD (logged) | 2.479 | 95% Critical H Value (KM-Log) | 3.89 |
| KM Standard Error of Mean (logged) | 0.307 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.6 | Mean in Log Scale | -2.216 |
| SD in Original Scale | 1.53 | SD in Log Scale | 2.012 |
| 95% t UCL (Assumes normality) | 0.808 | 95% H-Stat UCL | 1.427 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 1.409 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**INDENO(1,2,3-CD)PYRENE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 148 | Number of Distinct Observations | 93 |
| | | Number of Missing Observations | 67 |
| Number of Detects | 82 | Number of Non-Detects | 66 |
| Number of Distinct Detects | 67 | Number of Distinct Non-Detects | 33 |
| Minimum Detect | 0.0072 | Minimum Non-Detect | 0.04 |
| Maximum Detect | 37 | Maximum Non-Detect | 9.1 |
| Variance Detects | 27.53 | Percent Non-Detects | 44.59% |
| Mean Detects | 1.891 | SD Detects | 5.247 |
| Median Detects | 0.195 | CV Detects | 2.774 |
| Skewness Detects | 4.636 | Kurtosis Detects | 25.82 |
| Mean of Logged Detects | -1.385 | SD of Logged Detects | 1.929 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.416 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.38 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.098 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 1.102 | KM Standard Error of Mean | 0.33 |
| KM SD | 3.986 | 95% KM (BCA) UCL | 1.74 |
| 95% KM (t) UCL | 1.648 | 95% KM (Percentile Bootstrap) UCL | 1.697 |
| 95% KM (z) UCL | 1.645 | 95% KM Bootstrap t UCL | 1.925 |
| 90% KM Chebyshev UCL | 2.092 | 95% KM Chebyshev UCL | 2.54 |
| 97.5% KM Chebyshev UCL | 3.163 | 99% KM Chebyshev UCL | 4.386 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 6.461 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.857 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.224 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.107 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.335 | k star (bias corrected MLE) | 0.331 |
| Theta hat (MLE) | 5.647 | Theta star (bias corrected MLE) | 5.717 |
| nu hat (MLE) | 54.93 | nu star (bias corrected) | 54.25 |
| Mean (detects) | 1.891 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0072 | Mean | 1.054 |
| Maximum | 37 | Median | 0.036 |
| SD | 4.006 | CV | 3.799 |
| k hat (MLE) | 0.249 | k star (bias corrected MLE) | 0.249 |
| Theta hat (MLE) | 4.23 | Theta star (bias corrected MLE) | 4.239 |
| nu hat (MLE) | 73.79 | nu star (bias corrected) | 73.63 |
| Adjusted Level of Significance (β) | 0.0484 | | |
| Approximate Chi Square Value (73.63, α) | 54.87 | Adjusted Chi Square Value (73.63, β) | 54.71 |
| 95% Gamma Approximate UCL (use when n>=50) | 1.415 | 95% Gamma Adjusted UCL (use when n<50) | 1.419 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 1.102 | SD (KM) | 3.986 |
| Variance (KM) | 15.88 | SE of Mean (KM) | 0.33 |
| k hat (KM) | 0.0764 | k star (KM) | 0.0794 |
| nu hat (KM) | 22.62 | nu star (KM) | 23.49 |

| | | | |
|---|---|---|---|
| theta hat (KM) | 14.42 | theta star (KM) | 13.88 |
| 80% gamma percentile (KM) | 0.516 | 90% gamma percentile (KM) | 2.599 |
| 95% gamma percentile (KM) | 6.404 | 99% gamma percentile (KM) | 19.59 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (23.49, α) | 13.46 | Adjusted Chi Square Value (23.49, β) | 13.39 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1.922 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1.933 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.947 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.0045 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0997 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.098 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 1.09 | Mean in Log Scale | -1.943 |
| SD in Original Scale | 3.997 | SD in Log Scale | 1.653 |
| 95% t UCL (assumes normality of ROS data) | 1.634 | 95% Percentile Bootstrap UCL | 1.667 |
| 95% BCA Bootstrap UCL | 1.998 | 95% Bootstrap t UCL | 2.022 |
| 95% H-UCL (Log ROS) | 0.833 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.995 | KM Geo Mean | 0.136 |
| KM SD (logged) | 1.716 | 95% Critical H Value (KM-Log) | 2.954 |
| KM Standard Error of Mean (logged) | 0.159 | 95% H-UCL (KM -Log) | 0.901 |
| KM SD (logged) | 1.716 | 95% Critical H Value (KM-Log) | 2.954 |
| KM Standard Error of Mean (logged) | 0.159 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.291 | Mean in Log Scale | -1.451 |
| SD in Original Scale | 4.01 | SD in Log Scale | 1.639 |
| 95% t UCL (Assumes normality) | 1.837 | 95% H-Stat UCL | 1.324 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 2.54 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

NAPHTHALENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 149 | Number of Distinct Observations | 78 |
| | | Number of Missing Observations | 66 |
| Number of Detects | 50 | Number of Non-Detects | 99 |
| Number of Distinct Detects | 45 | Number of Distinct Non-Detects | 34 |
| Minimum Detect | 0.0055 | Minimum Non-Detect | 0.17 |
| Maximum Detect | 150 | Maximum Non-Detect | 15 |
| Variance Detects | 567.6 | Percent Non-Detects | 66.44% |
| Mean Detects | 8.188 | SD Detects | 23.82 |
| Median Detects | 0.0825 | CV Detects | 2.91 |
| Skewness Detects | 4.748 | Kurtosis Detects | 26.29 |
| Mean of Logged Detects | -1.424 | SD of Logged Detects | 2.862 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.407 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.947 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.366 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.125 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 2.791 | KM Standard Error of Mean | 1.174 |
| KM SD | 14.19 | 95% KM (BCA) UCL | 4.839 |
| 95% KM (t) UCL | 4.735 | 95% KM (Percentile Bootstrap) UCL | 4.844 |
| 95% KM (z) UCL | 4.723 | 95% KM Bootstrap t UCL | 7.045 |
| 90% KM Chebyshev UCL | 6.315 | 95% KM Chebyshev UCL | 7.911 |
| 97.5% KM Chebyshev UCL | 10.13 | 99% KM Chebyshev UCL | 14.48 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 4.846 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.908 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.28 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.139 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.207 | k star (bias corrected MLE) | 0.208 |
| Theta hat (MLE) | 39.46 | Theta star (bias corrected MLE) | 39.3 |
| nu hat (MLE) | 20.75 | nu star (bias corrected) | 20.84 |
| Mean (detects) | 8.188 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0055 | Mean | 2.801 |

| | | | |
|---|---|---|---|
| Maximum | 150 | Median | 0.01 |
| SD | 14.24 | CV | 5.083 |
| k hat (MLE) | 0.17 | k star (bias corrected MLE) | 0.171 |
| Theta hat (MLE) | 16.47 | Theta star (bias corrected MLE) | 16.37 |
| nu hat (MLE) | 50.69 | nu star (bias corrected) | 51 |
| Adjusted Level of Significance (β) | 0.0484 | | |
| Approximate Chi Square Value (51.00, α) | 35.6 | Adjusted Chi Square Value (51.00, β) | 35.48 |
| 95% Gamma Approximate UCL (use when n>=50) | 4.013 | 95% Gamma Adjusted UCL (use when n<50) | 4.027 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 2.791 | SD (KM) | 14.19 |
| Variance (KM) | 201.4 | SE of Mean (KM) | 1.174 |
| k hat (KM) | 0.0387 | k star (KM) | 0.0424 |
| nu hat (KM) | 11.53 | nu star (KM) | 12.63 |
| theta hat (KM) | 72.15 | theta star (KM) | 65.86 |
| 80% gamma percentile (KM) | 0.198 | 90% gamma percentile (KM) | 3.341 |
| 95% gamma percentile (KM) | 13.82 | 99% gamma percentile (KM) | 64.63 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (12.63, α) | 5.644 | Adjusted Chi Square Value (12.63, β) | 5.598 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 6.245 | 95% Gamma Adjusted KM-UCL (use when n<50) | 6.296 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.877 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.947 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.186 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.125 | Detected Data Not Lognormal at 5% Significance Level |

**Detected Data Not Lognormal at 5% Significance Level**

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 2.817 | Mean in Log Scale | -2.437 |
| SD in Original Scale | 14.23 | SD in Log Scale | 2.085 |
| 95% t UCL (assumes normality of ROS data) | 4.747 | 95% Percentile Bootstrap UCL | 4.831 |
| 95% BCA Bootstrap UCL | 5.652 | 95% Bootstrap t UCL | 7.025 |
| 95% H-UCL (Log ROS) | 1.377 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -2.67 | KM Geo Mean | 0.0692 |
| KM SD (logged) | 2.028 | 95% Critical H Value (KM-Log) | 3.327 |
| KM Standard Error of Mean (logged) | 0.21 | 95% H-UCL (KM -Log) | 0.942 |
| KM SD (logged) | 2.028 | 95% Critical H Value (KM-Log) | 3.327 |
| KM Standard Error of Mean (logged) | 0.21 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 3.045 | Mean in Log Scale | -1.556 |
| SD in Original Scale | 14.21 | SD in Log Scale | 1.844 |
| 95% t UCL (Assumes normality) | 4.973 | 95% H-Stat UCL | 1.851 |

**DL/2 is not a recommended method, provided for comparisons and historical reasons**

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 7.911 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PENTACHLOROPHENOL

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 121 | Number of Distinct Observations | 53 |
| | | Number of Missing Observations | 94 |
| Number of Detects | 11 | Number of Non-Detects | 110 |
| Number of Distinct Detects | 10 | Number of Distinct Non-Detects | 46 |
| Minimum Detect | 0.049 | Minimum Non-Detect | 0.34 |
| Maximum Detect | 15 | Maximum Non-Detect | 39 |
| Variance Detects | 19.38 | Percent Non-Detects | 90.91% |
| Mean Detects | 2.06 | SD Detects | 4.402 |
| Median Detects | 0.4 | CV Detects | 2.137 |
| Skewness Detects | 3.04 | Kurtosis Detects | 9.566 |
| Mean of Logged Detects | -0.682 | SD of Logged Detects | 1.673 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.502 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.85 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.365 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.251 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 0.366 | KM Standard Error of Mean | 0.146 |
| KM SD | 1.415 | 95% KM (BCA) UCL | 0.654 |
| 95% KM (t) UCL | 0.608 | 95% KM (Percentile Bootstrap) UCL | 0.624 |
| 95% KM (z) UCL | 0.606 | 95% KM Bootstrap t UCL | 0.982 |
| 90% KM Chebyshev UCL | 0.804 | 95% KM Chebyshev UCL | 1.002 |
| 97.5% KM Chebyshev UCL | 1.277 | 99% KM Chebyshev UCL | 1.817 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 0.929 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.789 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.325 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.27 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.458 | k star (bias corrected MLE) | 0.394 |

| | | | |
|---|---|---|---|
| Theta hat (MLE) | 4.496 | Theta star (bias corrected MLE) | 5.23 |
| nu hat (MLE) | 10.08 | nu star (bias corrected) | 8.665 |
| Mean (detects) | 2.06 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 0.228 |
| Maximum | 15 | Median | 0.01 |
| SD | 1.404 | CV | 6.163 |
| k hat (MLE) | 0.281 | k star (bias corrected MLE) | 0.279 |
| Theta hat (MLE) | 0.812 | Theta star (bias corrected MLE) | 0.816 |
| nu hat (MLE) | 67.89 | nu star (bias corrected) | 67.54 |
| Adjusted Level of Significance (β) | 0.048 | | |
| Approximate Chi Square Value (67.54, α) | 49.63 | Adjusted Chi Square Value (67.54, β) | 49.44 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.31 | 95% Gamma Adjusted UCL (use when n<50) | 0.311 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.366 | SD (KM) | 1.415 |
| Variance (KM) | 2.003 | SE of Mean (KM) | 0.146 |
| k hat (KM) | 0.0671 | k star (KM) | 0.0709 |
| nu hat (KM) | 16.23 | nu star (KM) | 17.16 |
| theta hat (KM) | 5.465 | theta star (KM) | 5.169 |
| 80% gamma percentile (KM) | 0.135 | 90% gamma percentile (KM) | 0.799 |
| 95% gamma percentile (KM) | 2.111 | 99% gamma percentile (KM) | 6.866 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (17.16, α) | 8.786 | Adjusted Chi Square Value (17.16, β) | 8.714 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.716 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.722 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.943 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.85 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.225 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.251 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.333 | Mean in Log Scale | -1.936 |
| SD in Original Scale | 1.388 | SD in Log Scale | 0.914 |
| 95% t UCL (assumes normality of ROS data) | 0.542 | 95% Percentile Bootstrap UCL | 0.575 |
| 95% BCA Bootstrap UCL | 0.721 | 95% Bootstrap t UCL | 1.269 |
| 95% H-UCL (Log ROS) | 0.261 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.817 | KM Geo Mean | 0.162 |
| KM SD (logged) | 0.927 | 95% Critical H Value (KM-Log) | 2.123 |

| | | | |
|---|---|---|---|
| KM Standard Error of Mean (logged) | 0.307 | 95% H-UCL (KM -Log) | 0.299 |
| KM SD (logged) | 0.927 | 95% Critical H Value (KM-Log) | 2.123 |
| KM Standard Error of Mean (logged) | 0.307 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.465 | Mean in Log Scale | -0.61 |
| SD in Original Scale | 2.875 | SD in Log Scale | 1.284 |
| 95% t UCL (Assumes normality) | 1.898 | 95% H-Stat UCL | 1.653 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 0.299 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

BENZENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 96 | Number of Distinct Observations | 57 |
| | | Number of Missing Observations | 127 |
| Number of Detects | 11 | Number of Non-Detects | 85 |
| Number of Distinct Detects | 10 | Number of Distinct Non-Detects | 50 |
| Minimum Detect | 0.0039 | Minimum Non-Detect | 0.0013 |
| Maximum Detect | 3.2 | Maximum Non-Detect | 32 |
| Variance Detects | 1.056 | Percent Non-Detects | 88.54% |
| Mean Detects | 0.861 | SD Detects | 1.027 |
| Median Detects | 0.36 | CV Detects | 1.194 |
| Skewness Detects | 1.383 | Kurtosis Detects | 1.474 |
| Mean of Logged Detects | -1.237 | SD of Logged Detects | 1.971 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.813 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.85 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.232 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.251 | Detected Data appear Normal at 5% Significance Level |

Detected Data appear Approximate Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.114 | KM Standard Error of Mean | 0.0509 |
| KM SD | 0.451 | 95% KM (BCA) UCL | 0.204 |
| 95% KM (t) UCL | 0.199 | 95% KM (Percentile Bootstrap) UCL | 0.204 |
| 95% KM (z) UCL | 0.198 | 95% KM Bootstrap t UCL | 0.276 |
| 90% KM Chebyshev UCL | 0.267 | 95% KM Chebyshev UCL | 0.336 |

| | | | |
|---|---|---|---|
| 97.5% KM Chebyshev UCL | 0.432 | 99% KM Chebyshev UCL | 0.62 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.321 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.776 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.187 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.268 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.573 | k star (bias corrected MLE) | 0.477 |
| Theta hat (MLE) | 1.503 | Theta star (bias corrected MLE) | 1.804 |
| nu hat (MLE) | 12.6 | nu star (bias corrected) | 10.49 |
| Mean (detects) | 0.861 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0039 | Mean | 0.107 |
| Maximum | 3.2 | Median | 0.01 |
| SD | 0.43 | CV | 4.005 |
| k hat (MLE) | 0.34 | k star (bias corrected MLE) | 0.336 |
| Theta hat (MLE) | 0.316 | Theta star (bias corrected MLE) | 0.32 |
| nu hat (MLE) | 65.24 | nu star (bias corrected) | 64.53 |
| Adjusted Level of Significance (β) | 0.0475 | | |
| Approximate Chi Square Value (64.53, α) | 47.05 | Adjusted Chi Square Value (64.53, β) | 46.82 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.147 | 95% Gamma Adjusted UCL (use when n<50) | 0.148 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.114 | SD (KM) | 0.451 |
| Variance (KM) | 0.203 | SE of Mean (KM) | 0.0509 |
| k hat (KM) | 0.064 | k star (KM) | 0.0689 |
| nu hat (KM) | 12.28 | nu star (KM) | 13.23 |
| theta hat (KM) | 1.782 | theta star (KM) | 1.654 |
| 80% gamma percentile (KM) | 0.0394 | 90% gamma percentile (KM) | 0.243 |
| 95% gamma percentile (KM) | 0.655 | 99% gamma percentile (KM) | 2.164 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (13.23, α) | 6.05 | Adjusted Chi Square Value (13.23, β) | 5.976 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.249 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.253 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.913 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.85 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.189 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.251 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.101 | Mean in Log Scale | -6.373 |
| SD in Original Scale | 0.432 | SD in Log Scale | 2.403 |
| 95% t UCL (assumes normality of ROS data) | 0.174 | 95% Percentile Bootstrap UCL | 0.179 |
| 95% BCA Bootstrap UCL | 0.216 | 95% Bootstrap t UCL | 0.243 |
| 95% H-UCL (Log ROS) | 0.0808 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -5.437 | KM Geo Mean | 0.00435 |
| KM SD (logged) | 1.866 | 95% Critical H Value (KM-Log) | 3.237 |
| KM Standard Error of Mean (logged) | 0.413 | 95% H-UCL (KM -Log) | 0.0461 |
| KM SD (logged) | 1.866 | 95% Critical H Value (KM-Log) | 3.237 |
| KM Standard Error of Mean (logged) | 0.413 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.806 | Mean in Log Scale | -3.688 |
| SD in Original Scale | 2.52 | SD in Log Scale | 2.699 |
| 95% t UCL (Assumes normality) | 1.234 | 95% H-Stat UCL | 3.167 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Normal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (t) UCL | 0.199 |

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**ETHYLBENZENE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 96 | Number of Distinct Observations | 62 |
| | | Number of Missing Observations | 127 |
| Number of Detects | 27 | Number of Non-Detects | 69 |
| Number of Distinct Detects | 27 | Number of Distinct Non-Detects | 42 |
| Minimum Detect | 0.003 | Minimum Non-Detect | 0.0042 |
| Maximum Detect | 61 | Maximum Non-Detect | 32 |
| Variance Detects | 165.5 | Percent Non-Detects | 71.88% |
| Mean Detects | 5.503 | SD Detects | 12.86 |
| Median Detects | 0.92 | CV Detects | 2.337 |
| Skewness Detects | 3.592 | Kurtosis Detects | 14.03 |
| Mean of Logged Detects | -0.696 | SD of Logged Detects | 2.738 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.481 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.923 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.35 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.167 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 1.588 | KM Standard Error of Mean | 0.746 |
| KM SD | 7.149 | 95% KM (BCA) UCL | 3.038 |
| 95% KM (t) UCL | 2.827 | 95% KM (Percentile Bootstrap) UCL | 3.055 |
| 95% KM (z) UCL | 2.815 | 95% KM Bootstrap t UCL | 5.195 |
| 90% KM Chebyshev UCL | 3.825 | 95% KM Chebyshev UCL | 4.839 |
| 97.5% KM Chebyshev UCL | 6.245 | 99% KM Chebyshev UCL | 9.008 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.657 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.858 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.128 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.183 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.289 | k star (bias corrected MLE) | 0.281 |
| Theta hat (MLE) | 19.05 | Theta star (bias corrected MLE) | 19.55 |
| nu hat (MLE) | 15.6 | nu star (bias corrected) | 15.2 |
| Mean (detects) | 5.503 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.003 | Mean | 1.555 |
| Maximum | 61 | Median | 0.01 |
| SD | 7.173 | CV | 4.613 |
| k hat (MLE) | 0.188 | k star (bias corrected MLE) | 0.189 |
| Theta hat (MLE) | 8.262 | Theta star (bias corrected MLE) | 8.215 |
| nu hat (MLE) | 36.14 | nu star (bias corrected) | 36.34 |
| Adjusted Level of Significance (β) | 0.0475 | | |
| Approximate Chi Square Value (36.34, α) | 23.54 | Adjusted Chi Square Value (36.34, β) | 23.39 |
| 95% Gamma Approximate UCL (use when n>=50) | 2.4 | 95% Gamma Adjusted UCL (use when n<50) | 2.416 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 1.588 | SD (KM) | 7.149 |
| Variance (KM) | 51.11 | SE of Mean (KM) | 0.746 |
| k hat (KM) | 0.0494 | k star (KM) | 0.0548 |
| nu hat (KM) | 9.479 | nu star (KM) | 10.52 |

| | | | |
|---|---|---|---|
| theta hat (KM) | 32.18 | theta star (KM) | 29 |
| 80% gamma percentile (KM) | 0.292 | 90% gamma percentile (KM) | 2.71 |
| 95% gamma percentile (KM) | 8.7 | 99% gamma percentile (KM) | 33.3 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (10.52, α) | 4.267 | Adjusted Chi Square Value (10.52, β) | 4.206 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 3.915 | 95% Gamma Adjusted KM-UCL (use when n<50) | 3.971 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.963 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.923 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.114 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.167 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 1.549 | Mean in Log Scale | -5.255 |
| SD in Original Scale | 7.174 | SD in Log Scale | 3.465 |
| 95% t UCL (assumes normality of ROS data) | 2.765 | 95% Percentile Bootstrap UCL | 2.856 |
| 95% BCA Bootstrap UCL | 3.669 | 95% Bootstrap t UCL | 5.361 |
| 95% H-UCL (Log ROS) | 14.4 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -4.212 | KM Geo Mean | 0.0148 |
| KM SD (logged) | 2.751 | 95% Critical H Value (KM-Log) | 4.405 |
| KM Standard Error of Mean (logged) | 0.299 | 95% H-UCL (KM -Log) | 2.264 |
| KM SD (logged) | 2.751 | 95% Critical H Value (KM-Log) | 4.405 |
| KM Standard Error of Mean (logged) | 0.299 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 2.152 | Mean in Log Scale | -3.259 |
| SD in Original Scale | 7.452 | SD in Log Scale | 3.086 |
| 95% t UCL (Assumes normality) | 3.416 | 95% H-Stat UCL | 20.98 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM Approximate Gamma UCL | 3.915 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

XYLENES (TOTAL)

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 97 | Number of Distinct Observations | 69 |
| | | Number of Missing Observations | 126 |
| Number of Detects | 33 | Number of Non-Detects | 64 |
| Number of Distinct Detects | 32 | Number of Distinct Non-Detects | 38 |
| Minimum Detect | 0.002 | Minimum Non-Detect | 0.0042 |
| Maximum Detect | 370 | Maximum Non-Detect | 32 |
| Variance Detects | 5137 | Percent Non-Detects | 65.98% |
| Mean Detects | 22.62 | SD Detects | 71.67 |
| Median Detects | 0.58 | CV Detects | 3.168 |
| Skewness Detects | 4.271 | Kurtosis Detects | 18.92 |
| Mean of Logged Detects | -0.137 | SD of Logged Detects | 3.028 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.356 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.931 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.398 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.152 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 7.758 | KM Standard Error of Mean | 4.386 |
| KM SD | 42.54 | 95% KM (BCA) UCL | 15.85 |
| 95% KM (t) UCL | 15.04 | 95% KM (Percentile Bootstrap) UCL | 15.92 |
| 95% KM (z) UCL | 14.97 | 95% KM Bootstrap t UCL | 54.15 |
| 90% KM Chebyshev UCL | 20.92 | 95% KM Chebyshev UCL | 26.88 |
| 97.5% KM Chebyshev UCL | 35.15 | 99% KM Chebyshev UCL | 51.4 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 1.722 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.895 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.206 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.169 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.222 | k star (bias corrected MLE) | 0.222 |
| Theta hat (MLE) | 101.8 | Theta star (bias corrected MLE) | 101.8 |
| nu hat (MLE) | 14.67 | nu star (bias corrected) | 14.67 |
| Mean (detects) | 22.62 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.002 | Mean | 7.704 |

| | | | |
|---|---|---|---|
| Maximum | 370 | Median | 0.01 |
| SD | 42.76 | CV | 5.55 |
| k hat (MLE) | 0.15 | k star (bias corrected MLE) | 0.152 |
| Theta hat (MLE) | 51.38 | Theta star (bias corrected MLE) | 50.63 |
| nu hat (MLE) | 29.09 | nu star (bias corrected) | 29.52 |
| Adjusted Level of Significance (β) | 0.0475 | | |
| Approximate Chi Square Value (29.52, α) | 18.12 | Adjusted Chi Square Value (29.52, β) | 17.98 |
| 95% Gamma Approximate UCL (use when n>=50) | 12.55 | 95% Gamma Adjusted UCL (use when n<50) | 12.65 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 7.758 | SD (KM) | 42.54 |
| Variance (KM) | 1809 | SE of Mean (KM) | 4.386 |
| k hat (KM) | 0.0333 | k star (KM) | 0.0391 |
| nu hat (KM) | 6.453 | nu star (KM) | 7.587 |
| theta hat (KM) | 233.2 | theta star (KM) | 198.4 |
| 80% gamma percentile (KM) | 0.383 | 90% gamma percentile (KM) | 8.078 |
| 95% gamma percentile (KM) | 36.73 | 99% gamma percentile (KM) | 184.8 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (7.59, α) | 2.498 | Adjusted Chi Square Value (7.59, β) | 2.454 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 23.56 | 95% Gamma Adjusted KM-UCL (use when n<50) | 23.98 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.977 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.931 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.122 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.152 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 7.7 | Mean in Log Scale | -4.312 |
| SD in Original Scale | 42.76 | SD in Log Scale | 3.726 |
| 95% t UCL (assumes normality of ROS data) | 14.91 | 95% Percentile Bootstrap UCL | 15.53 |
| 95% BCA Bootstrap UCL | 20.83 | 95% Bootstrap t UCL | 53.44 |
| 95% H-UCL (Log ROS) | 124.2 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -3.74 | KM Geo Mean | 0.0238 |
| KM SD (logged) | 3.266 | 95% Critical H Value (KM-Log) | 5.122 |
| KM Standard Error of Mean (logged) | 0.382 | 95% H-UCL (KM -Log) | 27.15 |
| KM SD (logged) | 3.266 | 95% Critical H Value (KM-Log) | 5.122 |
| KM Standard Error of Mean (logged) | 0.382 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 8.3 | Mean in Log Scale | -2.884 |
| SD in Original Scale | 42.72 | SD in Log Scale | 3.424 |
| 95% t UCL (Assumes normality) | 15.5 | 95% H-Stat UCL | 127.3 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Lognormal Distributed at 5% Significance Level

Suggested UCL to Use

| | |
|---|---|
| 97.5% KM (Chebyshev) UCL | 35.15 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

| Analyte | Group | Matrix | Valid Obs | Rec. UCL | Method | Max | UCL>Max |
|---|---|---|---|---|---|---|---|
| ALUMINUM | NA | NA | 271 | 3326 | 95% Chebyshev (Mean, Sd) UCL | 12100 | |
| ANTIMONY | NA | NA | 273 | 7.176 | KM H-UCL | 515 | |
| ARSENIC | NA | NA | 260 | 171.4 | 95% KM (Chebyshev) UCL | 5270 | |
| BARIUM | NA | NA | 270 | 834.8 | KM H-UCL | 14500 | |
| CADMIUM | NA | NA | 273 | 0.904 | KM H-UCL | 36.6 | |
| CHROMIUM, HEXAVALENT | NA | NA | 44 | 0.84 | 95% KM Adjusted Gamma UCL | 2.8 | |
| COBALT | NA | NA | 271 | 4.181 | KM H-UCL | 82.4 | |
| COPPER | NA | NA | 270 | 82.68 | KM H-UCL | 1360 | |
| CYANIDE | NA | NA | 254 | 46.76 | KM H-UCL | 953 | |
| IRON | NA | NA | 271 | 11177 | 95% Chebyshev (Mean, Sd) UCL | 49200 | |
| LEAD | NA | NA | 323 | 1217 | 95% KM (Chebyshev) UCL | 25300 | |
| MANGANESE | NA | NA | 264 | 145.5 | 95% Chebyshev (Mean, Sd) UCL | 1420 | |
| MERCURY | NA | NA | 254 | 1.107 | KM H-UCL | 25.2 | |
| THALLIUM | NA | NA | 273 | 0.477 | 95% KM (t) UCL | 3.8 | |
| VANADIUM | NA | NA | 264 | 14.58 | KM H-UCL | 87.8 | |
| ZINC | NA | NA | 273 | 470.1 | 95% KM (Chebyshev) UCL | 5270 | |
| AROCLOR-1254 | NA | NA | 192 | 0.062 | 95% KM Approximate Gamma UCL | 1.4 | |
| AROCLOR-1260 | NA | NA | 192 | 0.265 | 95% KM Approximate Gamma UCL | 3.1 | |
| DIELDRIN | NA | NA | 131 | 0.00639 | KM H-UCL | 0.077 | |
| BENZO(A)ANTHRACENE | NA | NA | 256 | 2.06 | 95% KM (Chebyshev) UCL | 29 | |
| BENZO(A)PYRENE | NA | NA | 255 | 2.451 | 95% KM (Chebyshev) UCL | 37 | |
| BENZO(B)FLUORANTHENE | NA | NA | 253 | 3.729 | 95% KM (Chebyshev) UCL | 76 | |
| BENZO(K)FLUORANTHENE | NA | NA | 253 | 2.6 | 95% KM (Chebyshev) UCL | 37 | |
| CHRYSENE | NA | NA | 256 | 2.941 | 95% KM (Chebyshev) UCL | 45 | |
| DIBENZO(A,H)ANTHRACENE | NA | NA | 255 | 0.392 | 95% KM Approximate Gamma UCL | 4.9 | |
| INDENO(1,2,3-CD)PYRENE | NA | NA | 251 | 1.602 | 95% KM (Chebyshev) UCL | 20 | |
| PENTACHLOROPHENOL | NA | NA | 233 | 23.72 | 95% KM (Chebyshev) UCL | 650 | |

0-10soil_UNDV.xlsx

**UCL Statistics for Data Sets with Non-Detects**

**0-10soil_UNDV.xlsx**

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.11/18/2017 9:57:23 AM |
| From File | ProUCL_FMPHHRA_01.18.17 input_d.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**ALUMINUM**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 271 | Number of Distinct Observations | 226 |
| | | Number of Missing Observations | 132 |
| Minimum | 95 | Mean | 2695 |
| Maximum | 12100 | Median | 2000 |
| SD | 2381 | Std. Error of Mean | 144.6 |
| Coefficient of Variation | 0.883 | Skewness | 1.872 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.79 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.183 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0542 | Data Not Normal at 5% Significance Level |

**Data Not Normal at 5% Significance Level**

**Assuming Normal Distribution**

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 2934 | 95% Adjusted-CLT UCL (Chen-1995) | 2951 |
| | | 95% Modified-t UCL (Johnson-1978) | 2937 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 1.746 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.771 | Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.0765 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.0564 | Data Not Gamma Distributed at 5% Significance Level |

**Data Not Gamma Distributed at 5% Significance Level**

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.568 | k star (bias corrected MLE) | 1.553 |
| Theta hat (MLE) | 1719 | Theta star (bias corrected MLE) | 1735 |
| nu hat (MLE) | 850 | nu star (bias corrected) | 841.9 |
| MLE Mean (bias corrected) | 2695 | MLE Sd (bias corrected) | 2163 |
| | | Approximate Chi Square Value (0.05) | 775.5 |
| Adjusted Level of Significance | 0.0491 | Adjusted Chi Square Value | 775.2 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 2926 | 95% Adjusted Gamma UCL (use when n<50) | 2927 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.967 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk P Value | 9.2641E-4 | Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0596 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.0542 | Data Not Lognormal at 5% Significance Level |

Data Not Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | 4.554 | Mean of logged Data | 7.548 |
| Maximum of Logged Data | 9.401 | SD of logged Data | 0.888 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 3142 | 90% Chebyshev (MVUE) UCL | 3341 |
| 95% Chebyshev (MVUE) UCL | 3582 | 97.5% Chebyshev (MVUE) UCL | 3917 |
| 99% Chebyshev (MVUE) UCL | 4576 | | |

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution (0.05)

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 2933 | 95% Jackknife UCL | 2934 |
| 95% Standard Bootstrap UCL | 2932 | 95% Bootstrap-t UCL | 2944 |
| 95% Hall's Bootstrap UCL | 2942 | 95% Percentile Bootstrap UCL | 2943 |
| 95% BCA Bootstrap UCL | 2956 | | |
| 90% Chebyshev(Mean, Sd) UCL | 3129 | 95% Chebyshev(Mean, Sd) UCL | 3326 |
| 97.5% Chebyshev(Mean, Sd) UCL | 3598 | 99% Chebyshev(Mean, Sd) UCL | 4134 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% Chebyshev (Mean, Sd) UCL | 3326 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**ANTIMONY**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 273 | Number of Distinct Observations | 138 |
| | | Number of Missing Observations | 130 |
| Number of Detects | 121 | Number of Non-Detects | 152 |
| Number of Distinct Detects | 100 | Number of Distinct Non-Detects | 61 |
| Minimum Detect | 0.21 | Minimum Non-Detect | 0.36 |
| Maximum Detect | 515 | Maximum Non-Detect | 37.95 |
| Variance Detects | 3505 | Percent Non-Detects | 55.68% |
| Mean Detects | 18.98 | SD Detects | 59.2 |
| Median Detects | 4.9 | CV Detects | 3.119 |

| | | | |
|---|---|---|---|
| Skewness Detects | 6.522 | Kurtosis Detects | 48.1 |
| Mean of Logged Detects | 1.547 | SD of Logged Detects | 1.538 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.326 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.376 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0809 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 9.135 | KM Standard Error of Mean | 2.447 |
| KM SD | 40.24 | 95% KM (BCA) UCL | 14.08 |
| 95% KM (t) UCL | 13.17 | 95% KM (Percentile Bootstrap) UCL | 13.18 |
| 95% KM (z) UCL | 13.16 | 95% KM Bootstrap t UCL | 17.98 |
| 90% KM Chebyshev UCL | 16.48 | 95% KM Chebyshev UCL | 19.8 |
| 97.5% KM Chebyshev UCL | 24.42 | 99% KM Chebyshev UCL | 33.48 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 7.143 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.829 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.205 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0893 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.461 | k star (bias corrected MLE) | 0.455 |
| Theta hat (MLE) | 41.19 | Theta star (bias corrected MLE) | 41.73 |
| nu hat (MLE) | 111.5 | nu star (bias corrected) | 110.1 |
| Mean (detects) | 18.98 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 8.439 |
| Maximum | 515 | Median | 0.01 |
| SD | 40.44 | CV | 4.792 |
| k hat (MLE) | 0.187 | k star (bias corrected MLE) | 0.187 |
| Theta hat (MLE) | 45.11 | Theta star (bias corrected MLE) | 45.02 |
| nu hat (MLE) | 102.1 | nu star (bias corrected) | 102.4 |
| Adjusted Level of Significance (β) | 0.0491 | | |
| Approximate Chi Square Value (102.35, α) | 80.01 | Adjusted Chi Square Value (102.35, β) | 79.91 |
| 95% Gamma Approximate UCL (use when n>=50) | 10.8 | 95% Gamma Adjusted UCL (use when n<50) | 10.81 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 9.135 | SD (KM) | 40.24 |
| Variance (KM) | 1619 | SE of Mean (KM) | 2.447 |
| k hat (KM) | 0.0515 | k star (KM) | 0.0534 |
| nu hat (KM) | 28.14 | nu star (KM) | 29.17 |
| theta hat (KM) | 177.2 | theta star (KM) | 171 |
| 80% gamma percentile (KM) | 1.55 | 90% gamma percentile (KM) | 15.14 |
| 95% gamma percentile (KM) | 49.66 | 99% gamma percentile (KM) | 193.5 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (29.17, α) | 17.84 | Adjusted Chi Square Value (29.17, β) | 17.79 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 14.94 | 95% Gamma Adjusted KM-UCL (use when n<50) | 14.98 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.973 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.171 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0652 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0809 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 9.019 | Mean in Log Scale | 0.518 |
| SD in Original Scale | 40.33 | SD in Log Scale | 1.531 |
| 95% t UCL (assumes normality of ROS data) | 13.05 | 95% Percentile Bootstrap UCL | 13.34 |
| 95% BCA Bootstrap UCL | 15.22 | 95% Bootstrap t UCL | 17.99 |
| 95% H-UCL (Log ROS) | 6.911 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 0.552 | KM Geo Mean | 1.737 |
| KM SD (logged) | 1.533 | 95% Critical H Value (KM-Log) | 2.625 |
| KM Standard Error of Mean (logged) | 0.113 | 95% H-UCL (KM -Log) | 7.176 |
| KM SD (logged) | 1.533 | 95% Critical H Value (KM-Log) | 2.625 |
| KM Standard Error of Mean (logged) | 0.113 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 9.775 | Mean in Log Scale | 1.038 |
| SD in Original Scale | 40.2 | SD in Log Scale | 1.286 |
| 95% t UCL (Assumes normality) | 13.79 | 95% H-Stat UCL | 7.767 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 7.176 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

ARSENIC

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 260 | Number of Distinct Observations | 169 |
| | | Number of Missing Observations | 143 |
| Number of Detects | 234 | Number of Non-Detects | 26 |
| Number of Distinct Detects | 155 | Number of Distinct Non-Detects | 23 |
| Minimum Detect | 0.37 | Minimum Non-Detect | 0.72 |
| Maximum Detect | 5270 | Maximum Non-Detect | 3.4 |
| Variance Detects | 139777 | Percent Non-Detects | 10% |
| Mean Detects | 83.53 | SD Detects | 373.9 |
| Median Detects | 4.95 | CV Detects | 4.476 |
| Skewness Detects | 11.9 | Kurtosis Detects | 161.1 |
| Mean of Logged Detects | 2.211 | SD of Logged Detects | 2.016 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.229 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.412 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0583 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 75.24 | KM Standard Error of Mean | 22.05 |
| KM SD | 354.8 | 95% KM (BCA) UCL | 120.1 |
| 95% KM (t) UCL | 111.6 | 95% KM (Percentile Bootstrap) UCL | 117.4 |
| 95% KM (z) UCL | 111.5 | 95% KM Bootstrap t UCL | 169.2 |
| 90% KM Chebyshev UCL | 141.4 | 95% KM Chebyshev UCL | 171.4 |
| 97.5% KM Chebyshev UCL | 212.9 | 99% KM Chebyshev UCL | 294.6 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 18.23 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.867 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.233 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0648 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.31 | k star (bias corrected MLE) | 0.309 |
| Theta hat (MLE) | 269.6 | Theta star (bias corrected MLE) | 270.6 |
| nu hat (MLE) | 145 | nu star (bias corrected) | 144.5 |
| Mean (detects) | 83.53 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 75.18 |
| Maximum | 5270 | Median | 3.5 |
| SD | 355.5 | CV | 4.729 |
| k hat (MLE) | 0.254 | k star (bias corrected MLE) | 0.254 |
| Theta hat (MLE) | 296 | Theta star (bias corrected MLE) | 296.5 |
| nu hat (MLE) | 132 | nu star (bias corrected) | 131.9 |
| Adjusted Level of Significance (β) | 0.0491 | | |
| Approximate Chi Square Value (131.86, α) | 106.3 | Adjusted Chi Square Value (131.86, β) | 106.2 |
| 95% Gamma Approximate UCL (use when n>=50) | 93.22 | 95% Gamma Adjusted UCL (use when n<50) | 93.34 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 75.24 | SD (KM) | 354.8 |
| Variance (KM) | 125880 | SE of Mean (KM) | 22.05 |
| k hat (KM) | 0.045 | k star (KM) | 0.047 |
| nu hat (KM) | 23.39 | nu star (KM) | 24.45 |
| theta hat (KM) | 1673 | theta star (KM) | 1600 |
| 80% gamma percentile (KM) | 8.146 | 90% gamma percentile (KM) | 105.6 |
| 95% gamma percentile (KM) | 390.8 | 99% gamma percentile (KM) | 1676 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (24.45, α) | 14.19 | Adjusted Chi Square Value (24.45, β) | 14.15 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 129.6 | 95% Gamma Adjusted KM-UCL (use when n<50) | 130 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.912 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.143 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0583 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 75.21 | Mean in Log Scale | 1.874 |
| SD in Original Scale | 355.5 | SD in Log Scale | 2.17 |
| 95% t UCL (assumes normality of ROS data) | 111.6 | 95% Percentile Bootstrap UCL | 119 |
| 95% BCA Bootstrap UCL | 148.8 | 95% Bootstrap t UCL | 170.4 |
| 95% H-UCL (Log ROS) | 107.2 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 1.938 | KM Geo Mean | 6.943 |
| KM SD (logged) | 2.082 | 95% Critical H Value (KM-Log) | 3.208 |
| KM Standard Error of Mean (logged) | 0.13 | 95% H-UCL (KM -Log) | 91.8 |
| KM SD (logged) | 2.082 | 95% Critical H Value (KM-Log) | 3.208 |
| KM Standard Error of Mean (logged) | 0.13 | | |

**DL/2 Statistics**

| DL/2 Normal | | DL/2 Log-Transformed | |
|---|---|---|---|
| Mean in Original Scale | 75.23 | Mean in Log Scale | 1.923 |
| SD in Original Scale | 355.5 | SD in Log Scale | 2.103 |
| 95% t UCL (Assumes normality) | 111.6 | 95% H-Stat UCL | 95.25 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 171.4 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**BARIUM**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 270 | Number of Distinct Observations | 235 |
| | | Number of Missing Observations | 133 |
| Number of Detects | 245 | Number of Non-Detects | 25 |
| Number of Distinct Detects | 225 | Number of Distinct Non-Detects | 11 |
| Minimum Detect | 1.8 | Minimum Non-Detect | 14 |
| Maximum Detect | 14500 | Maximum Non-Detect | 21 |
| Variance Detects | 3121814 | Percent Non-Detects | 9.259% |
| Mean Detects | 582.6 | SD Detects | 1767 |
| Median Detects | 112 | CV Detects | 3.033 |
| Skewness Detects | 6.045 | Kurtosis Detects | 41.22 |
| Mean of Logged Detects | 4.623 | SD of Logged Detects | 1.912 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.34 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.371 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.057 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 529.4 | KM Standard Error of Mean | 102.9 |
| KM SD | 1688 | 95% KM (BCA) UCL | 723.7 |
| 95% KM (t) UCL | 699.2 | 95% KM (Percentile Bootstrap) UCL | 706.7 |
| 95% KM (z) UCL | 698.7 | 95% KM Bootstrap t UCL | 774.7 |
| 90% KM Chebyshev UCL | 838.2 | 95% KM Chebyshev UCL | 978 |
| 97.5% KM Chebyshev UCL | 1172 | 99% KM Chebyshev UCL | 1554 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 9.976 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.85 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.164 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0628 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.38 | k star (bias corrected MLE) | 0.378 |
| Theta hat (MLE) | 1532 | Theta star (bias corrected MLE) | 1539 |
| nu hat (MLE) | 186.4 | nu star (bias corrected) | 185.4 |
| Mean (detects) | 582.6 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 528.6 |
| Maximum | 14500 | Median | 95.05 |
| SD | 1691 | CV | 3.199 |
| k hat (MLE) | 0.279 | k star (bias corrected MLE) | 0.278 |
| Theta hat (MLE) | 1895 | Theta star (bias corrected MLE) | 1899 |
| nu hat (MLE) | 150.6 | nu star (bias corrected) | 150.3 |
| Adjusted Level of Significance (β) | 0.0491 | | |
| Approximate Chi Square Value (150.30, α) | 123 | Adjusted Chi Square Value (150.30, β) | 122.8 |
| 95% Gamma Approximate UCL (use when n>=50) | 646.1 | 95% Gamma Adjusted UCL (use when n<50) | 646.8 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 529.4 | SD (KM) | 1688 |
| Variance (KM) | 2848941 | SE of Mean (KM) | 102.9 |
| k hat (KM) | 0.0984 | k star (KM) | 0.0997 |
| nu hat (KM) | 53.11 | nu star (KM) | 53.86 |
| theta hat (KM) | 5382 | theta star (KM) | 5308 |
| 80% gamma percentile (KM) | 365.9 | 90% gamma percentile (KM) | 1407 |
| 95% gamma percentile (KM) | 3073 | 99% gamma percentile (KM) | 8420 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (53.86, α) | 38 | Adjusted Chi Square Value (53.86, β) | 37.92 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 750.3 | 95% Gamma Adjusted KM-UCL (use when n<50) | 751.7 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.969 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.00364 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0493 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.057 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Approximate Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 529.5 | Mean in Log Scale | 4.392 |
| SD in Original Scale | 1691 | SD in Log Scale | 1.968 |
| 95% t UCL (assumes normality of ROS data) | 699.4 | 95% Percentile Bootstrap UCL | 718.6 |
| 95% BCA Bootstrap UCL | 750.1 | 95% Bootstrap t UCL | 777.6 |
| 95% H-UCL (Log ROS) | 810.7 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 4.372 | KM Geo Mean | 79.21 |
| KM SD (logged) | 1.989 | 95% Critical H Value (KM-Log) | 3.11 |
| KM Standard Error of Mean (logged) | 0.122 | 95% H-UCL (KM -Log) | 834.8 |
| KM SD (logged) | 1.989 | 95% Critical H Value (KM-Log) | 3.11 |
| KM Standard Error of Mean (logged) | 0.122 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 529.5 | Mean in Log Scale | 4.398 |
| SD in Original Scale | 1691 | SD in Log Scale | 1.955 |
| 95% t UCL (Assumes normality) | 699.3 | 95% H-Stat UCL | 791.4 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 834.8 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**CADMIUM**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 273 | Number of Distinct Observations | 136 |
| | | Number of Missing Observations | 130 |
| Number of Detects | 183 | Number of Non-Detects | 90 |
| Number of Distinct Detects | 119 | Number of Distinct Non-Detects | 38 |
| Minimum Detect | 0.03 | Minimum Non-Detect | 0.03 |
| Maximum Detect | 36.6 | Maximum Non-Detect | 0.98 |
| Variance Detects | 10.24 | Percent Non-Detects | 32.97% |
| Mean Detects | 1.276 | SD Detects | 3.201 |
| Median Detects | 0.37 | CV Detects | 2.508 |
| Skewness Detects | 8.011 | Kurtosis Detects | 82.7 |
| Mean of Logged Detects | -0.88 | SD of Logged Detects | 1.446 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.394 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.348 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0659 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.896 | KM Standard Error of Mean | 0.162 |
| KM SD | 2.67 | 95% KM (BCA) UCL | 1.194 |
| 95% KM (t) UCL | 1.164 | 95% KM (Percentile Bootstrap) UCL | 1.179 |
| 95% KM (z) UCL | 1.163 | 95% KM Bootstrap t UCL | 1.362 |
| 90% KM Chebyshev UCL | 1.382 | 95% KM Chebyshev UCL | 1.603 |
| 97.5% KM Chebyshev UCL | 1.908 | 99% KM Chebyshev UCL | 2.509 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 6.738 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.815 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.155 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0717 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.556 | k star (bias corrected MLE) | 0.551 |
| Theta hat (MLE) | 2.295 | Theta star (bias corrected MLE) | 2.318 |
| nu hat (MLE) | 203.5 | nu star (bias corrected) | 201.5 |
| Mean (detects) | 1.276 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 0.861 |
| Maximum | 36.6 | Median | 0.155 |
| SD | 2.684 | CV | 3.118 |
| k hat (MLE) | 0.35 | k star (bias corrected MLE) | 0.349 |
| Theta hat (MLE) | 2.458 | Theta star (bias corrected MLE) | 2.468 |
| nu hat (MLE) | 191.3 | nu star (bias corrected) | 190.5 |
| Adjusted Level of Significance (β) | 0.0491 | | |
| Approximate Chi Square Value (190.48, α) | 159.6 | Adjusted Chi Square Value (190.48, β) | 159.4 |
| 95% Gamma Approximate UCL (use when n>=50) | 1.028 | 95% Gamma Adjusted UCL (use when n<50) | 1.029 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.896 | SD (KM) | 2.67 |
| Variance (KM) | 7.127 | SE of Mean (KM) | 0.162 |
| k hat (KM) | 0.113 | k star (KM) | 0.114 |
| nu hat (KM) | 61.51 | nu star (KM) | 62.17 |
| theta hat (KM) | 7.954 | theta star (KM) | 7.869 |

| | | | |
|---|---|---|---|
| 80% gamma percentile (KM) | 0.739 | 90% gamma percentile (KM) | 2.5 |
| 95% gamma percentile (KM) | 5.145 | 99% gamma percentile (KM) | 13.33 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (62.17, α) | 45.03 | Adjusted Chi Square Value (62.17, β) | 44.96 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1.237 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1.239 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.964 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.00323 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0475 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0659 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Approximate Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.893 | Mean in Log Scale | -1.415 |
| SD in Original Scale | 2.675 | SD in Log Scale | 1.493 |
| 95% t UCL (assumes normality of ROS data) | 1.16 | 95% Percentile Bootstrap UCL | 1.172 |
| 95% BCA Bootstrap UCL | 1.342 | 95% Bootstrap t UCL | 1.36 |
| 95% H-UCL (Log ROS) | 0.937 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.391 | KM Geo Mean | 0.249 |
| KM SD (logged) | 1.459 | 95% Critical H Value (KM-Log) | 2.551 |
| KM Standard Error of Mean (logged) | 0.0934 | 95% H-UCL (KM -Log) | 0.904 |
| KM SD (logged) | 1.459 | 95% Critical H Value (KM-Log) | 2.551 |
| KM Standard Error of Mean (logged) | 0.0934 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.915 | Mean in Log Scale | -1.238 |
| SD in Original Scale | 2.669 | SD in Log Scale | 1.378 |
| 95% t UCL (Assumes normality) | 1.182 | 95% H-Stat UCL | 0.921 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 0.904 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

CHROMIUM, HEXAVALENT

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 44 | Number of Distinct Observations | 31 |
| | | Number of Missing Observations | 315 |
| Number of Detects | 20 | Number of Non-Detects | 24 |
| Number of Distinct Detects | 18 | Number of Distinct Non-Detects | 16 |
| Minimum Detect | 0.363 | Minimum Non-Detect | 0.45 |
| Maximum Detect | 2.8 | Maximum Non-Detect | 2.9 |
| Variance Detects | 0.366 | Percent Non-Detects | 54.55% |
| Mean Detects | 1.002 | SD Detects | 0.605 |
| Median Detects | 0.785 | CV Detects | 0.603 |
| Skewness Detects | 1.574 | Kurtosis Detects | 2.777 |
| Mean of Logged Detects | -0.143 | SD of Logged Detects | 0.539 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.844 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.905 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.202 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.192 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.682 | KM Standard Error of Mean | 0.08 |
| KM SD | 0.506 | 95% KM (BCA) UCL | 0.862 |
| 95% KM (t) UCL | 0.817 | 95% KM (Percentile Bootstrap) UCL | 0.829 |
| 95% KM (z) UCL | 0.814 | 95% KM Bootstrap t UCL | 0.849 |
| 90% KM Chebyshev UCL | 0.922 | 95% KM Chebyshev UCL | 1.031 |
| 97.5% KM Chebyshev UCL | 1.182 | 99% KM Chebyshev UCL | 1.479 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.481 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.746 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.15 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.195 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 3.59 | k star (bias corrected MLE) | 3.085 |
| Theta hat (MLE) | 0.279 | Theta star (bias corrected MLE) | 0.325 |
| nu hat (MLE) | 143.6 | nu star (bias corrected) | 123.4 |
| Mean (detects) | 1.002 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 0.522 |
| Maximum | 2.8 | Median | 0.329 |
| SD | 0.606 | CV | 1.16 |
| k hat (MLE) | 0.652 | k star (bias corrected MLE) | 0.622 |
| Theta hat (MLE) | 0.802 | Theta star (bias corrected MLE) | 0.839 |
| nu hat (MLE) | 57.34 | nu star (bias corrected) | 54.76 |
| Adjusted Level of Significance (β) | 0.0445 | | |
| Approximate Chi Square Value (54.76, α) | 38.76 | Adjusted Chi Square Value (54.76, β) | 38.3 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.738 | 95% Gamma Adjusted UCL (use when n<50) | 0.747 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.682 | SD (KM) | 0.506 |
| Variance (KM) | 0.256 | SE of Mean (KM) | 0.08 |
| k hat (KM) | 1.82 | k star (KM) | 1.711 |
| nu hat (KM) | 160.1 | nu star (KM) | 150.5 |
| theta hat (KM) | 0.375 | theta star (KM) | 0.399 |
| 80% gamma percentile (KM) | 1.04 | 90% gamma percentile (KM) | 1.377 |
| 95% gamma percentile (KM) | 1.702 | 99% gamma percentile (KM) | 2.429 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (150.55, α) | 123.2 | Adjusted Chi Square Value (150.55, β) | 122.3 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.834 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.84 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.966 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.905 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.118 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.192 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.636 | Mean in Log Scale | -0.686 |
| SD in Original Scale | 0.529 | SD in Log Scale | 0.646 |
| 95% t UCL (assumes normality of ROS data) | 0.77 | 95% Percentile Bootstrap UCL | 0.77 |
| 95% BCA Bootstrap UCL | 0.818 | 95% Bootstrap t UCL | 0.829 |
| 95% H-UCL (Log ROS) | 0.757 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -0.562 | KM Geo Mean | 0.57 |
| KM SD (logged) | 0.547 | 95% Critical H Value (KM-Log) | 1.938 |
| KM Standard Error of Mean (logged) | 0.0888 | 95% H-UCL (KM -Log) | 0.778 |
| KM SD (logged) | 0.547 | 95% Critical H Value (KM-Log) | 1.938 |
| KM Standard Error of Mean (logged) | 0.0888 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.649 | Mean in Log Scale | -0.701 |
| SD in Original Scale | 0.552 | SD in Log Scale | 0.705 |
| 95% t UCL (Assumes normality) | 0.789 | 95% H-Stat UCL | 0.795 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

| | | | |
|---|---|---|---|
| 95% KM Adjusted Gamma UCL | 0.84 | 95% GROS Adjusted Gamma UCL | 0.747 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

COBALT

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 271 | Number of Distinct Observations | 143 |
| | | Number of Missing Observations | 132 |
| Number of Detects | 231 | Number of Non-Detects | 40 |
| Number of Distinct Detects | 132 | Number of Distinct Non-Detects | 27 |
| Minimum Detect | 0.051 | Minimum Non-Detect | 0.2 |
| Maximum Detect | 82.4 | Maximum Non-Detect | 5.9 |
| Variance Detects | 91.55 | Percent Non-Detects | 14.76% |
| Mean Detects | 4.002 | SD Detects | 9.568 |
| Median Detects | 1.5 | CV Detects | 2.391 |
| Skewness Detects | 6.891 | Kurtosis Detects | 52.75 |
| Mean of Logged Detects | 0.444 | SD of Logged Detects | 1.343 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.358 | Normal GOF Test on Detected Observations Only |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.34 | Lilliefors GOF Test |
| 5% Lilliefors Critical Value | 0.0587 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 3.568 | KM Standard Error of Mean | 0.542 |
| KM SD | 8.888 | 95% KM (BCA) UCL | 4.629 |
| 95% KM (t) UCL | 4.462 | 95% KM (Percentile Bootstrap) UCL | 4.46 |
| 95% KM (z) UCL | 4.459 | 95% KM Bootstrap t UCL | 5.056 |
| 90% KM Chebyshev UCL | 5.193 | 95% KM Chebyshev UCL | 5.929 |
| 97.5% KM Chebyshev UCL | 6.951 | 99% KM Chebyshev UCL | 8.958 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 5.779 | Anderson-Darling GOF Test |
| 5% A-D Critical Value | 0.807 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.113 | Kolmogorov-Smirnov GOF |
| 5% K-S Critical Value | 0.0629 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.648 | k star (bias corrected MLE) | 0.642 |
| Theta hat (MLE) | 6.176 | Theta star (bias corrected MLE) | 6.229 |
| nu hat (MLE) | 299.4 | nu star (bias corrected) | 296.8 |
| Mean (detects) | 4.002 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 3.47 |
| Maximum | 82.4 | Median | 1.14 |
| SD | 8.929 | CV | 2.573 |
| k hat (MLE) | 0.466 | k star (bias corrected MLE) | 0.463 |
| Theta hat (MLE) | 7.451 | Theta star (bias corrected MLE) | 7.494 |
| nu hat (MLE) | 252.4 | nu star (bias corrected) | 251 |
| Adjusted Level of Significance (β) | 0.0491 | | |
| Approximate Chi Square Value (250.97, α) | 215.3 | Adjusted Chi Square Value (250.97, β) | 215.1 |
| 95% Gamma Approximate UCL (use when n>=50) | 4.045 | 95% Gamma Adjusted UCL (use when n<50) | 4.049 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 3.568 | SD (KM) | 8.888 |
| Variance (KM) | 78.99 | SE of Mean (KM) | 0.542 |
| k hat (KM) | 0.161 | k star (KM) | 0.162 |
| nu hat (KM) | 87.34 | nu star (KM) | 87.7 |
| theta hat (KM) | 22.14 | theta star (KM) | 22.05 |
| 80% gamma percentile (KM) | 4.119 | 90% gamma percentile (KM) | 10.68 |
| 95% gamma percentile (KM) | 19.33 | 99% gamma percentile (KM) | 44.09 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (87.70, α) | 67.11 | Adjusted Chi Square Value (87.70, β) | 67.02 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 4.662 | 95% Gamma Adjusted KM-UCL (use when n<50) | 4.669 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.979 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.23 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.045 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0587 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 3.533 | Mean in Log Scale | 0.309 |
| SD in Original Scale | 8.905 | SD in Log Scale | 1.318 |
| 95% t UCL (assumes normality of ROS data) | 4.426 | 95% Percentile Bootstrap UCL | 4.445 |
| 95% BCA Bootstrap UCL | 4.804 | 95% Bootstrap t UCL | 4.876 |
| 95% H-UCL (Log ROS) | 3.939 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 0.295 | KM Geo Mean | 1.343 |
| KM SD (logged) | 1.365 | 95% Critical H Value (KM-Log) | 2.458 |
| KM Standard Error of Mean (logged) | 0.0866 | 95% H-UCL (KM -Log) | 4.181 |
| KM SD (logged) | 1.365 | 95% Critical H Value (KM-Log) | 2.458 |
| KM Standard Error of Mean (logged) | 0.0866 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 3.675 | Mean in Log Scale | 0.405 |
| SD in Original Scale | 8.874 | SD in Log Scale | 1.316 |
| 95% t UCL (Assumes normality) | 4.565 | 95% H-Stat UCL | 4.326 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 4.181 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

COPPER

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 270 | Number of Distinct Observations | 201 |
| | | Number of Missing Observations | 133 |
| Number of Detects | 244 | Number of Non-Detects | 26 |
| Number of Distinct Detects | 199 | Number of Distinct Non-Detects | 11 |
| Minimum Detect | 0.1 | Minimum Non-Detect | 1.8 |
| Maximum Detect | 1360 | Maximum Non-Detect | 2.9 |
| Variance Detects | 19395 | Percent Non-Detects | 9.63% |
| Mean Detects | 54.8 | SD Detects | 139.3 |
| Median Detects | 14.55 | CV Detects | 2.541 |
| Skewness Detects | 6.496 | Kurtosis Detects | 49.49 |
| Mean of Logged Detects | 2.679 | SD of Logged Detects | 1.712 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.387 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.347 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0571 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 49.64 | KM Standard Error of Mean | 8.115 |
| KM SD | 133.1 | 95% KM (BCA) UCL | 64.84 |
| 95% KM (t) UCL | 63.04 | 95% KM (Percentile Bootstrap) UCL | 64.67 |
| 95% KM (z) UCL | 62.99 | 95% KM Bootstrap t UCL | 69.06 |
| 90% KM Chebyshev UCL | 73.99 | 95% KM Chebyshev UCL | 85.01 |
| 97.5% KM Chebyshev UCL | 100.3 | 99% KM Chebyshev UCL | 130.4 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 5.583 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.826 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.12 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0621 | Detected Data Not Gamma Distributed at 5% Significance Level |

**Detected Data Not Gamma Distributed at 5% Significance Level**

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.482 | k star (bias corrected MLE) | 0.479 |
| Theta hat (MLE) | 113.6 | Theta star (bias corrected MLE) | 114.4 |
| nu hat (MLE) | 235.4 | nu star (bias corrected) | 233.8 |
| Mean (detects) | 54.8 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 49.53 |
| Maximum | 1360 | Median | 12.65 |
| SD | 133.4 | CV | 2.693 |
| k hat (MLE) | 0.349 | k star (bias corrected MLE) | 0.348 |
| Theta hat (MLE) | 141.7 | Theta star (bias corrected MLE) | 142.3 |
| nu hat (MLE) | 188.7 | nu star (bias corrected) | 188 |
| Adjusted Level of Significance (β) | 0.0491 | | |
| Approximate Chi Square Value (187.96, α) | 157.2 | Adjusted Chi Square Value (187.96, β) | 157.1 |
| 95% Gamma Approximate UCL (use when n>=50) | 59.2 | 95% Gamma Adjusted UCL (use when n<50) | 59.26 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 49.64 | SD (KM) | 133.1 |
| Variance (KM) | 17706 | SE of Mean (KM) | 8.115 |
| k hat (KM) | 0.139 | k star (KM) | 0.14 |
| nu hat (KM) | 75.16 | nu star (KM) | 75.66 |
| theta hat (KM) | 356.7 | theta star (KM) | 354.3 |
| 80% gamma percentile (KM) | 50.95 | 90% gamma percentile (KM) | 145.6 |
| 95% gamma percentile (KM) | 276.7 | 99% gamma percentile (KM) | 662.6 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (75.66, α) | 56.62 | Adjusted Chi Square Value (75.66, β) | 56.54 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 66.33 | 95% Gamma Adjusted KM-UCL (use when n<50) | 66.43 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.984 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.557 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0304 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0571 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 49.65 | Mean in Log Scale | 2.433 |
| SD in Original Scale | 133.3 | SD in Log Scale | 1.8 |
| 95% t UCL (assumes normality of ROS data) | 63.04 | 95% Percentile Bootstrap UCL | 63.28 |
| 95% BCA Bootstrap UCL | 67.05 | 95% Bootstrap t UCL | 70.67 |
| 95% H-UCL (Log ROS) | 79.24 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 2.417 | KM Geo Mean | 11.22 |
| KM SD (logged) | 1.828 | 95% Critical H Value (KM-Log) | 2.934 |
| KM Standard Error of Mean (logged) | 0.113 | 95% H-UCL (KM -Log) | 82.68 |
| KM SD (logged) | 1.828 | 95% Critical H Value (KM-Log) | 2.934 |
| KM Standard Error of Mean (logged) | 0.113 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 49.64 | Mean in Log Scale | 2.438 |
| SD in Original Scale | 133.3 | SD in Log Scale | 1.789 |
| 95% t UCL (Assumes normality) | 63.03 | 95% H-Stat UCL | 77.71 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 82.68 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**CYANIDE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 254 | Number of Distinct Observations | 152 |
| | | Number of Missing Observations | 131 |
| Number of Detects | 136 | Number of Non-Detects | 118 |
| Number of Distinct Detects | 123 | Number of Distinct Non-Detects | 39 |
| Minimum Detect | 0.062 | Minimum Non-Detect | 0.04 |
| Maximum Detect | 953 | Maximum Non-Detect | 3.8 |
| Variance Detects | 11204 | Percent Non-Detects | 46.46% |
| Mean Detects | 41.16 | SD Detects | 105.8 |

| | | | |
|---|---|---|---|
| Median Detects | 6.55 | CV Detects | 2.572 |
| Skewness Detects | 5.611 | Kurtosis Detects | 41.71 |
| Mean of Logged Detects | 1.799 | SD of Logged Detects | 2.144 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.438 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.349 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0763 | Detected Data Not Normal at 5% Significance Level |

**Detected Data Not Normal at 5% Significance Level**

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 22.17 | KM Standard Error of Mean | 5.027 |
| KM SD | 79.82 | 95% KM (BCA) UCL | 31.32 |
| 95% KM (t) UCL | 30.47 | 95% KM (Percentile Bootstrap) UCL | 31.43 |
| 95% KM (z) UCL | 30.44 | 95% KM Bootstrap t UCL | 35.24 |
| 90% KM Chebyshev UCL | 37.25 | 95% KM Chebyshev UCL | 44.08 |
| 97.5% KM Chebyshev UCL | 53.56 | 99% KM Chebyshev UCL | 72.19 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 4.681 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.856 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.146 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0865 | Detected Data Not Gamma Distributed at 5% Significance Level |

**Detected Data Not Gamma Distributed at 5% Significance Level**

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.351 | k star (bias corrected MLE) | 0.348 |
| Theta hat (MLE) | 117.4 | Theta star (bias corrected MLE) | 118.4 |
| nu hat (MLE) | 95.34 | nu star (bias corrected) | 94.57 |
| Mean (detects) | 41.16 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 22.04 |
| Maximum | 953 | Median | 0.205 |
| SD | 80.01 | CV | 3.63 |
| k hat (MLE) | 0.176 | k star (bias corrected MLE) | 0.176 |
| Theta hat (MLE) | 125.4 | Theta star (bias corrected MLE) | 125 |
| nu hat (MLE) | 89.33 | nu star (bias corrected) | 89.6 |
| Adjusted Level of Significance (β) | 0.0491 | | |
| Approximate Chi Square Value (89.60, α) | 68.78 | Adjusted Chi Square Value (89.60, β) | 68.68 |
| 95% Gamma Approximate UCL (use when n>=50) | 28.72 | 95% Gamma Adjusted UCL (use when n<50) | 28.76 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 22.17 | SD (KM) | 79.82 |
| Variance (KM) | 6371 | SE of Mean (KM) | 5.027 |
| k hat (KM) | 0.0772 | k star (KM) | 0.0789 |
| nu hat (KM) | 39.2 | nu star (KM) | 40.07 |
| theta hat (KM) | 287.3 | theta star (KM) | 281.1 |
| 80% gamma percentile (KM) | 10.26 | 90% gamma percentile (KM) | 52.1 |
| 95% gamma percentile (KM) | 128.8 | 99% gamma percentile (KM) | 395.3 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (40.07, α) | 26.56 | Adjusted Chi Square Value (40.07, β) | 26.5 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 33.44 | 95% Gamma Adjusted KM-UCL (use when n<50) | 33.52 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.973 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.124 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0426 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0763 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 22.16 | Mean in Log Scale | -0.0326 |
| SD in Original Scale | 79.98 | SD in Log Scale | 2.679 |
| 95% t UCL (assumes normality of ROS data) | 30.45 | 95% Percentile Bootstrap UCL | 30.76 |
| 95% BCA Bootstrap UCL | 33.9 | 95% Bootstrap t UCL | 35.14 |
| 95% H-UCL (Log ROS) | 67.51 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 0.0797 | KM Geo Mean | 1.083 |
| KM SD (logged) | 2.521 | 95% Critical H Value (KM-Log) | 3.709 |
| KM Standard Error of Mean (logged) | 0.177 | 95% H-UCL (KM -Log) | 46.76 |
| KM SD (logged) | 2.521 | 95% Critical H Value (KM-Log) | 3.709 |
| KM Standard Error of Mean (logged) | 0.177 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 22.37 | Mean in Log Scale | 0.614 |
| SD in Original Scale | 79.92 | SD in Log Scale | 2.127 |
| 95% t UCL (Assumes normality) | 30.65 | 95% H-Stat UCL | 27.39 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 46.76 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

IRON

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 271 | Number of Distinct Observations | 244 |
| | | Number of Missing Observations | 132 |
| Minimum | 88.6 | Mean | 8594 |
| Maximum | 49200 | Median | 4890 |
| SD | 9753 | Std. Error of Mean | 592.4 |
| Coefficient of Variation | 1.135 | Skewness | 1.952 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.741 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.227 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0542 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

**Assuming Normal Distribution**

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 9572 | 95% Adjusted-CLT UCL (Chen-1995) | 9644 |
| | | 95% Modified-t UCL (Johnson-1978) | 9584 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 2.787 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.788 | Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.101 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.0573 | Data Not Gamma Distributed at 5% Significance Level |

Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.93 | k star (bias corrected MLE) | 0.923 |
| Theta hat (MLE) | 9238 | Theta star (bias corrected MLE) | 9316 |
| nu hat (MLE) | 504.3 | nu star (bias corrected) | 500 |
| MLE Mean (bias corrected) | 8594 | MLE Sd (bias corrected) | 8948 |
| | | Approximate Chi Square Value (0.05) | 449.2 |
| Adjusted Level of Significance | 0.0491 | Adjusted Chi Square Value | 448.9 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 9568 | 95% Adjusted Gamma UCL (use when n<50) | 9573 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.945 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk P Value | 7.803E-12 | Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0981 | **Lilliefors Lognormal GOF Test** |

| | | | |
|---|---|---|---|
| 5% Lilliefors Critical Value | 0.0542 | Data Not Lognormal at 5% Significance Level | |

Data Not Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | 4.484 | Mean of logged Data | 8.433 |
| Maximum of Logged Data | 10.8 | SD of logged Data | 1.257 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 12127 | 90% Chebyshev (MVUE) UCL | 13122 |
| 95% Chebyshev (MVUE) UCL | 14502 | 97.5% Chebyshev (MVUE) UCL | 16418 |
| 99% Chebyshev (MVUE) UCL | 20181 | | |

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution (0.05)

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 9569 | 95% Jackknife UCL | 9572 |
| 95% Standard Bootstrap UCL | 9575 | 95% Bootstrap-t UCL | 9676 |
| 95% Hall's Bootstrap UCL | 9575 | 95% Percentile Bootstrap UCL | 9637 |
| 95% BCA Bootstrap UCL | 9596 | | |
| 90% Chebyshev(Mean, Sd) UCL | 10372 | 95% Chebyshev(Mean, Sd) UCL | 11177 |
| 97.5% Chebyshev(Mean, Sd) UCL | 12294 | 99% Chebyshev(Mean, Sd) UCL | 14489 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% Chebyshev (Mean, Sd) UCL | 11177 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**LEAD**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 323 | Number of Distinct Observations | 273 |
| | | Number of Missing Observations | 80 |
| Number of Detects | 310 | Number of Non-Detects | 13 |
| Number of Distinct Detects | 272 | Number of Distinct Non-Detects | 1 |
| Minimum Detect | 0.9 | Minimum Non-Detect | 75 |
| Maximum Detect | 25300 | Maximum Non-Detect | 75 |
| Variance Detects | 5068060 | Percent Non-Detects | 4.025% |
| Mean Detects | 708.6 | SD Detects | 2251 |
| Median Detects | 131.5 | CV Detects | 3.177 |
| Skewness Detects | 6.984 | Kurtosis Detects | 59.71 |
| Mean of Logged Detects | 4.554 | SD of Logged Detects | 2.244 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.336 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.377 | **Lilliefors GOF Test** |

| | | |
|---|---|---|
| 5% Lilliefors Critical Value | 0.0507 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 680.9 | KM Standard Error of Mean | 122.9 |
| KM SD | 2206 | 95% KM (BCA) UCL | 927 |
| 95% KM (t) UCL | 883.7 | 95% KM (Percentile Bootstrap) UCL | 895.4 |
| 95% KM (z) UCL | 883.1 | 95% KM Bootstrap t UCL | 979.4 |
| 90% KM Chebyshev UCL | 1050 | 95% KM Chebyshev UCL | 1217 |
| 97.5% KM Chebyshev UCL | 1449 | 99% KM Chebyshev UCL | 1904 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 8.932 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.862 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.13 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0556 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.337 | k star (bias corrected MLE) | 0.336 |
| Theta hat (MLE) | 2104 | Theta star (bias corrected MLE) | 2111 |
| nu hat (MLE) | 208.8 | nu star (bias corrected) | 208.1 |
| Mean (detects) | 708.6 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 680 |
| Maximum | 25300 | Median | 117 |
| SD | 2210 | CV | 3.249 |
| k hat (MLE) | 0.296 | k star (bias corrected MLE) | 0.295 |
| Theta hat (MLE) | 2299 | Theta star (bias corrected MLE) | 2305 |
| nu hat (MLE) | 191.1 | nu star (bias corrected) | 190.6 |
| Adjusted Level of Significance (β) | 0.0493 | | |
| Approximate Chi Square Value (190.62, α) | 159.7 | Adjusted Chi Square Value (190.62, β) | 159.6 |
| 95% Gamma Approximate UCL (use when n>=50) | 811.8 | 95% Gamma Adjusted UCL (use when n<50) | 812.4 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 680.9 | SD (KM) | 2206 |
| Variance (KM) | 4866718 | SE of Mean (KM) | 122.9 |
| k hat (KM) | 0.0953 | k star (KM) | 0.0964 |
| nu hat (KM) | 61.53 | nu star (KM) | 62.29 |
| theta hat (KM) | 7148 | theta star (KM) | 7061 |
| 80% gamma percentile (KM) | 447.6 | 90% gamma percentile (KM) | 1784 |
| 95% gamma percentile (KM) | 3959 | 99% gamma percentile (KM) | 11013 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (62.29, α) | 45.14 | Adjusted Chi Square Value (62.29, β) | 45.07 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 939.6 | 95% Gamma Adjusted KM-UCL (use when n<50) | 941 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.95 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 1.608E-11 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0742 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0507 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 680.8 | Mean in Log Scale | 4.47 |
| SD in Original Scale | 2210 | SD in Log Scale | 2.246 |
| 95% t UCL (assumes normality of ROS data) | 883.6 | 95% Percentile Bootstrap UCL | 890.9 |
| 95% BCA Bootstrap UCL | 948.3 | 95% Bootstrap t UCL | 967.7 |
| 95% H-UCL (Log ROS) | 1657 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 4.462 | KM Geo Mean | 86.67 |
| KM SD (logged) | 2.254 | 95% Critical H Value (KM-Log) | 3.372 |
| KM Standard Error of Mean (logged) | 0.127 | 95% H-UCL (KM -Log) | 1681 |
| KM SD (logged) | 2.254 | 95% Critical H Value (KM-Log) | 3.372 |
| KM Standard Error of Mean (logged) | 0.127 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 681.6 | Mean in Log Scale | 4.516 |
| SD in Original Scale | 2209 | SD in Log Scale | 2.206 |
| 95% t UCL (Assumes normality) | 884.3 | 95% H-Stat UCL | 1567 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 1217 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

MANGANESE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 264 | Number of Distinct Observations | 218 |
| | | Number of Missing Observations | 139 |
| Minimum | 2 | Mean | 90.25 |
| Maximum | 1420 | Median | 19.8 |
| SD | 205.9 | Std. Error of Mean | 12.67 |
| Coefficient of Variation | 2.281 | Skewness | 4.159 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.456 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.334 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0549 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

**Assuming Normal Distribution**

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 111.2 | 95% Adjusted-CLT UCL (Chen-1995) | 114.6 |
| | | 95% Modified-t UCL (Johnson-1978) | 111.7 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 16.79 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.821 | Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.167 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.0595 | Data Not Gamma Distributed at 5% Significance Level |

Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.501 | k star (bias corrected MLE) | 0.498 |
| Theta hat (MLE) | 180.1 | Theta star (bias corrected MLE) | 181.3 |
| nu hat (MLE) | 264.5 | nu star (bias corrected) | 262.9 |
| MLE Mean (bias corrected) | 90.25 | MLE Sd (bias corrected) | 127.9 |
| | | Approximate Chi Square Value (0.05) | 226.3 |
| Adjusted Level of Significance | 0.0491 | Adjusted Chi Square Value | 226.1 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 104.8 | 95% Adjusted Gamma UCL (use when n<50) | 104.9 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.925 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk P Value | 0 | Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.102 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.0549 | Data Not Lognormal at 5% Significance Level |

Data Not Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | 0.693 | Mean of logged Data | 3.235 |
| Maximum of Logged Data | 7.258 | SD of logged Data | 1.47 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 94.38 | 90% Chebyshev (MVUE) UCL | 102.7 |
| 95% Chebyshev (MVUE) UCL | 115.6 | 97.5% Chebyshev (MVUE) UCL | 133.6 |
| 99% Chebyshev (MVUE) UCL | 168.8 | | |

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution (0.05)

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 111.1 | 95% Jackknife UCL | 111.2 |
| 95% Standard Bootstrap UCL | 111.2 | 95% Bootstrap-t UCL | 115.5 |
| 95% Hall's Bootstrap UCL | 114.4 | 95% Percentile Bootstrap UCL | 111.5 |
| 95% BCA Bootstrap UCL | 115.8 | | |
| 90% Chebyshev(Mean, Sd) UCL | 128.3 | 95% Chebyshev(Mean, Sd) UCL | 145.5 |
| 97.5% Chebyshev(Mean, Sd) UCL | 169.4 | 99% Chebyshev(Mean, Sd) UCL | 216.3 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% Chebyshev (Mean, Sd) UCL | 145.5 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

MERCURY

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 254 | Number of Distinct Observations | 136 |
| | | Number of Missing Observations | 149 |
| Number of Detects | 181 | Number of Non-Detects | 73 |
| Number of Distinct Detects | 117 | Number of Distinct Non-Detects | 31 |
| Minimum Detect | 0.02 | Minimum Non-Detect | 0.02 |
| Maximum Detect | 25.2 | Maximum Non-Detect | 0.15 |
| Variance Detects | 9.299 | Percent Non-Detects | 28.74% |
| Mean Detects | 1.259 | SD Detects | 3.049 |
| Median Detects | 0.42 | CV Detects | 2.422 |
| Skewness Detects | 5.858 | Kurtosis Detects | 38.43 |
| Mean of Logged Detects | -0.884 | SD of Logged Detects | 1.466 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.391 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.342 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0663 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.91 | KM Standard Error of Mean | 0.165 |
| KM SD | 2.625 | 95% KM (BCA) UCL | 1.225 |
| 95% KM (t) UCL | 1.182 | 95% KM (Percentile Bootstrap) UCL | 1.188 |
| 95% KM (z) UCL | 1.181 | 95% KM Bootstrap t UCL | 1.323 |
| 90% KM Chebyshev UCL | 1.405 | 95% KM Chebyshev UCL | 1.63 |
| 97.5% KM Chebyshev UCL | 1.941 | 99% KM Chebyshev UCL | 2.553 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 5.414 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.815 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.134 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0722 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.56 | k star (bias corrected MLE) | 0.554 |
| Theta hat (MLE) | 2.249 | Theta star (bias corrected MLE) | 2.272 |
| nu hat (MLE) | 202.7 | nu star (bias corrected) | 200.7 |
| Mean (detects) | 1.259 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 0.9 |
| Maximum | 25.2 | Median | 0.17 |
| SD | 2.634 | CV | 2.926 |
| k hat (MLE) | 0.362 | k star (bias corrected MLE) | 0.36 |
| Theta hat (MLE) | 2.488 | Theta star (bias corrected MLE) | 2.5 |
| nu hat (MLE) | 183.8 | nu star (bias corrected) | 183 |
| Adjusted Level of Significance (β) | 0.0491 | | |
| Approximate Chi Square Value (182.95, α) | 152.7 | Adjusted Chi Square Value (182.95, β) | 152.5 |
| 95% Gamma Approximate UCL (use when n>=50) | 1.079 | 95% Gamma Adjusted UCL (use when n<50) | 1.08 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.91 | SD (KM) | 2.625 |
| Variance (KM) | 6.893 | SE of Mean (KM) | 0.165 |
| k hat (KM) | 0.12 | k star (KM) | 0.121 |
| nu hat (KM) | 60.97 | nu star (KM) | 61.59 |
| theta hat (KM) | 7.578 | theta star (KM) | 7.503 |
| 80% gamma percentile (KM) | 0.807 | 90% gamma percentile (KM) | 2.584 |
| 95% gamma percentile (KM) | 5.184 | 99% gamma percentile (KM) | 13.1 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (61.59, α) | 44.54 | Adjusted Chi Square Value (61.59, β) | 44.45 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1.258 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1.26 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.975 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.111 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0395 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0663 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.909 | Mean in Log Scale | -1.62 |
| SD in Original Scale | 2.631 | SD in Log Scale | 1.743 |
| 95% t UCL (assumes normality of ROS data) | 1.181 | 95% Percentile Bootstrap UCL | 1.233 |
| 95% BCA Bootstrap UCL | 1.277 | 95% Bootstrap t UCL | 1.359 |
| 95% H-UCL (Log ROS) | 1.234 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.574 | KM Geo Mean | 0.207 |
| KM SD (logged) | 1.665 | 95% Critical H Value (KM-Log) | 2.754 |
| KM Standard Error of Mean (logged) | 0.108 | 95% H-UCL (KM -Log) | 1.107 |
| KM SD (logged) | 1.665 | 95% Critical H Value (KM-Log) | 2.754 |
| KM Standard Error of Mean (logged) | 0.108 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.911 | Mean in Log Scale | -1.532 |
| SD in Original Scale | 2.63 | SD in Log Scale | 1.617 |
| 95% t UCL (Assumes normality) | 1.183 | 95% H-Stat UCL | 1.052 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 1.107 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**THALLIUM**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 273 | Number of Distinct Observations | 72 |
| | | Number of Missing Observations | 130 |
| Number of Detects | 14 | Number of Non-Detects | 259 |
| Number of Distinct Detects | 13 | Number of Distinct Non-Detects | 65 |
| Minimum Detect | 0.21 | Minimum Non-Detect | 0.28 |
| Maximum Detect | 3.8 | Maximum Non-Detect | 5.2 |
| Variance Detects | 1.061 | Percent Non-Detects | 94.87% |

| | | | |
|---|---|---|---|
| Mean Detects | 1.433 | SD Detects | 1.03 |
| Median Detects | 1.2 | CV Detects | 0.719 |
| Skewness Detects | 0.922 | Kurtosis Detects | 0.44 |
| Mean of Logged Detects | 0.0829 | SD of Logged Detects | 0.825 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.909 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.874 | Detected Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.2 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.226 | Detected Data appear Normal at 5% Significance Level |

Detected Data appear Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.396 | KM Standard Error of Mean | 0.0489 |
| KM SD | 0.44 | 95% KM (BCA) UCL | 0.527 |
| 95% KM (t) UCL | 0.477 | 95% KM (Percentile Bootstrap) UCL | 0.505 |
| 95% KM (z) UCL | 0.476 | 95% KM Bootstrap t UCL | 0.481 |
| 90% KM Chebyshev UCL | 0.543 | 95% KM Chebyshev UCL | 0.609 |
| 97.5% KM Chebyshev UCL | 0.701 | 99% KM Chebyshev UCL | 0.882 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.285 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.746 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.148 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.232 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.954 | k star (bias corrected MLE) | 1.583 |
| Theta hat (MLE) | 0.733 | Theta star (bias corrected MLE) | 0.905 |
| nu hat (MLE) | 54.72 | nu star (bias corrected) | 44.33 |
| Mean (detects) | 1.433 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 0.225 |
| Maximum | 3.8 | Median | 0.01 |
| SD | 0.455 | CV | 2.026 |
| k hat (MLE) | 0.378 | k star (bias corrected MLE) | 0.377 |
| Theta hat (MLE) | 0.594 | Theta star (bias corrected MLE) | 0.597 |
| nu hat (MLE) | 206.5 | nu star (bias corrected) | 205.6 |
| Adjusted Level of Significance (β) | 0.0491 | | |
| Approximate Chi Square Value (205.58, α) | 173.4 | Adjusted Chi Square Value (205.58, β) | 173.2 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.267 | 95% Gamma Adjusted UCL (use when n<50) | 0.267 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.396 | SD (KM) | 0.44 |
| Variance (KM) | 0.193 | SE of Mean (KM) | 0.0489 |
| k hat (KM) | 0.811 | k star (KM) | 0.805 |
| nu hat (KM) | 442.9 | nu star (KM) | 439.4 |
| theta hat (KM) | 0.488 | theta star (KM) | 0.492 |
| 80% gamma percentile (KM) | 0.647 | 90% gamma percentile (KM) | 0.962 |
| 95% gamma percentile (KM) | 1.282 | 99% gamma percentile (KM) | 2.038 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (439.39, α) | 391.8 | Adjusted Chi Square Value (439.39, β) | 391.6 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.444 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.444 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.958 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.874 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.149 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.226 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.354 | Mean in Log Scale | -1.36 |
| SD in Original Scale | 0.394 | SD in Log Scale | 0.755 |
| 95% t UCL (assumes normality of ROS data) | 0.394 | 95% Percentile Bootstrap UCL | 0.393 |
| 95% BCA Bootstrap UCL | 0.401 | 95% Bootstrap t UCL | 0.406 |
| 95% H-UCL (Log ROS) | 0.373 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.2 | KM Geo Mean | 0.301 |
| KM SD (logged) | 0.623 | 95% Critical H Value (KM-Log) | 1.865 |
| KM Standard Error of Mean (logged) | 0.102 | 95% H-UCL (KM -Log) | 0.392 |
| KM SD (logged) | 0.623 | 95% Critical H Value (KM-Log) | 1.865 |
| KM Standard Error of Mean (logged) | 0.102 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.023 | Mean in Log Scale | -0.108 |
| SD in Original Scale | 0.485 | SD in Log Scale | 0.56 |
| 95% t UCL (Assumes normality) | 1.072 | 95% H-Stat UCL | 1.117 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Normal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (t) UCL | 0.477 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

VANADIUM

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 264 | Number of Distinct Observations | 167 |
| | | Number of Missing Observations | 139 |
| Number of Detects | 259 | Number of Non-Detects | 5 |
| Number of Distinct Detects | 164 | Number of Distinct Non-Detects | 5 |
| Minimum Detect | 0.66 | Minimum Non-Detect | 3.6 |
| Maximum Detect | 87.8 | Maximum Non-Detect | 5.7 |
| Variance Detects | 160.3 | Percent Non-Detects | 1.894% |
| Mean Detects | 13.28 | SD Detects | 12.66 |
| Median Detects | 9 | CV Detects | 0.953 |
| Skewness Detects | 2.468 | Kurtosis Detects | 8.362 |
| Mean of Logged Detects | 2.237 | SD of Logged Detects | 0.84 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.753 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.207 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0555 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 13.09 | KM Standard Error of Mean | 0.777 |
| KM SD | 12.59 | 95% KM (BCA) UCL | 14.42 |
| 95% KM (t) UCL | 14.37 | 95% KM (Percentile Bootstrap) UCL | 14.31 |
| 95% KM (z) UCL | 14.37 | 95% KM Bootstrap t UCL | 14.53 |
| 90% KM Chebyshev UCL | 15.42 | 95% KM Chebyshev UCL | 16.47 |
| 97.5% KM Chebyshev UCL | 17.94 | 99% KM Chebyshev UCL | 20.82 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 3.757 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.771 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.112 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0578 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.579 | k star (bias corrected MLE) | 1.564 |
| Theta hat (MLE) | 8.409 | Theta star (bias corrected MLE) | 8.494 |
| nu hat (MLE) | 818.1 | nu star (bias corrected) | 809.9 |
| Mean (detects) | 13.28 | | |

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 13.04 |
| Maximum | 87.8 | Median | 8.75 |
| SD | 12.66 | CV | 0.97 |
| k hat (MLE) | 1.418 | k star (bias corrected MLE) | 1.404 |
| Theta hat (MLE) | 9.201 | Theta star (bias corrected MLE) | 9.29 |
| nu hat (MLE) | 748.5 | nu star (bias corrected) | 741.3 |
| Adjusted Level of Significance (β) | 0.0491 | | |
| Approximate Chi Square Value (741.29, α) | 679.1 | Adjusted Chi Square Value (741.29, β) | 678.8 |
| 95% Gamma Approximate UCL (use when n>=50) | 14.24 | 95% Gamma Adjusted UCL (use when n<50) | 14.24 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 13.09 | SD (KM) | 12.59 |
| Variance (KM) | 158.6 | SE of Mean (KM) | 0.777 |
| k hat (KM) | 1.08 | k star (KM) | 1.071 |
| nu hat (KM) | 570.4 | nu star (KM) | 565.2 |
| theta hat (KM) | 12.12 | theta star (KM) | 12.23 |
| 80% gamma percentile (KM) | 20.95 | 90% gamma percentile (KM) | 29.64 |
| 95% gamma percentile (KM) | 38.28 | 99% gamma percentile (KM) | 58.26 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (565.23, α) | 511.1 | Adjusted Chi Square Value (565.23, β) | 510.8 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 14.48 | 95% Gamma Adjusted KM-UCL (use when n<50) | 14.48 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.982 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.388 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0532 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0555 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 13.09 | Mean in Log Scale | 2.217 |
| SD in Original Scale | 12.62 | SD in Log Scale | 0.845 |
| 95% t UCL (assumes normality of ROS data) | 14.37 | 95% Percentile Bootstrap UCL | 14.39 |
| 95% BCA Bootstrap UCL | 14.61 | 95% Bootstrap t UCL | 14.51 |
| 95% H-UCL (Log ROS) | 14.57 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 2.215 | KM Geo Mean | 9.165 |
| KM SD (logged) | 0.848 | 95% Critical H Value (KM-Log) | 2.012 |
| KM Standard Error of Mean (logged) | 0.0524 | 95% H-UCL (KM -Log) | 14.58 |
| KM SD (logged) | 0.848 | 95% Critical H Value (KM-Log) | 2.012 |
| KM Standard Error of Mean (logged) | 0.0524 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 13.08 | Mean in Log Scale | 2.212 |
| SD in Original Scale | 12.63 | SD in Log Scale | 0.853 |
| 95% t UCL (Assumes normality) | 14.36 | 95% H-Stat UCL | 14.6 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Lognormal Distributed at 5% Significance Level

Suggested UCL to Use

| | |
|---|---|
| KM H-UCL | 14.58 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

ZINC

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 273 | Number of Distinct Observations | 241 |
| | | Number of Missing Observations | 130 |
| Number of Detects | 255 | Number of Non-Detects | 18 |
| Number of Distinct Detects | 230 | Number of Distinct Non-Detects | 11 |
| Minimum Detect | 0.51 | Minimum Non-Detect | 4.8 |
| Maximum Detect | 5270 | Maximum Non-Detect | 7 |
| Variance Detects | 438729 | Percent Non-Detects | 6.593% |
| Mean Detects | 321 | SD Detects | 662.4 |
| Median Detects | 95.3 | CV Detects | 2.064 |
| Skewness Detects | 4.414 | Kurtosis Detects | 23.88 |
| Mean of Logged Detects | 4.305 | SD of Logged Detects | 1.979 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.504 | Normal GOF Test on Detected Observations Only |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.314 | Lilliefors GOF Test |
| 5% Lilliefors Critical Value | 0.0559 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 300 | KM Standard Error of Mean | 39.04 |
| KM SD | 643.8 | 95% KM (BCA) UCL | 366 |
| 95% KM (t) UCL | 364.4 | 95% KM (Percentile Bootstrap) UCL | 368.5 |
| 95% KM (z) UCL | 364.2 | 95% KM Bootstrap t UCL | 381.5 |
| 90% KM Chebyshev UCL | 417.1 | 95% KM Chebyshev UCL | 470.1 |
| 97.5% KM Chebyshev UCL | 543.8 | 99% KM Chebyshev UCL | 688.4 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 3.126 | Anderson-Darling GOF Test |
| 5% A-D Critical Value | 0.836 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.081 | Kolmogorov-Smirnov GOF |
| 5% K-S Critical Value | 0.0611 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.442 | k star (bias corrected MLE) | 0.439 |
| Theta hat (MLE) | 726.9 | Theta star (bias corrected MLE) | 731.2 |
| nu hat (MLE) | 225.2 | nu star (bias corrected) | 223.9 |
| Mean (detects) | 321 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 299.8 |
| Maximum | 5270 | Median | 79.1 |
| SD | 645 | CV | 2.151 |
| k hat (MLE) | 0.34 | k star (bias corrected MLE) | 0.339 |
| Theta hat (MLE) | 881.4 | Theta star (bias corrected MLE) | 884.8 |
| nu hat (MLE) | 185.7 | nu star (bias corrected) | 185 |
| Adjusted Level of Significance (β) | 0.0491 | | |
| Approximate Chi Square Value (185.02, α) | 154.6 | Adjusted Chi Square Value (185.02, β) | 154.4 |
| 95% Gamma Approximate UCL (use when n>=50) | 358.9 | 95% Gamma Adjusted UCL (use when n<50) | 359.3 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 300 | SD (KM) | 643.8 |
| Variance (KM) | 414453 | SE of Mean (KM) | 39.04 |
| k hat (KM) | 0.217 | k star (KM) | 0.217 |
| nu hat (KM) | 118.5 | nu star (KM) | 118.6 |
| theta hat (KM) | 1382 | theta star (KM) | 1381 |
| 80% gamma percentile (KM) | 411.5 | 90% gamma percentile (KM) | 906.5 |
| 95% gamma percentile (KM) | 1512 | 99% gamma percentile (KM) | 3157 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (118.57, α) | 94.43 | Adjusted Chi Square Value (118.57, β) | 94.31 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 376.7 | 95% Gamma Adjusted KM-UCL (use when n<50) | 377.1 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.96 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 1.6580E-5 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0582 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0559 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 300.1 | Mean in Log Scale | 4.1 |
| SD in Original Scale | 644.9 | SD in Log Scale | 2.063 |
| 95% t UCL (assumes normality of ROS data) | 364.5 | 95% Percentile Bootstrap UCL | 365.5 |
| 95% BCA Bootstrap UCL | 377.6 | 95% Bootstrap t UCL | 374.8 |
| 95% H-UCL (Log ROS) | 756.5 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 4.065 | KM Geo Mean | 58.27 |

| | | | |
|---|---|---|---|
| KM SD (logged) | 2.115 | 95% Critical H Value (KM-Log) | 3.252 |
| KM Standard Error of Mean (logged) | 0.129 | 95% H-UCL (KM -Log) | 826.9 |
| KM SD (logged) | 2.115 | 95% Critical H Value (KM-Log) | 3.252 |
| KM Standard Error of Mean (logged) | 0.129 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 300 | Mean in Log Scale | 4.09 |
| SD in Original Scale | 644.9 | SD in Log Scale | 2.076 |
| 95% t UCL (Assumes normality) | 364.4 | 95% H-Stat UCL | 771.6 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 470.1 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

AROCLOR-1254

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 192 | Number of Distinct Observations | 87 |
| | | Number of Missing Observations | 81 |
| Number of Detects | 17 | Number of Non-Detects | 175 |
| Number of Distinct Detects | 16 | Number of Distinct Non-Detects | 77 |
| Minimum Detect | 0.021 | Minimum Non-Detect | 0.018 |
| Maximum Detect | 1.4 | Maximum Non-Detect | 1.1 |
| Variance Detects | 0.118 | Percent Non-Detects | 91.15% |
| Mean Detects | 0.264 | SD Detects | 0.343 |
| Median Detects | 0.15 | CV Detects | 1.298 |
| Skewness Detects | 2.539 | Kurtosis Detects | 7.537 |
| Mean of Logged Detects | -2.016 | SD of Logged Detects | 1.254 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.699 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.892 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.239 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.207 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.0425 | KM Standard Error of Mean | 0.00926 |
| KM SD | 0.122 | 95% KM (BCA) UCL | 0.0607 |
| 95% KM (t) UCL | 0.0579 | 95% KM (Percentile Bootstrap) UCL | 0.0583 |
| 95% KM (z) UCL | 0.0578 | 95% KM Bootstrap t UCL | 0.0708 |

| | | | |
|---|---|---|---|
| 90% KM Chebyshev UCL | 0.0703 | 95% KM Chebyshev UCL | 0.0829 |
| 97.5% KM Chebyshev UCL | 0.1 | 99% KM Chebyshev UCL | 0.135 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.387 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.772 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.154 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.216 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.858 | k star (bias corrected MLE) | 0.746 |
| Theta hat (MLE) | 0.308 | Theta star (bias corrected MLE) | 0.355 |
| nu hat (MLE) | 29.17 | nu star (bias corrected) | 25.36 |
| Mean (detects) | 0.264 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 0.0325 |
| Maximum | 1.4 | Median | 0.01 |
| SD | 0.123 | CV | 3.781 |
| k hat (MLE) | 0.644 | k star (bias corrected MLE) | 0.637 |
| Theta hat (MLE) | 0.0505 | Theta star (bias corrected MLE) | 0.0511 |
| nu hat (MLE) | 247.2 | nu star (bias corrected) | 244.6 |
| Adjusted Level of Significance (β) | 0.0488 | | |
| Approximate Chi Square Value (244.63, α) | 209.4 | Adjusted Chi Square Value (244.63, β) | 209.2 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.038 | 95% Gamma Adjusted UCL (use when n<50) | 0.038 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.0425 | SD (KM) | 0.122 |
| Variance (KM) | 0.015 | SE of Mean (KM) | 0.00926 |
| k hat (KM) | 0.121 | k star (KM) | 0.122 |
| nu hat (KM) | 46.33 | nu star (KM) | 46.94 |
| theta hat (KM) | 0.353 | theta star (KM) | 0.348 |
| 80% gamma percentile (KM) | 0.0381 | 90% gamma percentile (KM) | 0.121 |
| 95% gamma percentile (KM) | 0.242 | 99% gamma percentile (KM) | 0.61 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (46.94, α) | 32.22 | Adjusted Chi Square Value (46.94, β) | 32.12 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.062 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.0622 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.957 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.892 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.126 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.207 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.0269 | Mean in Log Scale | -5.871 |
| SD in Original Scale | 0.124 | SD in Log Scale | 1.721 |
| 95% t UCL (assumes normality of ROS data) | 0.0417 | 95% Percentile Bootstrap UCL | 0.0431 |
| 95% BCA Bootstrap UCL | 0.0515 | 95% Bootstrap t UCL | 0.0568 |
| 95% H-UCL (Log ROS) | 0.0178 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -3.764 | KM Geo Mean | 0.0232 |
| KM SD (logged) | 0.699 | 95% Critical H Value (KM-Log) | 1.938 |
| KM Standard Error of Mean (logged) | 0.062 | 95% H-UCL (KM -Log) | 0.0327 |
| KM SD (logged) | 0.699 | 95% Critical H Value (KM-Log) | 1.938 |
| KM Standard Error of Mean (logged) | 0.062 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.0776 | Mean in Log Scale | -3.353 |
| SD in Original Scale | 0.153 | SD in Log Scale | 1.053 |
| 95% t UCL (Assumes normality) | 0.096 | 95% H-Stat UCL | 0.0721 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM Approximate Gamma UCL | 0.062 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**AROCLOR-1260**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 192 | Number of Distinct Observations | 91 |
| | | Number of Missing Observations | 81 |
| Number of Detects | 53 | Number of Non-Detects | 139 |
| Number of Distinct Detects | 46 | Number of Distinct Non-Detects | 53 |
| Minimum Detect | 0.013 | Minimum Non-Detect | 0.018 |
| Maximum Detect | 3.1 | Maximum Non-Detect | 1.1 |
| Variance Detects | 0.574 | Percent Non-Detects | 72.4% |
| Mean Detects | 0.645 | SD Detects | 0.757 |
| Median Detects | 0.36 | CV Detects | 1.174 |
| Skewness Detects | 1.582 | Kurtosis Detects | 1.999 |
| Mean of Logged Detects | -1.288 | SD of Logged Detects | 1.501 |

**Normal GOF Test on Detects Only**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.788 | **Normal GOF Test on Detected Observations Only** | |
| 5% Shapiro Wilk P Value | 7.912E-10 | Detected Data Not Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.221 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.121 | Detected Data Not Normal at 5% Significance Level | |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.191 | KM Standard Error of Mean | 0.0353 |
| KM SD | 0.484 | 95% KM (BCA) UCL | 0.254 |
| 95% KM (t) UCL | 0.25 | 95% KM (Percentile Bootstrap) UCL | 0.252 |
| 95% KM (z) UCL | 0.249 | 95% KM Bootstrap t UCL | 0.265 |
| 90% KM Chebyshev UCL | 0.297 | 95% KM Chebyshev UCL | 0.345 |
| 97.5% KM Chebyshev UCL | 0.412 | 99% KM Chebyshev UCL | 0.543 |

**Gamma GOF Tests on Detected Observations Only**

| | | | |
|---|---|---|---|
| A-D Test Statistic | 0.587 | **Anderson-Darling GOF Test** | |
| 5% A-D Critical Value | 0.796 | Detected data appear Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.0975 | **Kolmogorov-Smirnov GOF** | |
| 5% K-S Critical Value | 0.127 | Detected data appear Gamma Distributed at 5% Significance Level | |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.71 | k star (bias corrected MLE) | 0.682 |
| Theta hat (MLE) | 0.909 | Theta star (bias corrected MLE) | 0.945 |
| nu hat (MLE) | 75.24 | nu star (bias corrected) | 72.32 |
| Mean (detects) | 0.645 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 0.185 |
| Maximum | 3.1 | Median | 0.01 |
| SD | 0.487 | CV | 2.628 |
| k hat (MLE) | 0.338 | k star (bias corrected MLE) | 0.336 |
| Theta hat (MLE) | 0.549 | Theta star (bias corrected MLE) | 0.552 |
| nu hat (MLE) | 129.6 | nu star (bias corrected) | 128.9 |
| Adjusted Level of Significance (β) | 0.0488 | | |
| Approximate Chi Square Value (128.94, α) | 103.7 | Adjusted Chi Square Value (128.94, β) | 103.5 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.23 | 95% Gamma Adjusted UCL (use when n<50) | 0.231 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.191 | SD (KM) | 0.484 |
| Variance (KM) | 0.234 | SE of Mean (KM) | 0.0353 |
| k hat (KM) | 0.156 | k star (KM) | 0.157 |
| nu hat (KM) | 59.97 | nu star (KM) | 60.36 |
| theta hat (KM) | 1.225 | theta star (KM) | 1.217 |
| 80% gamma percentile (KM) | 0.216 | 90% gamma percentile (KM) | 0.571 |

| | | | |
|---|---|---|---|
| 95% gamma percentile (KM) | 1.043 | 99% gamma percentile (KM) | 2.401 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (60.36, α) | 43.5 | Adjusted Chi Square Value (60.36, β) | 43.39 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.265 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.266 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.94 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.0157 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.105 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.121 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Approximate Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.187 | Mean in Log Scale | -3.969 |
| SD in Original Scale | 0.487 | SD in Log Scale | 2.087 |
| 95% t UCL (assumes normality of ROS data) | 0.245 | 95% Percentile Bootstrap UCL | 0.248 |
| 95% BCA Bootstrap UCL | 0.256 | 95% Bootstrap t UCL | 0.262 |
| 95% H-UCL (Log ROS) | 0.275 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -3.347 | KM Geo Mean | 0.0352 |
| KM SD (logged) | 1.529 | 95% Critical H Value (KM-Log) | 2.69 |
| KM Standard Error of Mean (logged) | 0.122 | 95% H-UCL (KM -Log) | 0.153 |
| KM SD (logged) | 1.529 | 95% Critical H Value (KM-Log) | 2.69 |
| KM Standard Error of Mean (logged) | 0.122 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.204 | Mean in Log Scale | -3.034 |
| SD in Original Scale | 0.484 | SD in Log Scale | 1.449 |
| 95% t UCL (Assumes normality) | 0.262 | 95% H-Stat UCL | 0.181 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM Approximate Gamma UCL | 0.265 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

DIELDRIN

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 131 | Number of Distinct Observations | 65 |
| | | Number of Missing Observations | 104 |
| Number of Detects | 29 | Number of Non-Detects | 102 |
| Number of Distinct Detects | 27 | Number of Distinct Non-Detects | 47 |
| Minimum Detect | 4.3000E-4 | Minimum Non-Detect | 0.0034 |
| Maximum Detect | 0.077 | Maximum Non-Detect | 0.089 |
| Variance Detects | 4.6387E-4 | Percent Non-Detects | 77.86% |
| Mean Detects | 0.0173 | SD Detects | 0.0215 |
| Median Detects | 0.0091 | CV Detects | 1.248 |
| Skewness Detects | 2.002 | Kurtosis Detects | 3.043 |
| Mean of Logged Detects | -4.696 | SD of Logged Detects | 1.223 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.677 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.926 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.319 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.161 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.00552 | KM Standard Error of Mean | 0.00116 |
| KM SD | 0.012 | 95% KM (BCA) UCL | 0.00756 |
| 95% KM (t) UCL | 0.00745 | 95% KM (Percentile Bootstrap) UCL | 0.00748 |
| 95% KM (z) UCL | 0.00743 | 95% KM Bootstrap t UCL | 0.00804 |
| 90% KM Chebyshev UCL | 0.00901 | 95% KM Chebyshev UCL | 0.0106 |
| 97.5% KM Chebyshev UCL | 0.0128 | 99% KM Chebyshev UCL | 0.0171 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.989 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.777 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.194 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.168 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.916 | k star (bias corrected MLE) | 0.844 |
| Theta hat (MLE) | 0.0188 | Theta star (bias corrected MLE) | 0.0204 |
| nu hat (MLE) | 53.13 | nu star (bias corrected) | 48.97 |
| Mean (detects) | 0.0173 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 4.3000E-4 | Mean | 0.0116 |
| Maximum | 0.077 | Median | 0.01 |
| SD | 0.0104 | CV | 0.9 |
| k hat (MLE) | 3.112 | k star (bias corrected MLE) | 3.046 |
| Theta hat (MLE) | 0.00373 | Theta star (bias corrected MLE) | 0.00381 |
| nu hat (MLE) | 815.3 | nu star (bias corrected) | 798 |
| Adjusted Level of Significance (β) | 0.0482 | | |
| Approximate Chi Square Value (797.99, α) | 733.4 | Adjusted Chi Square Value (797.99, β) | 732.8 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.0126 | 95% Gamma Adjusted UCL (use when n<50) | 0.0126 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.00552 | SD (KM) | 0.012 |
| Variance (KM) | 1.4325E-4 | SE of Mean (KM) | 0.00116 |
| k hat (KM) | 0.213 | k star (KM) | 0.213 |
| nu hat (KM) | 55.76 | nu star (KM) | 55.81 |
| theta hat (KM) | 0.0259 | theta star (KM) | 0.0259 |
| 80% gamma percentile (KM) | 0.00751 | 90% gamma percentile (KM) | 0.0167 |
| 95% gamma percentile (KM) | 0.028 | 99% gamma percentile (KM) | 0.0587 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (55.81, α) | 39.64 | Adjusted Chi Square Value (55.81, β) | 39.49 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.00777 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.0078 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.943 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.926 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.122 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.161 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.00495 | Mean in Log Scale | -6.295 |
| SD in Original Scale | 0.012 | SD in Log Scale | 1.196 |
| 95% t UCL (assumes normality of ROS data) | 0.00668 | 95% Percentile Bootstrap UCL | 0.00669 |
| 95% BCA Bootstrap UCL | 0.00721 | 95% Bootstrap t UCL | 0.00771 |
| 95% H-UCL (Log ROS) | 0.00484 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -6.126 | KM Geo Mean | 0.00219 |
| KM SD (logged) | 1.266 | 95% Critical H Value (KM-Log) | 2.446 |
| KM Standard Error of Mean (logged) | 0.336 | 95% H-UCL (KM -Log) | 0.00639 |
| KM SD (logged) | 1.266 | 95% Critical H Value (KM-Log) | 2.446 |
| KM Standard Error of Mean (logged) | 0.336 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.00708 | Mean in Log Scale | -5.602 |
| SD in Original Scale | 0.0129 | SD in Log Scale | 0.954 |
| 95% t UCL (Assumes normality) | 0.00895 | 95% H-Stat UCL | 0.00696 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 0.00639 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

BENZO(A)ANTHRACENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 256 | Number of Distinct Observations | 126 |
| | | Number of Missing Observations | 129 |
| Number of Detects | 172 | Number of Non-Detects | 84 |
| Number of Distinct Detects | 118 | Number of Distinct Non-Detects | 17 |
| Minimum Detect | 0.0068 | Minimum Non-Detect | 0.17 |
| Maximum Detect | 29 | Maximum Non-Detect | 2.2 |
| Variance Detects | 11.12 | Percent Non-Detects | 32.81% |
| Mean Detects | 1.863 | SD Detects | 3.335 |
| Median Detects | 0.66 | CV Detects | 1.79 |
| Skewness Detects | 4.598 | Kurtosis Detects | 29.27 |
| Mean of Logged Detects | -0.72 | SD of Logged Detects | 1.905 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.572 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.289 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.068 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 1.28 | KM Standard Error of Mean | 0.179 |
| KM SD | 2.851 | 95% KM (BCA) UCL | 1.569 |

| | | | |
|---|---|---|---|
| 95% KM (t) UCL | 1.576 | 95% KM (Percentile Bootstrap) UCL | 1.597 |
| 95% KM (z) UCL | 1.575 | 95% KM Bootstrap t UCL | 1.694 |
| 90% KM Chebyshev UCL | 1.817 | 95% KM Chebyshev UCL | 2.06 |
| 97.5% KM Chebyshev UCL | 2.397 | 99% KM Chebyshev UCL | 3.059 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 2.348 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.826 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.11 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0752 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.477 | k star (bias corrected MLE) | 0.472 |
| Theta hat (MLE) | 3.909 | Theta star (bias corrected MLE) | 3.945 |
| nu hat (MLE) | 164 | nu star (bias corrected) | 162.5 |
| Mean (detects) | 1.863 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0068 | Mean | 1.257 |
| Maximum | 29 | Median | 0.12 |
| SD | 2.866 | CV | 2.281 |
| k hat (MLE) | 0.314 | k star (bias corrected MLE) | 0.313 |
| Theta hat (MLE) | 4.007 | Theta star (bias corrected MLE) | 4.021 |
| nu hat (MLE) | 160.6 | nu star (bias corrected) | 160 |
| Adjusted Level of Significance (β) | 0.0491 | | |
| Approximate Chi Square Value (160.03, α) | 131.8 | Adjusted Chi Square Value (160.03, β) | 131.6 |
| 95% Gamma Approximate UCL (use when n>=50) | 1.526 | 95% Gamma Adjusted UCL (use when n<50) | 1.528 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 1.28 | SD (KM) | 2.851 |
| Variance (KM) | 8.13 | SE of Mean (KM) | 0.179 |
| k hat (KM) | 0.202 | k star (KM) | 0.202 |
| nu hat (KM) | 103.3 | nu star (KM) | 103.4 |
| theta hat (KM) | 6.349 | theta star (KM) | 6.342 |
| 80% gamma percentile (KM) | 1.696 | 90% gamma percentile (KM) | 3.873 |
| 95% gamma percentile (KM) | 6.581 | 99% gamma percentile (KM) | 14.03 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (103.38, α) | 80.92 | Adjusted Chi Square Value (103.38, β) | 80.81 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1.636 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1.638 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.946 | **Shapiro Wilk GOF Test** |

| | | | |
|---|---|---|---|
| 5% Shapiro Wilk P Value | 2.2911E-6 | Detected Data Not Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.112 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.068 | Detected Data Not Lognormal at 5% Significance Level | |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 1.287 | Mean in Log Scale | -1.335 |
| SD in Original Scale | 2.854 | SD in Log Scale | 1.876 |
| 95% t UCL (assumes normality of ROS data) | 1.582 | 95% Percentile Bootstrap UCL | 1.596 |
| 95% BCA Bootstrap UCL | 1.654 | 95% Bootstrap t UCL | 1.695 |
| 95% H-UCL (Log ROS) | 2.168 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.41 | KM Geo Mean | 0.244 |
| KM SD (logged) | 1.913 | 95% Critical H Value (KM-Log) | 3.02 |
| KM Standard Error of Mean (logged) | 0.129 | 95% H-UCL (KM -Log) | 2.186 |
| KM SD (logged) | 1.913 | 95% Critical H Value (KM-Log) | 3.02 |
| KM Standard Error of Mean (logged) | 0.129 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.299 | Mean in Log Scale | -1.188 |
| SD in Original Scale | 2.85 | SD in Log Scale | 1.72 |
| 95% t UCL (Assumes normality) | 1.593 | 95% H-Stat UCL | 1.813 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 2.06 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**BENZO(A)PYRENE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 255 | Number of Distinct Observations | 145 |
| | | Number of Missing Observations | 130 |
| Number of Detects | 196 | Number of Non-Detects | 59 |
| Number of Distinct Detects | 134 | Number of Distinct Non-Detects | 19 |
| Minimum Detect | 2.2000E-4 | Minimum Non-Detect | 0.004 |
| Maximum Detect | 37 | Maximum Non-Detect | 2.2 |
| Variance Detects | 15.19 | Percent Non-Detects | 23.14% |
| Mean Detects | 1.928 | SD Detects | 3.898 |
| Median Detects | 0.345 | CV Detects | 2.022 |
| Skewness Detects | 5.198 | Kurtosis Detects | 37.88 |

| | | | |
|---|---|---|---|
| Mean of Logged Detects | -1.16 | SD of Logged Detects | 2.377 |

**Normal GOF Test on Detects Only**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.531 | **Normal GOF Test on Detected Observations Only** | |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.31 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.0637 | Detected Data Not Normal at 5% Significance Level | |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 1.492 | KM Standard Error of Mean | 0.22 |
| KM SD | 3.5 | 95% KM (BCA) UCL | 1.92 |
| 95% KM (t) UCL | 1.855 | 95% KM (Percentile Bootstrap) UCL | 1.891 |
| 95% KM (z) UCL | 1.854 | 95% KM Bootstrap t UCL | 1.987 |
| 90% KM Chebyshev UCL | 2.152 | 95% KM Chebyshev UCL | 2.451 |
| 97.5% KM Chebyshev UCL | 2.865 | 99% KM Chebyshev UCL | 3.679 |

**Gamma GOF Tests on Detected Observations Only**

| | | | |
|---|---|---|---|
| A-D Test Statistic | 2.468 | **Anderson-Darling GOF Test** | |
| 5% A-D Critical Value | 0.853 | Detected Data Not Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.117 | **Kolmogorov-Smirnov GOF** | |
| 5% K-S Critical Value | 0.0696 | Detected Data Not Gamma Distributed at 5% Significance Level | |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.367 | k star (bias corrected MLE) | 0.365 |
| Theta hat (MLE) | 5.248 | Theta star (bias corrected MLE) | 5.28 |
| nu hat (MLE) | 144 | nu star (bias corrected) | 143.1 |
| Mean (detects) | 1.928 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 2.2000E-4 | Mean | 1.484 |
| Maximum | 37 | Median | 0.11 |
| SD | 3.51 | CV | 2.365 |
| k hat (MLE) | 0.294 | k star (bias corrected MLE) | 0.293 |
| Theta hat (MLE) | 5.045 | Theta star (bias corrected MLE) | 5.06 |
| nu hat (MLE) | 150 | nu star (bias corrected) | 149.6 |
| Adjusted Level of Significance (β) | 0.0491 | | |
| Approximate Chi Square Value (149.59, α) | 122.3 | Adjusted Chi Square Value (149.59, β) | 122.2 |
| 95% Gamma Approximate UCL (use when n>=50) | 1.815 | 95% Gamma Adjusted UCL (use when n<50) | 1.817 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 1.492 | SD (KM) | 3.5 |
| Variance (KM) | 12.25 | SE of Mean (KM) | 0.22 |
| k hat (KM) | 0.182 | k star (KM) | 0.182 |

| | | | |
|---|---|---|---|
| nu hat (KM) | 92.71 | nu star (KM) | 92.95 |
| theta hat (KM) | 8.21 | theta star (KM) | 8.188 |
| 80% gamma percentile (KM) | 1.866 | 90% gamma percentile (KM) | 4.504 |
| 95% gamma percentile (KM) | 7.871 | 99% gamma percentile (KM) | 17.29 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (92.95, α) | 71.72 | Adjusted Chi Square Value (92.95, β) | 71.61 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1.934 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1.937 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.955 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 2.6006E-5 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.107 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0637 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 1.489 | Mean in Log Scale | -1.912 |
| SD in Original Scale | 3.508 | SD in Log Scale | 2.608 |
| 95% t UCL (assumes normality of ROS data) | 1.852 | 95% Percentile Bootstrap UCL | 1.883 |
| 95% BCA Bootstrap UCL | 1.955 | 95% Bootstrap t UCL | 2 |
| 95% H-UCL (Log ROS) | 8.26 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -2.028 | KM Geo Mean | 0.132 |
| KM SD (logged) | 2.805 | 95% Critical H Value (KM-Log) | 4.046 |
| KM Standard Error of Mean (logged) | 0.188 | 95% H-UCL (KM -Log) | 13.73 |
| KM SD (logged) | 2.805 | 95% Critical H Value (KM-Log) | 4.046 |
| KM Standard Error of Mean (logged) | 0.188 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.511 | Mean in Log Scale | -1.644 |
| SD in Original Scale | 3.501 | SD in Log Scale | 2.444 |
| 95% t UCL (Assumes normality) | 1.873 | 95% H-Stat UCL | 6.662 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 2.451 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

BENZO(B)FLUORANTHENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 253 | Number of Distinct Observations | 136 |
| | | Number of Missing Observations | 132 |
| Number of Detects | 175 | Number of Non-Detects | 78 |
| Number of Distinct Detects | 129 | Number of Distinct Non-Detects | 17 |
| Minimum Detect | 0.0049 | Minimum Non-Detect | 0.17 |
| Maximum Detect | 76 | Maximum Non-Detect | 2.2 |
| Variance Detects | 46.09 | Percent Non-Detects | 30.83% |
| Mean Detects | 3.053 | SD Detects | 6.789 |
| Median Detects | 0.74 | CV Detects | 2.224 |
| Skewness Detects | 7.588 | Kurtosis Detects | 77.15 |
| Mean of Logged Detects | -0.476 | SD of Logged Detects | 2.123 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.455 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.327 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0674 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 2.136 | KM Standard Error of Mean | 0.365 |
| KM SD | 5.795 | 95% KM (BCA) UCL | 2.783 |
| 95% KM (t) UCL | 2.739 | 95% KM (Percentile Bootstrap) UCL | 2.795 |
| 95% KM (z) UCL | 2.737 | 95% KM Bootstrap t UCL | 3.109 |
| 90% KM Chebyshev UCL | 3.232 | 95% KM Chebyshev UCL | 3.729 |
| 97.5% KM Chebyshev UCL | 4.418 | 99% KM Chebyshev UCL | 5.772 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 2.152 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.842 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.105 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.075 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.412 | k star (bias corrected MLE) | 0.408 |
| Theta hat (MLE) | 7.418 | Theta star (bias corrected MLE) | 7.477 |
| nu hat (MLE) | 144 | nu star (bias corrected) | 142.9 |
| Mean (detects) | 3.053 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0049 | Mean | 2.115 |
| Maximum | 76 | Median | 0.13 |
| SD | 5.814 | CV | 2.75 |
| k hat (MLE) | 0.279 | k star (bias corrected MLE) | 0.279 |
| Theta hat (MLE) | 7.57 | Theta star (bias corrected MLE) | 7.589 |
| nu hat (MLE) | 141.3 | nu star (bias corrected) | 141 |
| Adjusted Level of Significance (β) | 0.0491 | | |
| Approximate Chi Square Value (140.99, α) | 114.6 | Adjusted Chi Square Value (140.99, β) | 114.4 |
| 95% Gamma Approximate UCL (use when n>=50) | 2.603 | 95% Gamma Adjusted UCL (use when n<50) | 2.606 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 2.136 | SD (KM) | 5.795 |
| Variance (KM) | 33.59 | SE of Mean (KM) | 0.365 |
| k hat (KM) | 0.136 | k star (KM) | 0.137 |
| nu hat (KM) | 68.74 | nu star (KM) | 69.26 |
| theta hat (KM) | 15.72 | theta star (KM) | 15.61 |
| 80% gamma percentile (KM) | 2.146 | 90% gamma percentile (KM) | 6.24 |
| 95% gamma percentile (KM) | 11.95 | 99% gamma percentile (KM) | 28.86 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (69.26, α) | 51.1 | Adjusted Chi Square Value (69.26, β) | 51.01 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 2.895 | 95% Gamma Adjusted KM-UCL (use when n<50) | 2.9 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.95 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 8.5205E-6 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.101 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0674 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 2.141 | Mean in Log Scale | -1.179 |
| SD in Original Scale | 5.805 | SD in Log Scale | 2.136 |
| 95% t UCL (assumes normality of ROS data) | 2.744 | 95% Percentile Bootstrap UCL | 2.789 |
| 95% BCA Bootstrap UCL | 3.081 | 95% Bootstrap t UCL | 3.128 |
| 95% H-UCL (Log ROS) | 4.677 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.256 | KM Geo Mean | 0.285 |
| KM SD (logged) | 2.185 | 95% Critical H Value (KM-Log) | 3.321 |
| KM Standard Error of Mean (logged) | 0.147 | 95% H-UCL (KM -Log) | 4.895 |
| KM SD (logged) | 2.185 | 95% Critical H Value (KM-Log) | 3.321 |
| KM Standard Error of Mean (logged) | 0.147 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 2.159 | Mean in Log Scale | -0.982 |
| SD in Original Scale | 5.799 | SD in Log Scale | 1.944 |

| | | | |
|---|---|---|---|
| 95% t UCL (Assumes normality) | 2.761 | 95% H-Stat UCL | 3.603 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 3.729 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

BENZO(K)FLUORANTHENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 253 | Number of Distinct Observations | 119 |
| | | Number of Missing Observations | 132 |
| Number of Detects | 173 | Number of Non-Detects | 80 |
| Number of Distinct Detects | 111 | Number of Distinct Non-Detects | 17 |
| Minimum Detect | 0.0043 | Minimum Non-Detect | 0.17 |
| Maximum Detect | 37 | Maximum Non-Detect | 2.2 |
| Variance Detects | 20.72 | Percent Non-Detects | 31.62% |
| Mean Detects | 2.204 | SD Detects | 4.552 |
| Median Detects | 0.68 | CV Detects | 2.065 |
| Skewness Detects | 5.004 | Kurtosis Detects | 31.61 |
| Mean of Logged Detects | -0.707 | SD of Logged Detects | 2.005 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.5 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.314 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0678 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 1.533 | KM Standard Error of Mean | 0.245 |
| KM SD | 3.882 | 95% KM (BCA) UCL | 1.941 |
| 95% KM (t) UCL | 1.937 | 95% KM (Percentile Bootstrap) UCL | 1.979 |
| 95% KM (z) UCL | 1.936 | 95% KM Bootstrap t UCL | 2.09 |
| 90% KM Chebyshev UCL | 2.267 | 95% KM Chebyshev UCL | 2.6 |
| 97.5% KM Chebyshev UCL | 3.062 | 99% KM Chebyshev UCL | 3.969 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 2.369 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.836 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.0993 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0753 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.434 | k star (bias corrected MLE) | 0.43 |
| Theta hat (MLE) | 5.082 | Theta star (bias corrected MLE) | 5.126 |
| nu hat (MLE) | 150.1 | nu star (bias corrected) | 148.8 |
| Mean (detects) | 2.204 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0043 | Mean | 1.51 |
| Maximum | 37 | Median | 0.11 |
| SD | 3.897 | CV | 2.58 |
| k hat (MLE) | 0.294 | k star (bias corrected MLE) | 0.293 |
| Theta hat (MLE) | 5.136 | Theta star (bias corrected MLE) | 5.15 |
| nu hat (MLE) | 148.8 | nu star (bias corrected) | 148.4 |
| Adjusted Level of Significance (β) | 0.0491 | | |
| Approximate Chi Square Value (148.39, α) | 121.2 | Adjusted Chi Square Value (148.39, β) | 121.1 |
| 95% Gamma Approximate UCL (use when n>=50) | 1.849 | 95% Gamma Adjusted UCL (use when n<50) | 1.851 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 1.533 | SD (KM) | 3.882 |
| Variance (KM) | 15.07 | SE of Mean (KM) | 0.245 |
| k hat (KM) | 0.156 | k star (KM) | 0.157 |
| nu hat (KM) | 78.95 | nu star (KM) | 79.34 |
| theta hat (KM) | 9.827 | theta star (KM) | 9.778 |
| 80% gamma percentile (KM) | 1.729 | 90% gamma percentile (KM) | 4.572 |
| 95% gamma percentile (KM) | 8.364 | 99% gamma percentile (KM) | 19.27 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (79.34, α) | 59.82 | Adjusted Chi Square Value (79.34, β) | 59.72 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 2.034 | 95% Gamma Adjusted KM-UCL (use when n<50) | 2.037 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.957 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 2.4435E-4 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.101 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0678 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 1.537 | Mean in Log Scale | -1.353 |
| SD in Original Scale | 3.887 | SD in Log Scale | 1.993 |
| 95% t UCL (assumes normality of ROS data) | 1.941 | 95% Percentile Bootstrap UCL | 1.972 |
| 95% BCA Bootstrap UCL | 2.049 | 95% Bootstrap t UCL | 2.114 |
| 95% H-UCL (Log ROS) | 2.778 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.421 | KM Geo Mean | 0.241 |
| KM SD (logged) | 2.036 | 95% Critical H Value (KM-Log) | 3.154 |
| KM Standard Error of Mean (logged) | 0.138 | 95% H-UCL (KM -Log) | 2.874 |
| KM SD (logged) | 2.036 | 95% Critical H Value (KM-Log) | 3.154 |
| KM Standard Error of Mean (logged) | 0.138 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.556 | Mean in Log Scale | -1.155 |
| SD in Original Scale | 3.882 | SD in Log Scale | 1.808 |
| 95% t UCL (Assumes normality) | 1.959 | 95% H-Stat UCL | 2.249 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 2.6 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

CHRYSENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 256 | Number of Distinct Observations | 131 |
| | | Number of Missing Observations | 129 |
| Number of Detects | 181 | Number of Non-Detects | 75 |
| Number of Distinct Detects | 123 | Number of Distinct Non-Detects | 16 |
| Minimum Detect | 0.004 | Minimum Non-Detect | 0.17 |
| Maximum Detect | 45 | Maximum Non-Detect | 2.2 |
| Variance Detects | 23.32 | Percent Non-Detects | 29.3% |
| Mean Detects | 2.503 | SD Detects | 4.829 |
| Median Detects | 0.59 | CV Detects | 1.929 |
| Skewness Detects | 5.093 | Kurtosis Detects | 36.35 |
| Mean of Logged Detects | -0.592 | SD of Logged Detects | 2.043 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.543 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.302 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0663 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 1.794 | KM Standard Error of Mean | 0.263 |

| | | | |
|---|---|---|---|
| KM SD | 4.196 | 95% KM (BCA) UCL | 2.247 |
| 95% KM (t) UCL | 2.228 | 95% KM (Percentile Bootstrap) UCL | 2.276 |
| 95% KM (z) UCL | 2.227 | 95% KM Bootstrap t UCL | 2.389 |
| 90% KM Chebyshev UCL | 2.583 | 95% KM Chebyshev UCL | 2.941 |
| 97.5% KM Chebyshev UCL | 3.437 | 99% KM Chebyshev UCL | 4.411 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 2.783 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.837 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.117 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0732 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.431 | k star (bias corrected MLE) | 0.427 |
| Theta hat (MLE) | 5.812 | Theta star (bias corrected MLE) | 5.859 |
| nu hat (MLE) | 155.9 | nu star (bias corrected) | 154.7 |
| Mean (detects) | 2.503 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.004 | Mean | 1.773 |
| Maximum | 45 | Median | 0.14 |
| SD | 4.213 | CV | 2.377 |
| k hat (MLE) | 0.295 | k star (bias corrected MLE) | 0.295 |
| Theta hat (MLE) | 6.002 | Theta star (bias corrected MLE) | 6.019 |
| nu hat (MLE) | 151.2 | nu star (bias corrected) | 150.8 |
| Adjusted Level of Significance (β) | 0.0491 | | |
| Approximate Chi Square Value (150.80, α) | 123.4 | Adjusted Chi Square Value (150.80, β) | 123.3 |
| 95% Gamma Approximate UCL (use when n>=50) | 2.166 | 95% Gamma Adjusted UCL (use when n<50) | 2.169 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 1.794 | SD (KM) | 4.196 |
| Variance (KM) | 17.61 | SE of Mean (KM) | 0.263 |
| k hat (KM) | 0.183 | k star (KM) | 0.183 |
| nu hat (KM) | 93.58 | nu star (KM) | 93.81 |
| theta hat (KM) | 9.816 | theta star (KM) | 9.791 |
| 80% gamma percentile (KM) | 2.25 | 90% gamma percentile (KM) | 5.415 |
| 95% gamma percentile (KM) | 9.45 | 99% gamma percentile (KM) | 20.72 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (93.81, α) | 72.47 | Adjusted Chi Square Value (93.81, β) | 72.37 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 2.322 | 95% Gamma Adjusted KM-UCL (use when n<50) | 2.326 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.95 | **Shapiro Wilk GOF Test** |

| | | | |
|---|---|---|---|
| 5% Shapiro Wilk P Value | 7.4339E-6 | Detected Data Not Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.122 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.0663 | Detected Data Not Lognormal at 5% Significance Level | |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 1.8 | Mean in Log Scale | -1.2 |
| SD in Original Scale | 4.202 | SD in Log Scale | 2.033 |
| 95% t UCL (assumes normality of ROS data) | 2.233 | 95% Percentile Bootstrap UCL | 2.261 |
| 95% BCA Bootstrap UCL | 2.338 | 95% Bootstrap t UCL | 2.399 |
| 95% H-UCL (Log ROS) | 3.555 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.266 | KM Geo Mean | 0.282 |
| KM SD (logged) | 2.073 | 95% Critical H Value (KM-Log) | 3.196 |
| KM Standard Error of Mean (logged) | 0.138 | 95% H-UCL (KM -Log) | 3.656 |
| KM SD (logged) | 2.073 | 95% Critical H Value (KM-Log) | 3.196 |
| KM Standard Error of Mean (logged) | 0.138 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.813 | Mean in Log Scale | -1.047 |
| SD in Original Scale | 4.198 | SD in Log Scale | 1.876 |
| 95% t UCL (Assumes normality) | 2.246 | 95% H-Stat UCL | 2.893 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 2.941 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**DIBENZO(A,H)ANTHRACENE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 255 | Number of Distinct Observations | 131 |
| | | Number of Missing Observations | 130 |
| Number of Detects | 162 | Number of Non-Detects | 93 |
| Number of Distinct Detects | 118 | Number of Distinct Non-Detects | 27 |
| Minimum Detect | 9.4000E-5 | Minimum Non-Detect | 0.0039 |
| Maximum Detect | 4.9 | Maximum Non-Detect | 2.2 |
| Variance Detects | 0.655 | Percent Non-Detects | 36.47% |
| Mean Detects | 0.46 | SD Detects | 0.809 |
| Median Detects | 0.16 | CV Detects | 1.76 |
| Skewness Detects | 3.59 | Kurtosis Detects | 15.34 |

| | | | |
|---|---|---|---|
| Mean of Logged Detects | -2.282 | SD of Logged Detects | 2.26 |

**Normal GOF Test on Detects Only**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.578 | **Normal GOF Test on Detected Observations Only** | |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.285 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.07 | Detected Data Not Normal at 5% Significance Level | |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.308 | KM Standard Error of Mean | 0.0426 |
| KM SD | 0.676 | 95% KM (BCA) UCL | 0.384 |
| 95% KM (t) UCL | 0.378 | 95% KM (Percentile Bootstrap) UCL | 0.377 |
| 95% KM (z) UCL | 0.378 | 95% KM Bootstrap t UCL | 0.395 |
| 90% KM Chebyshev UCL | 0.436 | 95% KM Chebyshev UCL | 0.494 |
| 97.5% KM Chebyshev UCL | 0.574 | 99% KM Chebyshev UCL | 0.732 |

**Gamma GOF Tests on Detected Observations Only**

| | | | |
|---|---|---|---|
| A-D Test Statistic | 0.781 | **Anderson-Darling GOF Test** | |
| 5% A-D Critical Value | 0.837 | Detected data appear Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.072 | **Kolmogorov-Smirnov GOF** | |
| 5% K-S Critical Value | 0.0784 | Detected data appear Gamma Distributed at 5% Significance Level | |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.432 | k star (bias corrected MLE) | 0.428 |
| Theta hat (MLE) | 1.065 | Theta star (bias corrected MLE) | 1.074 |
| nu hat (MLE) | 140 | nu star (bias corrected) | 138.7 |
| Mean (detects) | 0.46 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 9.4000E-5 | Mean | 0.301 |
| Maximum | 4.9 | Median | 0.039 |
| SD | 0.678 | CV | 2.256 |
| k hat (MLE) | 0.367 | k star (bias corrected MLE) | 0.365 |
| Theta hat (MLE) | 0.819 | Theta star (bias corrected MLE) | 0.823 |
| nu hat (MLE) | 187.3 | nu star (bias corrected) | 186.4 |
| Adjusted Level of Significance (β) | 0.0491 | | |
| Approximate Chi Square Value (186.38, α) | 155.8 | Adjusted Chi Square Value (186.38, β) | 155.6 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.36 | 95% Gamma Adjusted UCL (use when n<50) | 0.36 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.308 | SD (KM) | 0.676 |
| Variance (KM) | 0.457 | SE of Mean (KM) | 0.0426 |
| k hat (KM) | 0.207 | k star (KM) | 0.207 |

| | | | |
|---|---|---|---|
| nu hat (KM) | 105.6 | nu star (KM) | 105.7 |
| theta hat (KM) | 1.486 | theta star (KM) | 1.485 |
| 80% gamma percentile (KM) | 0.413 | 90% gamma percentile (KM) | 0.931 |
| 95% gamma percentile (KM) | 1.571 | 99% gamma percentile (KM) | 3.323 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (105.71, α) | 82.99 | Adjusted Chi Square Value (105.71, β) | 82.87 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.392 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.393 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.929 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 1.1038E-9 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.111 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.07 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.3 | Mean in Log Scale | -3.167 |
| SD in Original Scale | 0.678 | SD in Log Scale | 2.325 |
| 95% t UCL (assumes normality of ROS data) | 0.37 | 95% Percentile Bootstrap UCL | 0.373 |
| 95% BCA Bootstrap UCL | 0.391 | 95% Bootstrap t UCL | 0.391 |
| 95% H-UCL (Log ROS) | 1.045 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -3.336 | KM Geo Mean | 0.0356 |
| KM SD (logged) | 2.699 | 95% Critical H Value (KM-Log) | 3.92 |
| KM Standard Error of Mean (logged) | 0.202 | 95% H-UCL (KM -Log) | 2.642 |
| KM SD (logged) | 2.699 | 95% Critical H Value (KM-Log) | 3.92 |
| KM Standard Error of Mean (logged) | 0.202 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.339 | Mean in Log Scale | -2.552 |
| SD in Original Scale | 0.673 | SD in Log Scale | 2.144 |
| 95% t UCL (Assumes normality) | 0.409 | 95% H-Stat UCL | 1.205 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM Approximate Gamma UCL | 0.392 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

INDENO(1,2,3-CD)PYRENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 251 | Number of Distinct Observations | 121 |
| | | Number of Missing Observations | 134 |
| Number of Detects | 158 | Number of Non-Detects | 93 |
| Number of Distinct Detects | 112 | Number of Distinct Non-Detects | 21 |
| Minimum Detect | 0.009 | Minimum Non-Detect | 0.17 |
| Maximum Detect | 20 | Maximum Non-Detect | 2.2 |
| Variance Detects | 7.583 | Percent Non-Detects | 37.05% |
| Mean Detects | 1.491 | SD Detects | 2.754 |
| Median Detects | 0.535 | CV Detects | 1.847 |
| Skewness Detects | 4.007 | Kurtosis Detects | 20.09 |
| Mean of Logged Detects | -0.861 | SD of Logged Detects | 1.744 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.559 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.295 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0709 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.971 | KM Standard Error of Mean | 0.145 |
| KM SD | 2.282 | 95% KM (BCA) UCL | 1.252 |
| 95% KM (t) UCL | 1.21 | 95% KM (Percentile Bootstrap) UCL | 1.229 |
| 95% KM (z) UCL | 1.209 | 95% KM Bootstrap t UCL | 1.289 |
| 90% KM Chebyshev UCL | 1.405 | 95% KM Chebyshev UCL | 1.602 |
| 97.5% KM Chebyshev UCL | 1.874 | 99% KM Chebyshev UCL | 2.41 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 2.799 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.82 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.0962 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0788 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.503 | k star (bias corrected MLE) | 0.498 |
| Theta hat (MLE) | 2.962 | Theta star (bias corrected MLE) | 2.994 |
| nu hat (MLE) | 159 | nu star (bias corrected) | 157.4 |
| Mean (detects) | 1.491 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.009 | Mean | 0.944 |
| Maximum | 20 | Median | 0.075 |
| SD | 2.296 | CV | 2.434 |
| k hat (MLE) | 0.316 | k star (bias corrected MLE) | 0.315 |
| Theta hat (MLE) | 2.982 | Theta star (bias corrected MLE) | 2.993 |
| nu hat (MLE) | 158.8 | nu star (bias corrected) | 158.3 |
| Adjusted Level of Significance (β) | 0.049 | | |
| Approximate Chi Square Value (158.28, α) | 130.2 | Adjusted Chi Square Value (158.28, β) | 130 |
| 95% Gamma Approximate UCL (use when n>=50) | 1.147 | 95% Gamma Adjusted UCL (use when n<50) | 1.148 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.971 | SD (KM) | 2.282 |
| Variance (KM) | 5.207 | SE of Mean (KM) | 0.145 |
| k hat (KM) | 0.181 | k star (KM) | 0.182 |
| nu hat (KM) | 90.97 | nu star (KM) | 91.22 |
| theta hat (KM) | 5.36 | theta star (KM) | 5.346 |
| 80% gamma percentile (KM) | 1.212 | 90% gamma percentile (KM) | 2.931 |
| 95% gamma percentile (KM) | 5.127 | 99% gamma percentile (KM) | 11.27 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (91.22, α) | 70.2 | Adjusted Chi Square Value (91.22, β) | 70.09 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1.262 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1.264 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.957 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 5.9848E-4 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0836 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0709 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.978 | Mean in Log Scale | -1.49 |
| SD in Original Scale | 2.283 | SD in Log Scale | 1.698 |
| 95% t UCL (assumes normality of ROS data) | 1.216 | 95% Percentile Bootstrap UCL | 1.218 |
| 95% BCA Bootstrap UCL | 1.277 | 95% Bootstrap t UCL | 1.281 |
| 95% H-UCL (Log ROS) | 1.285 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.559 | KM Geo Mean | 0.21 |
| KM SD (logged) | 1.715 | 95% Critical H Value (KM-Log) | 2.805 |
| KM Standard Error of Mean (logged) | 0.117 | 95% H-UCL (KM -Log) | 1.241 |
| KM SD (logged) | 1.715 | 95% Critical H Value (KM-Log) | 2.805 |
| KM Standard Error of Mean (logged) | 0.117 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.994 | Mean in Log Scale | -1.328 |
| SD in Original Scale | 2.279 | SD in Log Scale | 1.541 |
| 95% t UCL (Assumes normality) | 1.232 | 95% H-Stat UCL | 1.123 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 1.602 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PENTACHLOROPHENOL

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 233 | Number of Distinct Observations | 115 |
| | | Number of Missing Observations | 166 |
| Number of Detects | 82 | Number of Non-Detects | 151 |
| Number of Distinct Detects | 64 | Number of Distinct Non-Detects | 64 |
| Minimum Detect | 0.014 | Minimum Non-Detect | 0.33 |
| Maximum Detect | 650 | Maximum Non-Detect | 100 |
| Variance Detects | 8992 | Percent Non-Detects | 64.81% |
| Mean Detects | 20.62 | SD Detects | 94.83 |
| Median Detects | 0.305 | CV Detects | 4.599 |
| Skewness Detects | 5.34 | Kurtosis Detects | 29.56 |
| Mean of Logged Detects | -0.689 | SD of Logged Detects | 2.096 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.245 | Normal GOF Test on Detected Observations Only |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.477 | Lilliefors GOF Test |
| 5% Lilliefors Critical Value | 0.098 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 7.409 | KM Standard Error of Mean | 3.741 |
| KM SD | 56.75 | 95% KM (BCA) UCL | 13.96 |
| 95% KM (t) UCL | 13.59 | 95% KM (Percentile Bootstrap) UCL | 14.07 |
| 95% KM (z) UCL | 13.56 | 95% KM Bootstrap t UCL | 25.3 |
| 90% KM Chebyshev UCL | 18.63 | 95% KM Chebyshev UCL | 23.72 |
| 97.5% KM Chebyshev UCL | 30.77 | 99% KM Chebyshev UCL | 44.63 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 15.67 | Anderson-Darling GOF Test |
| 5% A-D Critical Value | 0.917 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.344 | Kolmogorov-Smirnov GOF |
| 5% K-S Critical Value | 0.11 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.198 | k star (bias corrected MLE) | 0.199 |
| Theta hat (MLE) | 103.9 | Theta star (bias corrected MLE) | 103.5 |
| nu hat (MLE) | 32.53 | nu star (bias corrected) | 32.67 |
| Mean (detects) | 20.62 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 7.263 |
| Maximum | 650 | Median | 0.01 |
| SD | 56.89 | CV | 7.833 |
| k hat (MLE) | 0.148 | k star (bias corrected MLE) | 0.149 |
| Theta hat (MLE) | 49.13 | Theta star (bias corrected MLE) | 48.81 |
| nu hat (MLE) | 68.89 | nu star (bias corrected) | 69.34 |
| Adjusted Level of Significance (β) | 0.049 | | |
| Approximate Chi Square Value (69.34, α) | 51.17 | Adjusted Chi Square Value (69.34, β) | 51.08 |
| 95% Gamma Approximate UCL (use when n>=50) | 9.842 | 95% Gamma Adjusted UCL (use when n<50) | 9.86 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 7.409 | SD (KM) | 56.75 |
| Variance (KM) | 3221 | SE of Mean (KM) | 3.741 |
| k hat (KM) | 0.017 | k star (KM) | 0.0197 |
| nu hat (KM) | 7.941 | nu star (KM) | 9.172 |
| theta hat (KM) | 434.7 | theta star (KM) | 376.4 |
| 80% gamma percentile (KM) | 0.00256 | 90% gamma percentile (KM) | 1.02 |
| 95% gamma percentile (KM) | 16.55 | 99% gamma percentile (KM) | 207.4 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (9.17, α) | 3.431 | Adjusted Chi Square Value (9.17, β) | 3.41 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 19.8 | 95% Gamma Adjusted KM-UCL (use when n<50) | 19.93 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.879 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 5.9094E-9 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.14 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.098 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 7.399 | Mean in Log Scale | -1.426 |
| SD in Original Scale | 56.88 | SD in Log Scale | 1.517 |
| 95% t UCL (assumes normality of ROS data) | 13.55 | 95% Percentile Bootstrap UCL | 14.16 |
| 95% BCA Bootstrap UCL | 17.09 | 95% Bootstrap t UCL | 31.56 |
| 95% H-UCL (Log ROS) | 0.988 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.463 | KM Geo Mean | 0.231 |
| KM SD (logged) | 1.554 | 95% Critical H Value (KM-Log) | 2.681 |
| KM Standard Error of Mean (logged) | 0.137 | 95% H-UCL (KM -Log) | 1.018 |
| KM SD (logged) | 1.554 | 95% Critical H Value (KM-Log) | 2.681 |
| KM Standard Error of Mean (logged) | 0.137 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 8.526 | Mean in Log Scale | -0.732 |
| SD in Original Scale | 56.99 | SD in Log Scale | 1.609 |
| 95% t UCL (Assumes normality) | 14.69 | 95% H-Stat UCL | 2.342 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 23.72 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

| Analyte | Valid Obs | Rec. UCL | Method | Max | UCL>Max |
|---|---|---|---|---|---|
| 1,2,4-TRIMETHYLBENZENE(TIC) | 15 | 156 | 95% Student's-t UCL | 300 | |
| BENZENE, 1,2,3-TRIMETHYL-(TIC) | 27 | 169.3 | 99% Chebyshev (Mean, Sd) UCL | 290 | |
| BENZENE, 1,3,5-TRIMETHYL-(TIC) | 17 | 370.2 | 95% Adjusted Gamma UCL | 510 | |
| NAPHTHALENE, 1-METHYL-(TIC) | 25 | 4.055 | 95% H-UCL | 27 | |

ProUCL-output-NFA-06.06.17.xlsx
Soil 0-10 ft

## UCL Statistics for Data Sets with Non-Detects

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.16/6/17 11:34:06 |
| From File | ProUCL_FMPHHRA_TIC_06.05.17.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

### 1,2,4-TRIMETHYLBENZENE(TIC)

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 15 | Number of Distinct Observations | 14 |
| | | Number of Missing Observations | 64 |
| Minimum | 0.13 | Mean | 110.2 |
| Maximum | 300 | Median | 82 |
| SD | 100.7 | Std. Error of Mean | 26.01 |
| Coefficient of Variation | 0.914 | Skewness | 0.64 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.9 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.881 | Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.192 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.22 | Data appear Normal at 5% Significance Level |

Data appear Normal at 5% Significance Level

**Assuming Normal Distribution**

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 156 | 95% Adjusted-CLT UCL (Chen-1995) | 157.6 |
| | | 95% Modified-t UCL (Johnson-1978) | 156.7 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 0.897 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.793 | Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.21 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.234 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data follow Appr. Gamma Distribution at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.5 | k star (bias corrected MLE) | 0.444 |
| Theta hat (MLE) | 220.4 | Theta star (bias corrected MLE) | 247.9 |
| nu hat (MLE) | 15 | nu star (bias corrected) | 13.33 |
| MLE Mean (bias corrected) | 110.2 | MLE Sd (bias corrected) | 165.3 |
| | | Approximate Chi Square Value (0.05) | 6.117 |
| Adjusted Level of Significance | 0.0324 | Adjusted Chi Square Value | 5.526 |

### Assuming Gamma Distribution

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 240.2 | 95% Adjusted Gamma UCL (use when n<50) | 265.9 |

### Lognormal GOF Test

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.75 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.881 | Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.305 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.22 | Data Not Lognormal at 5% Significance Level |

Data Not Lognormal at 5% Significance Level

### Lognormal Statistics

| | | | |
|---|---|---|---|
| Minimum of Logged Data | -2.04 | Mean of logged Data | 3.432 |
| Maximum of Logged Data | 5.704 | SD of logged Data | 2.66 |

### Assuming Lognormal Distribution

| | | | |
|---|---|---|---|
| 95% H-UCL | 69589 | 90% Chebyshev (MVUE) UCL | 1713 |
| 95% Chebyshev (MVUE) UCL | 2252 | 97.5% Chebyshev (MVUE) UCL | 3000 |
| 99% Chebyshev (MVUE) UCL | 4469 | | |

### Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

### Nonparametric Distribution Free UCLs

| | | | |
|---|---|---|---|
| 95% CLT UCL | 153 | 95% Jackknife UCL | 156 |
| 95% Standard Bootstrap UCL | 151.7 | 95% Bootstrap-t UCL | 164.6 |
| 95% Hall's Bootstrap UCL | 154.6 | 95% Percentile Bootstrap UCL | 153.3 |
| 95% BCA Bootstrap UCL | 156.6 | | |
| 90% Chebyshev(Mean, Sd) UCL | 188.2 | 95% Chebyshev(Mean, Sd) UCL | 223.6 |
| 97.5% Chebyshev(Mean, Sd) UCL | 272.6 | 99% Chebyshev(Mean, Sd) UCL | 369 |

### Suggested UCL to Use

| | |
|---|---|
| 95% Student's-t UCL | 156 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

BENZENE, 1,2,3-TRIMETHYL-(TIC)

### General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 27 | Number of Distinct Observations | 25 |
| | | Number of Missing Observations | 43 |
| Minimum | 0.01 | Mean | 35.76 |
| Maximum | 290 | Median | 0.89 |
| SD | 69.75 | Std. Error of Mean | 13.42 |
| Coefficient of Variation | 1.95 | Skewness | 2.461 |

### Normal GOF Test

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.597 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.923 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.337 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.167 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

### Assuming Normal Distribution

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 58.66 | 95% Adjusted-CLT UCL (Chen-1995) | 64.63 |
| | | 95% Modified-t UCL (Johnson-1978) | 59.72 |

### Gamma GOF Test

| | | |
|---|---|---|
| A-D Test Statistic | 1.39 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.878 | Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.224 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.185 | Data Not Gamma Distributed at 5% Significance Level |

Data Not Gamma Distributed at 5% Significance Level

### Gamma Statistics

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.25 | k star (bias corrected MLE) | 0.247 |
| Theta hat (MLE) | 143.2 | Theta star (bias corrected MLE) | 145 |
| nu hat (MLE) | 13.48 | nu star (bias corrected) | 13.32 |
| MLE Mean (bias corrected) | 35.76 | MLE Sd (bias corrected) | 72.01 |
| | | Approximate Chi Square Value (0.05) | 6.107 |
| Adjusted Level of Significance | 0.0401 | Adjusted Chi Square Value | 5.796 |

### Assuming Gamma Distribution

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 77.99 | 95% Adjusted Gamma UCL (use when n<50) | 82.17 |

### Lognormal GOF Test

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.943 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.923 | Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.14 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.167 | Data appear Lognormal at 5% Significance Level |

Data appear Lognormal at 5% Significance Level

### Lognormal Statistics

| | | | |
|---|---|---|---|
| Minimum of Logged Data | -4.605 | Mean of logged Data | 0.731 |
| Maximum of Logged Data | 5.67 | SD of logged Data | 2.955 |

### Assuming Lognormal Distribution

| | | | |
|---|---|---|---|
| 95% H-UCL | 4356 | 90% Chebyshev (MVUE) UCL | 281.9 |
| 95% Chebyshev (MVUE) UCL | 370.3 | 97.5% Chebyshev (MVUE) UCL | 493 |
| 99% Chebyshev (MVUE) UCL | 733.9 | | |

### Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

### Nonparametric Distribution Free UCLs

| | | | |
|---|---|---|---|
| 95% CLT UCL | 57.84 | 95% Jackknife UCL | 58.66 |
| 95% Standard Bootstrap UCL | 57.3 | 95% Bootstrap-t UCL | 77.03 |
| 95% Hall's Bootstrap UCL | 67.15 | 95% Percentile Bootstrap UCL | 59.98 |
| 95% BCA Bootstrap UCL | 66.55 | | |
| 90% Chebyshev(Mean, Sd) UCL | 76.03 | 95% Chebyshev(Mean, Sd) UCL | 94.27 |
| 97.5% Chebyshev(Mean, Sd) UCL | 119.6 | 99% Chebyshev(Mean, Sd) UCL | 169.3 |

### Suggested UCL to Use

| | |
|---|---|
| 99% Chebyshev (Mean, Sd) UCL | 169.3 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

## BENZENE, 1,3,5-TRIMETHYL-(TIC)

### General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 17 | Number of Distinct Observations | 15 |
| | | Number of Missing Observations | 62 |
| Minimum | 0.096 | Mean | 137 |
| Maximum | 510 | Median | 35 |
| SD | 178 | Std. Error of Mean | 43.17 |
| Coefficient of Variation | 1.299 | Skewness | 1.201 |

### Normal GOF Test

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.775 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.892 | Data Not Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.246 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.207 | Data Not Normal at 5% Significance Level | |

Data Not Normal at 5% Significance Level

### Assuming Normal Distribution

| 95% Normal UCL | | 95% UCLs (Adjusted for Skewness) | |
|---|---|---|---|
| 95% Student's-t UCL | 212.4 | 95% Adjusted-CLT UCL (Chen-1995) | 221.5 |
| | | 95% Modified-t UCL (Johnson-1978) | 214.5 |

### Gamma GOF Test

| | | |
|---|---|---|
| A-D Test Statistic | 0.416 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.834 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.14 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.226 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

### Gamma Statistics

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.333 | k star (bias corrected MLE) | 0.314 |
| Theta hat (MLE) | 411.1 | Theta star (bias corrected MLE) | 436.8 |
| nu hat (MLE) | 11.33 | nu star (bias corrected) | 10.67 |
| MLE Mean (bias corrected) | 137 | MLE Sd (bias corrected) | 244.6 |
| | | Approximate Chi Square Value (0.05) | 4.363 |
| Adjusted Level of Significance | 0.0346 | Adjusted Chi Square Value | 3.949 |

### Assuming Gamma Distribution

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50) | 335 | 95% Adjusted Gamma UCL (use when n<50) | 370.2 |

### Lognormal GOF Test

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.886 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.892 | Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.176 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.207 | Data appear Lognormal at 5% Significance Level |

Data appear Approximate Lognormal at 5% Significance Level

### Lognormal Statistics

| | | | |
|---|---|---|---|
| Minimum of Logged Data | -2.343 | Mean of logged Data | 2.887 |
| Maximum of Logged Data | 6.234 | SD of logged Data | 3.008 |

### Assuming Lognormal Distribution

| | | | |
|---|---|---|---|
| 95% H-UCL | 190016 | 90% Chebyshev (MVUE) UCL | 2226 |
| 95% Chebyshev (MVUE) UCL | 2940 | 97.5% Chebyshev (MVUE) UCL | 3931 |
| 99% Chebyshev (MVUE) UCL | 5879 | | |

### Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

### Nonparametric Distribution Free UCLs

| | | | |
|---|---|---|---|
| 95% CLT UCL | 208 | 95% Jackknife UCL | 212.4 |
| 95% Standard Bootstrap UCL | 207.6 | 95% Bootstrap-t UCL | 235.9 |
| 95% Hall's Bootstrap UCL | 219.3 | 95% Percentile Bootstrap UCL | 209.6 |
| 95% BCA Bootstrap UCL | 218.2 | | |
| 90% Chebyshev(Mean, Sd) UCL | 266.5 | 95% Chebyshev(Mean, Sd) UCL | 325.2 |
| 97.5% Chebyshev(Mean, Sd) UCL | 406.6 | 99% Chebyshev(Mean, Sd) UCL | 566.6 |

**Suggested UCL to Use**

95% Adjusted Gamma UCL 370.2

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

NAPHTHALENE, 1-METHYL-(TIC)

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 25 | Number of Distinct Observations | 22 |
| | | Number of Missing Observations | 43 |
| Minimum | 0.09 | Mean | 1.993 |
| Maximum | 27 | Median | 0.77 |
| SD | 5.296 | Std. Error of Mean | 1.059 |
| Coefficient of Variation | 2.657 | Skewness | 4.747 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.345 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.918 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.372 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.173 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

**Assuming Normal Distribution**

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 3.805 | 95% Adjusted-CLT UCL (Chen-1995) | 4.81 |
| | | 95% Modified-t UCL (Johnson-1978) | 3.973 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 1.542 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.804 | Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.19 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.184 | Data Not Gamma Distributed at 5% Significance Level |

Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.535 | k star (bias corrected MLE) | 0.498 |
| Theta hat (MLE) | 3.722 | Theta star (bias corrected MLE) | 4.003 |
| nu hat (MLE) | 26.77 | nu star (bias corrected) | 24.89 |
| MLE Mean (bias corrected) | 1.993 | MLE Sd (bias corrected) | 2.825 |
| | | Approximate Chi Square Value (0.05) | 14.53 |
| Adjusted Level of Significance | 0.0395 | Adjusted Chi Square Value | 13.99 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 3.415 | 95% Adjusted Gamma UCL (use when n<50) | 3.547 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.937 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.918 | Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.128 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.173 | Data appear Lognormal at 5% Significance Level |

Data appear Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | -2.408 | Mean of logged Data | -0.484 |
| Maximum of Logged Data | 3.296 | SD of logged Data | 1.414 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 4.055 | 90% Chebyshev (MVUE) UCL | 3.167 |
| 95% Chebyshev (MVUE) UCL | 3.896 | 97.5% Chebyshev (MVUE) UCL | 4.908 |
| 99% Chebyshev (MVUE) UCL | 6.895 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 3.735 | 95% Jackknife UCL | 3.805 |
| 95% Standard Bootstrap UCL | 3.76 | 95% Bootstrap-t UCL | 10.61 |
| 95% Hall's Bootstrap UCL | 10.03 | 95% Percentile Bootstrap UCL | 4.054 |
| 95% BCA Bootstrap UCL | 5.285 | | |
| 90% Chebyshev(Mean, Sd) UCL | 5.171 | 95% Chebyshev(Mean, Sd) UCL | 6.61 |
| 97.5% Chebyshev(Mean, Sd) UCL | 8.608 | 99% Chebyshev(Mean, Sd) UCL | 12.53 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% H-UCL | 4.055 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

| Analyte | Group | Matrix | Valid Obs | Rec. UCL | Method | Max | UCL>Max |
|---|---|---|---|---|---|---|---|
| 1,2,4-TRIMETHYLBENZENE | NA | NA | 7 | 1230 | 95% Adjusted Gamma UCL | 480 | Y |
| BENZENE, 1,2,3-TRIMETHYL- | NA | NA | 13 | 111.3 | 95% Adjusted Gamma UCL | 210 | |
| BENZENE, 1,3,5-TRIMETHYL- | NA | NA | 8 | 304.2 | 95% Adjusted Gamma UCL | 180 | Y |

0-10ft soil TICsSFA.xlsx

UCL Statistics for Data Sets with Non-Detects

0-10ft soil TICsSFA.xlsx

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.11/9/2017 2:56:17 PM |
| From File | ProUCL_FMPHHRA_TIC_01.09.17_a.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

1,2,4-TRIMETHYLBENZENE

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 7 | Number of Distinct Observations | 7 |
| | | Number of Missing Observations | 13 |
| Minimum | 0.13 | Mean | 101.6 |
| Maximum | 480 | Median | 2.8 |
| SD | 178 | Std. Error of Mean | 67.29 |
| Coefficient of Variation | 1.752 | Skewness | 2.083 |

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.674 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.803 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.315 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.304 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 232.4 | 95% Adjusted-CLT UCL (Chen-1995) | 268.9 |
| | | 95% Modified-t UCL (Johnson-1978) | 241.2 |

Gamma GOF Test

| | | |
|---|---|---|
| A-D Test Statistic | 0.405 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.793 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.284 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.337 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.277 | k star (bias corrected MLE) | 0.253 |
| Theta hat (MLE) | 367.4 | Theta star (bias corrected MLE) | 401.2 |
| nu hat (MLE) | 3.873 | nu star (bias corrected) | 3.546 |
| MLE Mean (bias corrected) | 101.6 | MLE Sd (bias corrected) | 201.9 |

| | | | |
|---|---|---|---|
| | | Approximate Chi Square Value (0.05) | 0.551 |
| Adjusted Level of Significance | 0.0158 | Adjusted Chi Square Value | 0.293 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50) | 654 | 95% Adjusted Gamma UCL (use when n<50) | 1230 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.939 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.803 | Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.208 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.304 | Data appear Lognormal at 5% Significance Level |

Data appear Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | -2.04 | Mean of logged Data | 2.095 |
| Maximum of Logged Data | 6.174 | SD of logged Data | 3.039 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 2.205E+8 | 90% Chebyshev (MVUE) UCL | 557 |
| 95% Chebyshev (MVUE) UCL | 740 | 97.5% Chebyshev (MVUE) UCL | 994.1 |
| 99% Chebyshev (MVUE) UCL | 1493 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 212.3 | 95% Jackknife UCL | 232.4 |
| 95% Standard Bootstrap UCL | 202 | 95% Bootstrap-t UCL | 895.8 |
| 95% Hall's Bootstrap UCL | 1048 | 95% Percentile Bootstrap UCL | 222 |
| 95% BCA Bootstrap UCL | 282.5 | | |
| 90% Chebyshev(Mean, Sd) UCL | 303.5 | 95% Chebyshev(Mean, Sd) UCL | 394.9 |
| 97.5% Chebyshev(Mean, Sd) UCL | 521.8 | 99% Chebyshev(Mean, Sd) UCL | 771.1 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% Adjusted Gamma UCL | 1230 |

Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**BENZENE, 1,2,3-TRIMETHYL-**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 13 | Number of Distinct Observations | 13 |
| | | Number of Missing Observations | 6 |

| | | | |
|---|---|---|---|
| Minimum | 0.017 | Mean | 27.57 |
| Maximum | 210 | Median | 1.4 |
| SD | 58.31 | Std. Error of Mean | 16.17 |
| Coefficient of Variation | 2.115 | Skewness | 2.972 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.545 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.866 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.318 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.234 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

**Assuming Normal Distribution**

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 56.39 | 95% Adjusted-CLT UCL (Chen-1995) | 68.41 |
| | | 95% Modified-t UCL (Johnson-1978) | 58.61 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 0.468 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.844 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.189 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.258 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.268 | k star (bias corrected MLE) | 0.257 |
| Theta hat (MLE) | 103 | Theta star (bias corrected MLE) | 107.2 |
| nu hat (MLE) | 6.959 | nu star (bias corrected) | 6.687 |
| MLE Mean (bias corrected) | 27.57 | MLE Sd (bias corrected) | 54.36 |
| | | Approximate Chi Square Value (0.05) | 2 |
| Adjusted Level of Significance | 0.0301 | Adjusted Chi Square Value | 1.656 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50) | 92.16 | 95% Adjusted Gamma UCL (use when n<50) | 111.3 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.961 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.866 | Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.138 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.234 | Data appear Lognormal at 5% Significance Level |

Data appear Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | -4.075 | Mean of logged Data | 0.692 |
| Maximum of Logged Data | 5.347 | SD of logged Data | 2.948 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 51769 | 90% Chebyshev (MVUE) UCL | 185.9 |
| 95% Chebyshev (MVUE) UCL | 245.9 | 97.5% Chebyshev (MVUE) UCL | 329.1 |

| | |
|---|---|
| 99% Chebyshev (MVUE) UCL | 492.6 |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 54.17 | 95% Jackknife UCL | 56.39 |
| 95% Standard Bootstrap UCL | 52.95 | 95% Bootstrap-t UCL | 142.7 |
| 95% Hall's Bootstrap UCL | 156.2 | 95% Percentile Bootstrap UCL | 57.45 |
| 95% BCA Bootstrap UCL | 76.47 | | |
| 90% Chebyshev(Mean, Sd) UCL | 76.09 | 95% Chebyshev(Mean, Sd) UCL | 98.07 |
| 97.5% Chebyshev(Mean, Sd) UCL | 128.6 | 99% Chebyshev(Mean, Sd) UCL | 188.5 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% Adjusted Gamma UCL | 111.3 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**BENZENE, 1,3,5-TRIMETHYL-**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 8 | Number of Distinct Observations | 8 |
| | | Number of Missing Observations | 9 |
| Minimum | 0.53 | Mean | 44.93 |
| Maximum | 180 | Median | 3.85 |
| SD | 72.44 | Std. Error of Mean | 25.61 |
| Coefficient of Variation | 1.612 | Skewness | 1.465 |

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use
guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.677 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.818 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.337 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.283 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

**Assuming Normal Distribution**

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 93.45 | 95% Adjusted-CLT UCL (Chen-1995) | 101.2 |
| | | 95% Modified-t UCL (Johnson-1978) | 95.66 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 0.655 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.787 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.261 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.315 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.358 | k star (bias corrected MLE) | 0.307 |
| Theta hat (MLE) | 125.4 | Theta star (bias corrected MLE) | 146.2 |
| nu hat (MLE) | 5.733 | nu star (bias corrected) | 4.916 |
| MLE Mean (bias corrected) | 44.93 | MLE Sd (bias corrected) | 81.04 |
| | | Approximate Chi Square Value (0.05) | 1.114 |
| Adjusted Level of Significance | 0.0195 | Adjusted Chi Square Value | 0.726 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50) | 198.3 | 95% Adjusted Gamma UCL (use when n<50) | 304.2 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.888 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.818 | Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.199 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.283 | Data appear Lognormal at 5% Significance Level |

Data appear Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | -0.635 | Mean of logged Data | 1.935 |
| Maximum of Logged Data | 5.193 | SD of logged Data | 2.29 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 39435 | 90% Chebyshev (MVUE) UCL | 151.1 |
| 95% Chebyshev (MVUE) UCL | 198.4 | 97.5% Chebyshev (MVUE) UCL | 264.1 |
| 99% Chebyshev (MVUE) UCL | 393.1 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 87.05 | 95% Jackknife UCL | 93.45 |
| 95% Standard Bootstrap UCL | 84.63 | 95% Bootstrap-t UCL | 340.8 |
| 95% Hall's Bootstrap UCL | 489.5 | 95% Percentile Bootstrap UCL | 86.04 |
| 95% BCA Bootstrap UCL | 98.06 | | |
| 90% Chebyshev(Mean, Sd) UCL | 121.8 | 95% Chebyshev(Mean, Sd) UCL | 156.6 |
| 97.5% Chebyshev(Mean, Sd) UCL | 204.9 | 99% Chebyshev(Mean, Sd) UCL | 299.8 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% Adjusted Gamma UCL | 304.2 |

Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

| Analyte | Group | Matrix | Valid Obs | Rec. UCL | Method | Max | UCL>Max |
|---|---|---|---|---|---|---|---|
| ARSENIC | NA | NA | 8 | 2.452562 | 95% KM (t) UCL | 3.2 | |
| CHROMIUM, HEXAVALENT | NA | NA | 10 | 0.6062757 | 95% KM (t) UCL | 0.77 | |
| COBALT | NA | NA | 8 | 3.1009183 | 95% KM Bootstrap t UCL | 3.1 | Y |
| IRON | NA | NA | 8 | 6802.6164 | 95% Student's-t UCL | 7570 | |
| THALLIUM | NA | NA | 8 | NA | NA | NA | |
| BENZO(A)PYRENE | NA | NA | 8 | 0.0736378 | 95% KM (t) UCL | 0.073 | Y |
| DIBENZO(A,H)ANTHRACENE | NA | NA | 8 | NA | NA | NA | |

0-2soil_EUSA.xlsx

## UCL Statistics for Data Sets with Non-Detects

**0-2soil_EUSA.xlsx**

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.11/6/2017 5:26:24 PM |
| From File | ProUCL_FMPHHRA_01.06.17 input_g.xls |
| Full Precision | ON |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

### ARSENIC

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 8 | Number of Distinct Observations | 6 |
| Number of Detects | 7 | Number of Non-Detects | 1 |
| Number of Distinct Detects | 5 | Number of Distinct Non-Detects | 1 |
| Minimum Detect | 1.5 | Minimum Non-Detect | 0.9 |
| Maximum Detect | 3.2 | Maximum Non-Detect | 0.9 |
| Variance Detects | 0.4333333 | Percent Non-Detects | 12.50% |
| Mean Detects | 2.1 | SD Detects | 0.6582806 |
| Median Detects | 2 | CV Detects | 0.3134669 |
| Skewness Detects | 0.9619466 | Kurtosis Detects | -0.456426 |
| Mean of Logged Detects | 0.7029462 | SD of Logged Detects | 0.2959108 |

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.8603957 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.803 | Detected Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.2746571 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.3041 | Detected Data appear Normal at 5% Significance Level |

Detected Data appear Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 1.95 | KM Standard Error of Mean | 0.2652632 |
| KM SD | 0.6946222 | 95% KM (BCA) UCL | 2.4 |
| 95% KM (t) UCL | 2.452562 | 95% KM (Percentile Bootstrap) UCL | 2.35 |
| 95% KM (z) UCL | 2.3863192 | 95% KM Bootstrap t UCL | 2.6354151 |
| 90% KM Chebyshev UCL | 2.7457897 | 95% KM Chebyshev UCL | 3.1062556 |
| 97.5% KM Chebyshev UCL | 3.6065684 | 99% KM Chebyshev UCL | 4.5893359 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.4503345 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.7079422 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.2467188 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.3117896 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 12.987867 | k star (bias corrected MLE) | 7.5168765 |
| Theta hat (MLE) | 0.1616894 | Theta star (bias corrected MLE) | 0.2793714 |
| nu hat (MLE) | 181.83014 | nu star (bias corrected) | 105.23627 |
| Mean (detects) | 2.1 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.7147393 | Mean | 1.9268424 |
| Maximum | 3.2 | Median | 1.85 |
| SD | 0.7818548 | CV | 0.40577 |
| k hat (MLE) | 6.2016836 | k star (bias corrected MLE) | 3.9593856 |
| Theta hat (MLE) | 0.3106967 | Theta star (bias corrected MLE) | 0.4866519 |
| nu hat (MLE) | 99.226937 | nu star (bias corrected) | 63.350169 |
| Adjusted Level of Significance (β) | 0.01946 | | |
| Approximate Chi Square Value (63.35, α) | 46.040153 | Adjusted Chi Square Value (63.35, β) | 42.332094 |
| 95% Gamma Approximate UCL (use when n>=50) | 2.6512899 | 95% Gamma Adjusted UCL (use when n<50) | 2.8835283 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 1.95 | SD (KM) | 0.6946222 |
| Variance (KM) | 0.4825 | SE of Mean (KM) | 0.2652632 |
| k hat (KM) | 7.880829 | k star (KM) | 5.0088515 |
| nu hat (KM) | 126.09326 | nu star (KM) | 80.141623 |
| theta hat (KM) | 0.2474359 | theta star (KM) | 0.3893108 |
| 80% gamma percentile (KM) | 2.6206651 | 90% gamma percentile (KM) | 3.1164537 |
| 95% gamma percentile (KM) | 3.5683103 | 99% gamma percentile (KM) | 4.5230734 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (80.14, α) | 60.51466 | Adjusted Chi Square Value (80.14, β) | 56.218955 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 2.5824514 | 95% Gamma Adjusted KM-UCL (use when n<50) | 2.7797771 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.8910725 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.803 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.2274941 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.3041 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 1.9592834 | Mean in Log Scale | 0.6118192 |
| SD in Original Scale | 0.7278996 | SD in Log Scale | 0.3761478 |
| 95% t UCL (assumes normality of ROS data) | 2.4468558 | 95% Percentile Bootstrap UCL | 2.375 |
| 95% BCA Bootstrap UCL | 2.4 | 95% Bootstrap t UCL | 2.678099 |
| 95% H-UCL (Log ROS) | 2.6904197 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 0.6019078 | KM Geo Mean | 1.8255984 |
| KM SD (logged) | 0.3703156 | 95% Critical H Value (KM-Log) | 2.1520363 |
| KM Standard Error of Mean (logged) | 0.1414166 | 95% H-UCL (KM -Log) | 2.6423979 |
| KM SD (logged) | 0.3703156 | 95% Critical H Value (KM-Log) | 2.1520363 |
| KM Standard Error of Mean (logged) | 0.1414166 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.89375 | Mean in Log Scale | 0.5152644 |
| SD in Original Scale | 0.8436475 | SD in Log Scale | 0.5973689 |
| 95% t UCL (Assumes normality) | 2.4588543 | 95% H-Stat UCL | 3.5420173 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Normal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (t) UCL | 2.452562 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**CHROMIUM, HEXAVALENT**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 10 | Number of Distinct Observations | 9 |
| | | Number of Missing Observations | 8 |
| Number of Detects | 6 | Number of Non-Detects | 4 |
| Number of Distinct Detects | 6 | Number of Distinct Non-Detects | 3 |
| Minimum Detect | 0.47 | Minimum Non-Detect | 0.41 |
| Maximum Detect | 0.77 | Maximum Non-Detect | 0.43 |
| Variance Detects | 0.0107367 | Percent Non-Detects | 40.00% |
| Mean Detects | 0.6083333 | SD Detects | 0.1036179 |
| Median Detects | 0.615 | CV Detects | 0.1703308 |
| Skewness Detects | 0.3180494 | Kurtosis Detects | 0.3699787 |
| Mean of Logged Detects | -0.509152 | SD of Logged Detects | 0.1708932 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.9787957 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.788 | Detected Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.1771318 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.3245 | Detected Data appear Normal at 5% Significance Level |

Detected Data appear Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.529 | KM Standard Error of Mean | 0.0421554 |
| KM SD | 0.1216922 | 95% KM (BCA) UCL | 0.598 |
| 95% KM (t) UCL | 0.6062757 | 95% KM (Percentile Bootstrap) UCL | 0.591 |
| 95% KM (z) UCL | 0.5983395 | 95% KM Bootstrap t UCL | 0.602279 |
| 90% KM Chebyshev UCL | 0.6554663 | 95% KM Chebyshev UCL | 0.7127512 |
| 97.5% KM Chebyshev UCL | 0.7922606 | 99% KM Chebyshev UCL | 0.9484412 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.1906905 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.69694 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.1520328 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.3317871 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 41.422491 | k star (bias corrected MLE) | 20.822357 |
| Theta hat (MLE) | 0.0146861 | Theta star (bias corrected MLE) | 0.0292154 |
| nu hat (MLE) | 497.0699 | nu star (bias corrected) | 249.86828 |
| Mean (detects) | 0.6083333 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.3025167 | Mean | 0.5030913 |
| Maximum | 0.77 | Median | 0.5 |
| SD | 0.1574716 | CV | 0.313008 |
| k hat (MLE) | 11.187141 | k star (bias corrected MLE) | 7.8976653 |
| Theta hat (MLE) | 0.0449705 | Theta star (bias corrected MLE) | 0.0637013 |
| nu hat (MLE) | 223.74282 | nu star (bias corrected) | 157.95331 |
| Adjusted Level of Significance (β) | 0.0267 | | |
| Approximate Chi Square Value (157.95, α) | 129.89844 | Adjusted Chi Square Value (157.95, β) | 125.47889 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.6117467 | 95% Gamma Adjusted UCL (use when n<50) | 0.6332933 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.529 | SD (KM) | 0.1216922 |
| Variance (KM) | 0.014809 | SE of Mean (KM) | 0.0421554 |
| k hat (KM) | 18.896684 | k star (KM) | 13.294346 |
| nu hat (KM) | 377.93369 | nu star (KM) | 265.88692 |
| theta hat (KM) | 0.0279943 | theta star (KM) | 0.0397914 |
| 80% gamma percentile (KM) | 0.6456644 | 90% gamma percentile (KM) | 0.7213594 |
| 95% gamma percentile (KM) | 0.7880411 | 99% gamma percentile (KM) | 0.923562 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (265.89, α) | 229.12681 | Adjusted Chi Square Value (265.89, β) | 223.19245 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.6138705 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.6301924 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.9837413 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.788 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.1627588 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.3245 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.516283 | Mean in Log Scale | -0.695036 |
| SD in Original Scale | 0.1424162 | SD in Log Scale | 0.2742197 |
| 95% t UCL (assumes normality of ROS data) | 0.598839 | 95% Percentile Bootstrap UCL | 0.5865203 |
| 95% BCA Bootstrap UCL | 0.5912921 | 95% Bootstrap t UCL | 0.6067609 |
| 95% H-UCL (Log ROS) | 0.6193172 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -0.66213 | KM Geo Mean | 0.5157515 |
| KM SD (logged) | 0.2229483 | 95% Critical H Value (KM-Log) | 1.9015274 |
| KM Standard Error of Mean (logged) | 0.0772315 | 95% H-UCL (KM -Log) | 0.6089841 |
| KM SD (logged) | 0.2229483 | 95% Critical H Value (KM-Log) | 1.9015274 |
| KM Standard Error of Mean (logged) | 0.0772315 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.4485 | Mean in Log Scale | -0.932217 |
| SD in Original Scale | 0.2203413 | SD in Log Scale | 0.5609857 |
| 95% t UCL (Assumes normality) | 0.5762277 | 95% H-Stat UCL | 0.7094715 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Normal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (t) UCL | 0.6062757 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**COBALT**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 8 | Number of Distinct Observations | 8 |
| Number of Detects | 7 | Number of Non-Detects | 1 |
| Number of Distinct Detects | 7 | Number of Distinct Non-Detects | 1 |
| Minimum Detect | 0.25 | Minimum Non-Detect | 4.5 |
| Maximum Detect | 3.1 | Maximum Non-Detect | 4.5 |
| Variance Detects | 1.009781 | Percent Non-Detects | 12.50% |

| | | | |
|---|---|---|---|
| Mean Detects | 0.8914286 | SD Detects | 1.0048786 |
| Median Detects | 0.53 | CV Detects | 1.1272676 |
| Skewness Detects | 2.3219863 | Kurtosis Detects | 5.6719088 |
| Mean of Logged Detects | -0.495446 | SD of Logged Detects | 0.8717431 |

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.6748117 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.803 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.35771 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.3041 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.8914286 | KM Standard Error of Mean | 0.3798084 |
| KM SD | 0.9303368 | 95% KM (BCA) UCL | 1.55 |
| 95% KM (t) UCL | 1.6110054 | 95% KM (Percentile Bootstrap) UCL | 1.5414286 |
| 95% KM (z) UCL | 1.5161578 | 95% KM Bootstrap t UCL | 3.1484528 |
| 90% KM Chebyshev UCL | 2.0308538 | 95% KM Chebyshev UCL | 2.546975 |
| 97.5% KM Chebyshev UCL | 3.2633313 | 99% KM Chebyshev UCL | 4.6704745 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.5367436 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.7217627 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.2479806 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.3172263 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.4582474 | k star (bias corrected MLE) | 0.9285223 |
| Theta hat (MLE) | 0.6113013 | Theta star (bias corrected MLE) | 0.9600507 |
| nu hat (MLE) | 20.415464 | nu star (bias corrected) | 12.999313 |
| Mean (detects) | 0.8914286 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.25 | Mean | 0.8690761 |
| Maximum | 3.1 | Median | 0.6213043 |
| SD | 0.9324825 | CV | 1.0729584 |
| k hat (MLE) | 1.6369328 | k star (bias corrected MLE) | 1.1064163 |
| Theta hat (MLE) | 0.5309174 | Theta star (bias corrected MLE) | 0.7854874 |

| | | | |
|---|---|---|---|
| nu hat (MLE) | 26.190925 | nu star (bias corrected) | 17.702662 |
| Adjusted Level of Significance (β) | 0.01946 | | |
| Approximate Chi Square Value (17.70, α) | 9.1763339 | Adjusted Chi Square Value (17.70, β) | 7.6745607 |
| 95% Gamma Approximate UCL (use when n>=50) | 1.6765911 | 95% Gamma Adjusted UCL (use when n<50) | 2.0046697 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.8914286 | SD (KM) | 0.9303368 |
| Variance (KM) | 0.8655265 | SE of Mean (KM) | 0.3798084 |
| k hat (KM) | 0.9181058 | k star (KM) | 0.6571494 |
| nu hat (KM) | 14.689692 | nu star (KM) | 10.514391 |
| theta hat (KM) | 0.9709432 | theta star (KM) | 1.3565082 |
| 80% gamma percentile (KM) | 1.4677979 | 90% gamma percentile (KM) | 2.2708511 |
| 95% gamma percentile (KM) | 3.1041435 | 99% gamma percentile (KM) | 5.1038404 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (10.51, α) | 4.2657646 | Adjusted Chi Square Value (10.51, β) | 3.3184861 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 2.1972212 | 95% Gamma Adjusted KM-UCL (use when n<50) | 2.8244291 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.9090499 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.803 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.1890475 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.3041 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.8561624 | Mean in Log Scale | -0.495446 |
| SD in Original Scale | 0.9356688 | SD in Log Scale | 0.8070773 |
| 95% t UCL (assumes normality of ROS data) | 1.4829058 | 95% Percentile Bootstrap UCL | 1.47375 |
| 95% BCA Bootstrap UCL | 1.59875 | 95% Bootstrap t UCL | 2.7195359 |
| 95% H-UCL (Log ROS) | 2.0867269 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -0.495446 | KM Geo Mean | 0.6092993 |
| KM SD (logged) | 0.8070773 | 95% Critical H Value (KM-Log) | 2.9679261 |
| KM Standard Error of Mean (logged) | 0.3294879 | 95% H-UCL (KM -Log) | 2.0867269 |
| KM SD (logged) | 0.8070773 | 95% Critical H Value (KM-Log) | 2.9679261 |
| KM Standard Error of Mean (logged) | 0.3294879 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.06125 | Mean in Log Scale | -0.332149 |
| SD in Original Scale | 1.0470153 | SD in Log Scale | 0.929893 |
| 95% t UCL (Assumes normality) | 1.7625772 | 95% H-Stat UCL | 3.470603 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | | | |
|---|---|---|---|
| 95% KM Bootstrap t UCL | 3.1009183 | 95% Hall's Bootstrap | 2.0867269 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

IRON

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 8 | Number of Distinct Observations | 8 |
| | | Number of Missing Observations | 0 |
| Minimum | 1070 | Mean | 5451.25 |
| Maximum | 7570 | Median | 5815 |
| SD | 2017.4626 | Std. Error of Mean | 713.28074 |
| Coefficient of Variation | 0.3700917 | Skewness | -1.629743 |

**Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.**
**For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).**
**Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1**

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.8590988 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.818 | Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.2102698 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.2825 | Data appear Normal at 5% Significance Level |

Data appear Normal at 5% Significance Level

**Assuming Normal Distribution**

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 6802.6164 | 95% Adjusted-CLT UCL (Chen-1995) | 6185.3401 |
| | | 95% Modified-t UCL (Johnson-1978) | 6734.1175 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 1.0006762 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.718736 | Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.2899519 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.2953001 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data follow Appr. Gamma Distribution at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 4.332046 | k star (bias corrected MLE) | 2.7908621 |
| Theta hat (MLE) | 1258.3546 | Theta star (bias corrected MLE) | 1953.2495 |
| nu hat (MLE) | 69.312736 | nu star (bias corrected) | 44.653794 |

| | | | |
|---|---|---|---|
| MLE Mean (bias corrected) | 5451.25 | MLE Sd (bias corrected) | 3263.0739 |
| | | Approximate Chi Square Value (0.05) | 30.32655 |
| Adjusted Level of Significance | 0.01946 | Adjusted Chi Square Value | 27.372953 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 8026.5969 | 95% Adjusted Gamma UCL (use when n<50) | 8892.6831 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.6653787 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.818 | Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.3323978 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.2825 | Data Not Lognormal at 5% Significance Level |

Data Not Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | 6.9754139 | Mean of logged Data | 8.4837639 |
| Maximum of Logged Data | 8.9319483 | SD of logged Data | 0.6308591 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 10951.416 | 90% Chebyshev (MVUE) UCL | 9629.7421 |
| 95% Chebyshev (MVUE) UCL | 11393.136 | 97.5% Chebyshev (MVUE) UCL | 13840.659 |
| 99% Chebyshev (MVUE) UCL | 18648.344 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 6624.4924 | 95% Jackknife UCL | 6802.6164 |
| 95% Standard Bootstrap UCL | 6540.0224 | 95% Bootstrap-t UCL | 6468.896 |
| 95% Hall's Bootstrap UCL | 6327.0496 | 95% Percentile Bootstrap UCL | 6427.5 |
| 95% BCA Bootstrap UCL | 6290 | | |
| 90% Chebyshev(Mean, Sd) UCL | 7591.0922 | 95% Chebyshev(Mean, Sd) UCL | 8560.3687 |
| 97.5% Chebyshev(Mean, Sd) UCL | 9905.6868 | 99% Chebyshev(Mean, Sd) UCL | 12548.304 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% Student's-t UCL | 6802.6164 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.**

## THALLIUM

### General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 8 | Number of Distinct Observations | 6 |
| Number of Detects | 1 | Number of Non-Detects | 7 |
| Number of Distinct Detects | 1 | Number of Distinct Non-Detects | 5 |

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!

It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable THALLIUM was not processed!

## BENZO(A)PYRENE

### General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 8 | Number of Distinct Observations | 6 |
| Number of Detects | 4 | Number of Non-Detects | 4 |
| Number of Distinct Detects | 4 | Number of Distinct Non-Detects | 2 |
| Minimum Detect | 0.048 | Minimum Non-Detect | 0.18 |
| Maximum Detect | 0.073 | Maximum Non-Detect | 0.19 |
| Variance Detects | 1.20E-04 | Percent Non-Detects | 50.00% |
| Mean Detects | 0.06325 | SD Detects | 0.0109659 |
| Median Detects | 0.066 | CV Detects | 0.1733732 |
| Skewness Detects | -1.228345 | Kurtosis Detects | 1.3029162 |
| Mean of Logged Detects | -2.77303 | SD of Logged Detects | 0.1858723 |

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use
guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

### Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.9168063 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.748 | Detected Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.2409057 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.3754 | Detected Data appear Normal at 5% Significance Level |

Detected Data appear Normal at 5% Significance Level

### Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 0.06325 | KM Standard Error of Mean | 0.0054829 |
| KM SD | 0.0094967 | 95% KM (BCA) UCL | N/A |
| 95% KM (t) UCL | 0.0736378 | 95% KM (Percentile Bootstrap) UCL | N/A |
| 95% KM (z) UCL | 0.0722686 | 95% KM Bootstrap t UCL | N/A |
| 90% KM Chebyshev UCL | 0.0796988 | 95% KM Chebyshev UCL | 0.0871495 |
| 97.5% KM Chebyshev UCL | 0.0974909 | 99% KM Chebyshev UCL | 0.1178044 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.3706962 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.6563008 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.2608321 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.3939518 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 40.587305 | k star (bias corrected MLE) | 10.313493 |
| Theta hat (MLE) | 0.0015584 | Theta star (bias corrected MLE) | 0.0061327 |
| nu hat (MLE) | 324.69844 | nu star (bias corrected) | 82.507943 |
| Mean (detects) | 0.06325 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.048 | Mean | 0.0631897 |
| Maximum | 0.0730615 | Median | 0.0629783 |
| SD | 0.0088752 | CV | 0.1404535 |
| k hat (MLE) | 54.548895 | k star (bias corrected MLE) | 34.176393 |
| Theta hat (MLE) | 0.0011584 | Theta star (bias corrected MLE) | 0.0018489 |
| nu hat (MLE) | 872.78232 | nu star (bias corrected) | 546.82228 |
| Adjusted Level of Significance (β) | 0.01946 | | |
| Approximate Chi Square Value (546.82, α) | 493.58702 | Adjusted Chi Square Value (546.82, β) | 480.72565 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.0700049 | 95% Gamma Adjusted UCL (use when n<50) | N/A |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.06325 | SD (KM) | 0.0094967 |
| Variance (KM) | 9.02E-05 | SE of Mean (KM) | 0.0054829 |
| k hat (KM) | 44.358281 | k star (KM) | 27.807259 |
| nu hat (KM) | 709.7325 | nu star (KM) | 444.91615 |
| theta hat (KM) | 0.0014259 | theta star (KM) | 0.0022746 |
| 80% gamma percentile (KM) | 0.0730611 | 90% gamma percentile (KM) | 0.079026 |
| 95% gamma percentile (KM) | 0.0841853 | 99% gamma percentile (KM) | 0.0944441 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (444.92, α) | 397.01313 | Adjusted Chi Square Value (444.92, β) | 385.51263 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.0708817 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.0729962 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.8879649 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.748 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.2680429 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.3754 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.063072 | Mean in Log Scale | -2.77303 |
| SD in Original Scale | 0.0090539 | SD in Log Scale | 0.1500026 |
| 95% t UCL (assumes normality of ROS data) | 0.0691366 | 95% Percentile Bootstrap UCL | 0.0682522 |
| 95% BCA Bootstrap UCL | 0.0676357 | 95% Bootstrap t UCL | 0.0686367 |
| 95% H-UCL (Log ROS) | 0.0703387 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -2.77303 | KM Geo Mean | 0.0624724 |
| KM SD (logged) | 0.1609701 | 95% Critical H Value (KM-Log) | 1.9038133 |
| KM Standard Error of Mean (logged) | 0.0929361 | 95% H-UCL (KM -Log) | 0.071059 |
| KM SD (logged) | 0.1609701 | 95% Critical H Value (KM-Log) | 1.9038133 |
| KM Standard Error of Mean (logged) | 0.0929361 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.07725 | Mean in Log Scale | -2.583729 |
| SD in Original Scale | 0.0166798 | SD in Log Scale | 0.2367987 |
| 95% t UCL (Assumes normality) | 0.0884227 | 95% H-Stat UCL | 0.0927153 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Normal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (t) UCL | 0.0736378 |

Warning: Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**DIBENZO(A,H)ANTHRACENE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 8 | Number of Distinct Observations | 3 |
| Number of Detects | 1 | Number of Non-Detects | 7 |
| Number of Distinct Detects | 1 | Number of Distinct Non-Detects | 2 |

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable DIBENZO(A,H)ANTHRACENE was not processed!

| Analyte | Group | Matrix | Valid Obs | Rec. UCL | Method | Max | UCL>Max |
|---|---|---|---|---|---|---|---|
| ALUMINUM | NA | NA | 122 | 3646 | 95% H-UCL | 21400 | |
| ANTIMONY | NA | NA | 123 | 1.0 | KM H-UCL | 7.5 | |
| ARSENIC | NA | NA | 123 | 43 | 95% KM (Chebyshev) UCL | 696.5 | |
| BARIUM | NA | NA | 131 | 449 | KM H-UCL | 2960 | |
| CHROMIUM, HEXAVALENT | NA | NA | 32 | 7.5 | 95% KM (Chebyshev) UCL | 40.7 | |
| COBALT | NA | NA | 122 | 2.3 | 95% KM Approximate Gamma UCL | 12.2 | |
| COPPER | NA | NA | 123 | 27 | 95% H-UCL | 379.5 | |
| CYANIDE | NA | NA | 83 | 4.5 | KM H-UCL | 169 | |
| IRON | NA | NA | 122 | 7349 | 95% H-UCL | 47400 | |
| LEAD | NA | NA | 125 | 486 | 95% KM (Chebyshev) UCL | 2290 | |
| MANGANESE | NA | NA | 122 | 101 | 95% H-UCL | 750 | |
| THALLIUM | NA | NA | 123 | 0.34 | 95% KM (t) UCL | 0.88 | |
| VANADIUM | NA | NA | 122 | 15 | 95% KM (Chebyshev) UCL | 54.6 | |
| AROCLOR-1248 | NA | NA | 105 | 0.048 | 95% KM Approximate Gamma UCL | 0.44 | |
| AROCLOR-1254 | NA | NA | 105 | 0.040 | 95% KM Approximate Gamma UCL | 0.215 | |
| AROCLOR-1260 | NA | NA | 105 | 3.2 | KM H-UCL | 52 | |
| DIELDRIN | NA | NA | 49 | 0.036 | Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1) | 0.27 | |
| BENZO(A)ANTHRACENE | NA | NA | 121 | 2.1 | 95% KM (Chebyshev) UCL | 34 | |
| BENZO(A)PYRENE | NA | NA | 121 | 1.0 | KM H-UCL | 31 | |
| BENZO(B)FLUORANTHENE | NA | NA | 121 | 2.3 | 95% KM (Chebyshev) UCL | 33 | |
| BENZO(K)FLUORANTHENE | NA | NA | 121 | 1.9 | 95% KM (Chebyshev) UCL | 26 | |
| CHRYSENE | NA | NA | 121 | 0.76 | KM H-UCL | 35 | |
| DIBENZO(A,H)ANTHRACENE | NA | NA | 120 | 0.69 | 95% KM (Chebyshev) UCL | 8.4 | |
| INDENO(1,2,3-CD)PYRENE | NA | NA | 121 | 0.99 | 95% KM (Chebyshev) UCL | 15 | |
| NAPHTHALENE | NA | NA | 121 | 1.1 | 95% KM (Chebyshev) UCL | 9.8 | |
| BENZENE | NA | NA | 64 | 0.42 | 95% KM Approximate Gamma UCL | 4.2 | |
| ETHYLBENZENE | NA | NA | 64 | 42 | 99% KM (Chebyshev) UCL | 180 | |
| METHYLCYCLOHEXANE | NA | NA | 50 | 670 | 99% KM (Chebyshev) UCL | 2900 | |
| TRICHLOROETHYLENE (TCE) | NA | NA | 63 | 0.051 | 95% KM Approximate Gamma UCL | 0.55 | |

0-2soil_NFA.xlsx

**UCL Statistics for Data Sets with Non-Detects**

**0-2soil_NFA.xlsx**

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.11/18/2017 9:36:57 AM |
| From File | ProUCL_FMPHHRA_01.18.17 input_b.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**ALUMINUM**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 122 | Number of Distinct Observations | 116 |
| | | Number of Missing Observations | 80 |
| Minimum | 648 | Mean | 3344 |
| Maximum | 21400 | Median | 2590 |
| SD | 2600 | Std. Error of Mean | 235.4 |
| Coefficient of Variation | 0.778 | Skewness | 3.544 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.72 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.202 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0806 | Data Not Normal at 5% Significance Level |

**Data Not Normal at 5% Significance Level**

**Assuming Normal Distribution**

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 3734 | 95% Adjusted-CLT UCL (Chen-1995) | 3812 |
| | | 95% Modified-t UCL (Johnson-1978) | 3747 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 2.025 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.761 | Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.123 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.0845 | Data Not Gamma Distributed at 5% Significance Level |

**Data Not Gamma Distributed at 5% Significance Level**

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 2.742 | k star (bias corrected MLE) | 2.68 |
| Theta hat (MLE) | 1219 | Theta star (bias corrected MLE) | 1248 |
| nu hat (MLE) | 669.1 | nu star (bias corrected) | 654 |
| MLE Mean (bias corrected) | 3344 | MLE Sd (bias corrected) | 2043 |
| | | Approximate Chi Square Value (0.05) | 595.6 |
| Adjusted Level of Significance | 0.048 | Adjusted Chi Square Value | 595 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 3671 | 95% Adjusted Gamma UCL (use when n<50) | 3675 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.984 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk P Value | 0.683 | Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0762 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.0806 | Data appear Lognormal at 5% Significance Level |

Data appear Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | 6.474 | Mean of logged Data | 7.922 |
| Maximum of Logged Data | 9.971 | SD of logged Data | 0.596 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 3646 | 90% Chebyshev (MVUE) UCL | 3862 |
| 95% Chebyshev (MVUE) UCL | 4122 | 97.5% Chebyshev (MVUE) UCL | 4483 |
| 99% Chebyshev (MVUE) UCL | 5192 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 3731 | 95% Jackknife UCL | 3734 |
| 95% Standard Bootstrap UCL | 3717 | 95% Bootstrap-t UCL | 3859 |
| 95% Hall's Bootstrap UCL | 3950 | 95% Percentile Bootstrap UCL | 3751 |
| 95% BCA Bootstrap UCL | 3827 | | |
| 90% Chebyshev(Mean, Sd) UCL | 4050 | 95% Chebyshev(Mean, Sd) UCL | 4370 |
| 97.5% Chebyshev(Mean, Sd) UCL | 4814 | 99% Chebyshev(Mean, Sd) UCL | 5686 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% H-UCL | 3646 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

## ANTIMONY

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 123 | Number of Distinct Observations | 48 |
| | | Number of Missing Observations | 79 |
| Number of Detects | 26 | Number of Non-Detects | 97 |
| Number of Distinct Detects | 24 | Number of Distinct Non-Detects | 28 |
| Minimum Detect | 0.21 | Minimum Non-Detect | 1 |

| | | | |
|---|---|---|---|
| Maximum Detect | 7.5 | Maximum Non-Detect | 8.5 |
| Variance Detects | 4.415 | Percent Non-Detects | 78.86% |
| Mean Detects | 1.664 | SD Detects | 2.101 |
| Median Detects | 0.68 | CV Detects | 1.263 |
| Skewness Detects | 1.903 | Kurtosis Detects | 2.571 |
| Mean of Logged Detects | -0.0643 | SD of Logged Detects | 1.025 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.67 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.92 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.283 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.17 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.969 | KM Standard Error of Mean | 0.156 |
| KM SD | 1.222 | 95% KM (BCA) UCL | 1.25 |
| 95% KM (t) UCL | 1.228 | 95% KM (Percentile Bootstrap) UCL | 1.247 |
| 95% KM (z) UCL | 1.226 | 95% KM Bootstrap t UCL | 1.325 |
| 90% KM Chebyshev UCL | 1.438 | 95% KM Chebyshev UCL | 1.65 |
| 97.5% KM Chebyshev UCL | 1.945 | 99% KM Chebyshev UCL | 2.525 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 1.654 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.773 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.213 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.176 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.005 | k star (bias corrected MLE) | 0.915 |
| Theta hat (MLE) | 1.655 | Theta star (bias corrected MLE) | 1.819 |
| nu hat (MLE) | 52.28 | nu star (bias corrected) | 47.59 |
| Mean (detects) | 1.664 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 0.889 |
| Maximum | 7.5 | Median | 0.539 |
| SD | 1.197 | CV | 1.347 |
| k hat (MLE) | 0.635 | k star (bias corrected MLE) | 0.625 |
| Theta hat (MLE) | 1.401 | Theta star (bias corrected MLE) | 1.423 |
| nu hat (MLE) | 156.1 | nu star (bias corrected) | 153.7 |
| Adjusted Level of Significance (β) | 0.048 | | |
| Approximate Chi Square Value (153.66, α) | 126 | Adjusted Chi Square Value (153.66, β) | 125.7 |

| | | | |
|---|---|---|---|
| 95% Gamma Approximate UCL (use when n>=50) | 1.084 | 95% Gamma Adjusted UCL (use when n<50) | 1.087 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.969 | SD (KM) | 1.222 |
| Variance (KM) | 1.493 | SE of Mean (KM) | 0.156 |
| k hat (KM) | 0.629 | k star (KM) | 0.619 |
| nu hat (KM) | 154.6 | nu star (KM) | 152.2 |
| theta hat (KM) | 1.541 | theta star (KM) | 1.566 |
| 80% gamma percentile (KM) | 1.596 | 90% gamma percentile (KM) | 2.502 |
| 95% gamma percentile (KM) | 3.447 | 99% gamma percentile (KM) | 5.727 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (152.20, α) | 124.7 | Adjusted Chi Square Value (152.20, β) | 124.4 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1.182 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1.185 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.918 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.92 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.161 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.17 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Approximate Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.929 | Mean in Log Scale | -0.376 |
| SD in Original Scale | 1.087 | SD in Log Scale | 0.693 |
| 95% t UCL (assumes normality of ROS data) | 1.091 | 95% Percentile Bootstrap UCL | 1.102 |
| 95% BCA Bootstrap UCL | 1.139 | 95% Bootstrap t UCL | 1.152 |
| 95% H-UCL (Log ROS) | 0.986 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -0.408 | KM Geo Mean | 0.665 |
| KM SD (logged) | 0.756 | 95% Critical H Value (KM-Log) | 1.988 |
| KM Standard Error of Mean (logged) | 0.127 | 95% H-UCL (KM -Log) | 1.014 |
| KM SD (logged) | 0.756 | 95% Critical H Value (KM-Log) | 1.988 |
| KM Standard Error of Mean (logged) | 0.127 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 2.161 | Mean in Log Scale | 0.558 |
| SD in Original Scale | 1.199 | SD in Log Scale | 0.744 |
| 95% t UCL (Assumes normality) | 2.34 | 95% H-Stat UCL | 2.632 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 1.014 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

ARSENIC

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 123 | Number of Distinct Observations | 90 |
| | | Number of Missing Observations | 79 |
| Number of Detects | 122 | Number of Non-Detects | 1 |
| Number of Distinct Detects | 89 | Number of Distinct Non-Detects | 1 |
| Minimum Detect | 0.97 | Minimum Non-Detect | 1.1 |
| Maximum Detect | 696.5 | Maximum Non-Detect | 1.1 |
| Variance Detects | 4090 | Percent Non-Detects | 0.813% |
| Mean Detects | 17.76 | SD Detects | 63.95 |
| Median Detects | 5.6 | CV Detects | 3.601 |
| Skewness Detects | 10.06 | Kurtosis Detects | 107.1 |
| Mean of Logged Detects | 1.862 | SD of Logged Detects | 1.215 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.233 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.396 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0806 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 17.62 | KM Standard Error of Mean | 5.744 |
| KM SD | 63.45 | 95% KM (BCA) UCL | 31.04 |
| 95% KM (t) UCL | 27.15 | 95% KM (Percentile Bootstrap) UCL | 29.2 |
| 95% KM (z) UCL | 27.07 | 95% KM Bootstrap t UCL | 49.75 |
| 90% KM Chebyshev UCL | 34.86 | 95% KM Chebyshev UCL | 42.66 |
| 97.5% KM Chebyshev UCL | 53.5 | 99% KM Chebyshev UCL | 74.78 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 7.007 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.809 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.192 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0879 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.608 | k star (bias corrected MLE) | 0.598 |
| Theta hat (MLE) | 29.23 | Theta star (bias corrected MLE) | 29.7 |
| nu hat (MLE) | 148.2 | nu star (bias corrected) | 145.9 |
| Mean (detects) | 17.76 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 17.62 |
| Maximum | 696.5 | Median | 5.6 |
| SD | 63.71 | CV | 3.616 |
| k hat (MLE) | 0.585 | k star (bias corrected MLE) | 0.576 |
| Theta hat (MLE) | 30.1 | Theta star (bias corrected MLE) | 30.56 |
| nu hat (MLE) | 144 | nu star (bias corrected) | 141.8 |
| Adjusted Level of Significance (β) | 0.048 | | |
| Approximate Chi Square Value (141.80, α) | 115.3 | Adjusted Chi Square Value (141.80, β) | 115 |
| 95% Gamma Approximate UCL (use when n>=50) | 21.67 | 95% Gamma Adjusted UCL (use when n<50) | 21.72 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 17.62 | SD (KM) | 63.45 |
| Variance (KM) | 4025 | SE of Mean (KM) | 5.744 |
| k hat (KM) | 0.0772 | k star (KM) | 0.0807 |
| nu hat (KM) | 18.98 | nu star (KM) | 19.85 |
| theta hat (KM) | 228.4 | theta star (KM) | 218.4 |
| 80% gamma percentile (KM) | 8.531 | 90% gamma percentile (KM) | 42.02 |
| 95% gamma percentile (KM) | 102.5 | 99% gamma percentile (KM) | 310.8 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (19.85, α) | 10.74 | Adjusted Chi Square Value (19.85, β) | 10.66 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 32.57 | 95% Gamma Adjusted KM-UCL (use when n<50) | 32.81 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.944 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 8.6057E-5 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.104 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0806 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 17.62 | Mean in Log Scale | 1.841 |
| SD in Original Scale | 63.71 | SD in Log Scale | 1.231 |
| 95% t UCL (assumes normality of ROS data) | 27.14 | 95% Percentile Bootstrap UCL | 28.33 |
| 95% BCA Bootstrap UCL | 36.67 | 95% Bootstrap t UCL | 50.56 |
| 95% H-UCL (Log ROS) | 17.59 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 1.847 | KM Geo Mean | 6.339 |
| KM SD (logged) | 1.217 | 95% Critical H Value (KM-Log) | 2.39 |
| KM Standard Error of Mean (logged) | 0.11 | 95% H-UCL (KM -Log) | 17.29 |
| KM SD (logged) | 1.217 | 95% Critical H Value (KM-Log) | 2.39 |
| KM Standard Error of Mean (logged) | 0.11 | | |

**DL/2 Statistics**

| DL/2 Normal | | DL/2 Log-Transformed | |
|---|---|---|---|
| Mean in Original Scale | 17.62 | Mean in Log Scale | 1.842 |
| SD in Original Scale | 63.71 | SD in Log Scale | 1.23 |
| 95% t UCL (Assumes normality) | 27.14 | 95% H-Stat UCL | 17.57 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 42.66 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**BARIUM**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 131 | Number of Distinct Observations | 122 |
| | | Number of Missing Observations | 71 |
| Number of Detects | 122 | Number of Non-Detects | 9 |
| Number of Distinct Detects | 115 | Number of Distinct Non-Detects | 8 |
| Minimum Detect | 2.2 | Minimum Non-Detect | 10 |
| Maximum Detect | 2960 | Maximum Non-Detect | 22 |
| Variance Detects | 198732 | Percent Non-Detects | 6.87% |
| Mean Detects | 269.9 | SD Detects | 445.8 |
| Median Detects | 93.55 | CV Detects | 1.652 |
| Skewness Detects | 3.284 | Kurtosis Detects | 13.54 |
| Mean of Logged Detects | 4.51 | SD of Logged Detects | 1.586 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.62 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.274 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0806 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 252 | KM Standard Error of Mean | 38.03 |
| KM SD | 433.5 | 95% KM (BCA) UCL | 322.9 |
| 95% KM (t) UCL | 315 | 95% KM (Percentile Bootstrap) UCL | 316.7 |
| 95% KM (z) UCL | 314.6 | 95% KM Bootstrap t UCL | 334.8 |
| 90% KM Chebyshev UCL | 366.1 | 95% KM Chebyshev UCL | 417.8 |
| 97.5% KM Chebyshev UCL | 489.5 | 99% KM Chebyshev UCL | 630.4 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 2.317 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.812 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.115 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0882 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.572 | k star (bias corrected MLE) | 0.563 |
| Theta hat (MLE) | 471.8 | Theta star (bias corrected MLE) | 479 |
| nu hat (MLE) | 139.6 | nu star (bias corrected) | 137.5 |
| Mean (detects) | 269.9 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 251.3 |
| Maximum | 2960 | Median | 72.1 |
| SD | 435.5 | CV | 1.733 |
| k hat (MLE) | 0.4 | k star (bias corrected MLE) | 0.396 |
| Theta hat (MLE) | 627.7 | Theta star (bias corrected MLE) | 634.1 |
| nu hat (MLE) | 104.9 | nu star (bias corrected) | 103.8 |
| Adjusted Level of Significance (β) | 0.0482 | | |
| Approximate Chi Square Value (103.85, α) | 81.33 | Adjusted Chi Square Value (103.85, β) | 81.11 |
| 95% Gamma Approximate UCL (use when n>=50) | 320.9 | 95% Gamma Adjusted UCL (use when n<50) | 321.8 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 252 | SD (KM) | 433.5 |
| Variance (KM) | 187880 | SE of Mean (KM) | 38.03 |
| k hat (KM) | 0.338 | k star (KM) | 0.335 |
| nu hat (KM) | 88.58 | nu star (KM) | 87.89 |
| theta hat (KM) | 745.4 | theta star (KM) | 751.3 |
| 80% gamma percentile (KM) | 396 | 90% gamma percentile (KM) | 732.4 |
| 95% gamma percentile (KM) | 1112 | 99% gamma percentile (KM) | 2084 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (87.89, α) | 67.28 | Adjusted Chi Square Value (87.89, β) | 67.08 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 329.3 | 95% Gamma Adjusted KM-UCL (use when n<50) | 330.2 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.968 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.0603 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0935 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0806 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data appear Approximate Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 252 | Mean in Log Scale | 4.352 |
| SD in Original Scale | 435.1 | SD in Log Scale | 1.64 |
| 95% t UCL (assumes normality of ROS data) | 315 | 95% Percentile Bootstrap UCL | 317.5 |
| 95% BCA Bootstrap UCL | 329 | 95% Bootstrap t UCL | 332.9 |
| 95% H-UCL (Log ROS) | 448.5 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 4.35 | KM Geo Mean | 77.48 |
| KM SD (logged) | 1.642 | 95% Critical H Value (KM-Log) | 2.848 |
| KM Standard Error of Mean (logged) | 0.145 | 95% H-UCL (KM -Log) | 449.2 |
| KM SD (logged) | 1.642 | 95% Critical H Value (KM-Log) | 2.848 |
| KM Standard Error of Mean (logged) | 0.145 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 251.9 | Mean in Log Scale | 4.346 |
| SD in Original Scale | 435.2 | SD in Log Scale | 1.647 |
| 95% t UCL (Assumes normality) | 314.9 | 95% H-Stat UCL | 452.4 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 449.2 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**CHROMIUM, HEXAVALENT**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 32 | Number of Distinct Observations | 22 |
| | | Number of Missing Observations | 154 |
| Number of Detects | 18 | Number of Non-Detects | 14 |
| Number of Distinct Detects | 17 | Number of Distinct Non-Detects | 5 |
| Minimum Detect | 0.38 | Minimum Non-Detect | 0.41 |
| Maximum Detect | 40.7 | Maximum Non-Detect | 0.45 |
| Variance Detects | 88.11 | Percent Non-Detects | 43.75% |
| Mean Detects | 3.143 | SD Detects | 9.387 |
| Median Detects | 0.74 | CV Detects | 2.986 |
| Skewness Detects | 4.222 | Kurtosis Detects | 17.87 |
| Mean of Logged Detects | 0.0241 | SD of Logged Detects | 1.036 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.295 | **Shapiro Wilk GOF Test** |

| | | | |
|---|---|---|---|
| 5% Shapiro Wilk Critical Value | 0.897 | Detected Data Not Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.484 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.202 | Detected Data Not Normal at 5% Significance Level | |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 1.934 | KM Standard Error of Mean | 1.269 |
| KM SD | 6.978 | 95% KM (BCA) UCL | 4.479 |
| 95% KM (t) UCL | 4.086 | 95% KM (Percentile Bootstrap) UCL | 4.424 |
| 95% KM (z) UCL | 4.022 | 95% KM Bootstrap t UCL | 29.14 |
| 90% KM Chebyshev UCL | 5.742 | 95% KM Chebyshev UCL | 7.467 |
| 97.5% KM Chebyshev UCL | 9.861 | 99% KM Chebyshev UCL | 14.56 |

**Gamma GOF Tests on Detected Observations Only**

| | | | |
|---|---|---|---|
| A-D Test Statistic | 3.853 | **Anderson-Darling GOF Test** | |
| 5% A-D Critical Value | 0.795 | Detected Data Not Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.362 | **Kolmogorov-Smirnov GOF** | |
| 5% K-S Critical Value | 0.214 | Detected Data Not Gamma Distributed at 5% Significance Level | |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.557 | k star (bias corrected MLE) | 0.501 |
| Theta hat (MLE) | 5.641 | Theta star (bias corrected MLE) | 6.269 |
| nu hat (MLE) | 20.06 | nu star (bias corrected) | 18.05 |
| Mean (detects) | 3.143 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 1.773 |
| Maximum | 40.7 | Median | 0.52 |
| SD | 7.128 | CV | 4.022 |
| k hat (MLE) | 0.272 | k star (bias corrected MLE) | 0.268 |
| Theta hat (MLE) | 6.511 | Theta star (bias corrected MLE) | 6.625 |
| nu hat (MLE) | 17.42 | nu star (bias corrected) | 17.12 |
| Adjusted Level of Significance (β) | 0.0416 | | |
| Approximate Chi Square Value (17.12, α) | 8.759 | Adjusted Chi Square Value (17.12, β) | 8.439 |
| 95% Gamma Approximate UCL (use when n>=50) | 3.465 | 95% Gamma Adjusted UCL (use when n<50) | 3.596 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 1.934 | SD (KM) | 6.978 |
| Variance (KM) | 48.69 | SE of Mean (KM) | 1.269 |
| k hat (KM) | 0.0769 | k star (KM) | 0.0905 |
| nu hat (KM) | 4.918 | nu star (KM) | 5.791 |
| theta hat (KM) | 25.17 | theta star (KM) | 21.38 |
| 80% gamma percentile (KM) | 1.149 | 90% gamma percentile (KM) | 4.917 |

| | | | |
|---|---|---|---|
| 95% gamma percentile (KM) | 11.27 | 99% gamma percentile (KM) | 32.29 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (5.79, α) | 1.534 | Adjusted Chi Square Value (5.79, β) | 1.421 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 7.303 | 95% Gamma Adjusted KM-UCL (use when n<50) | 7.885 |

95% Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50)

**Lognormal GOF Test on Detected Observations Only**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.682 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.897 | Detected Data Not Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.221 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.202 | Detected Data Not Lognormal at 5% Significance Level | |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 1.842 | Mean in Log Scale | -0.812 |
| SD in Original Scale | 7.111 | SD in Log Scale | 1.272 |
| 95% t UCL (assumes normality of ROS data) | 3.973 | 95% Percentile Bootstrap UCL | 4.367 |
| 95% BCA Bootstrap UCL | 5.652 | 95% Bootstrap t UCL | 24.84 |
| 95% H-UCL (Log ROS) | 1.88 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -0.41 | KM Geo Mean | 0.664 |
| KM SD (logged) | 0.901 | 95% Critical H Value (KM-Log) | 2.319 |
| KM Standard Error of Mean (logged) | 0.164 | 95% H-UCL (KM -Log) | 1.451 |
| KM SD (logged) | 0.901 | 95% Critical H Value (KM-Log) | 2.319 |
| KM Standard Error of Mean (logged) | 0.164 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.863 | Mean in Log Scale | -0.654 |
| SD in Original Scale | 7.106 | SD in Log Scale | 1.095 |
| 95% t UCL (Assumes normality) | 3.993 | 95% H-Stat UCL | 1.563 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 7.467 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

COBALT

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 122 | Number of Distinct Observations | 74 |
| | | Number of Missing Observations | 80 |
| Number of Detects | 111 | Number of Non-Detects | 11 |
| Number of Distinct Detects | 68 | Number of Distinct Non-Detects | 10 |
| Minimum Detect | 0.042 | Minimum Non-Detect | 0.12 |
| Maximum Detect | 12.2 | Maximum Non-Detect | 5 |
| Variance Detects | 3.633 | Percent Non-Detects | 9.016% |
| Mean Detects | 2.145 | SD Detects | 1.906 |
| Median Detects | 1.5 | CV Detects | 0.889 |
| Skewness Detects | 2.101 | Kurtosis Detects | 6.841 |
| Mean of Logged Detects | 0.392 | SD of Logged Detects | 0.929 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.824 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.162 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0844 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 2.028 | KM Standard Error of Mean | 0.171 |
| KM SD | 1.867 | 95% KM (BCA) UCL | 2.318 |
| 95% KM (t) UCL | 2.311 | 95% KM (Percentile Bootstrap) UCL | 2.313 |
| 95% KM (z) UCL | 2.309 | 95% KM Bootstrap t UCL | 2.341 |
| 90% KM Chebyshev UCL | 2.54 | 95% KM Chebyshev UCL | 2.772 |
| 97.5% KM Chebyshev UCL | 3.095 | 99% KM Chebyshev UCL | 3.727 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.522 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.77 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.0734 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0882 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.491 | k star (bias corrected MLE) | 1.457 |
| Theta hat (MLE) | 1.438 | Theta star (bias corrected MLE) | 1.472 |
| nu hat (MLE) | 331.1 | nu star (bias corrected) | 323.5 |
| Mean (detects) | 2.145 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 2.011 |
| Maximum | 12.2 | Median | 1.418 |
| SD | 1.875 | CV | 0.932 |
| k hat (MLE) | 1.229 | k star (bias corrected MLE) | 1.204 |
| Theta hat (MLE) | 1.636 | Theta star (bias corrected MLE) | 1.67 |
| nu hat (MLE) | 299.9 | nu star (bias corrected) | 293.9 |
| Adjusted Level of Significance (β) | 0.048 | | |
| Approximate Chi Square Value (293.88, α) | 255.2 | Adjusted Chi Square Value (293.88, β) | 254.7 |
| 95% Gamma Approximate UCL (use when n>=50) | 2.317 | 95% Gamma Adjusted UCL (use when n<50) | 2.32 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 2.028 | SD (KM) | 1.867 |
| Variance (KM) | 3.485 | SE of Mean (KM) | 0.171 |
| k hat (KM) | 1.18 | k star (KM) | 1.156 |
| nu hat (KM) | 287.9 | nu star (KM) | 282.1 |
| theta hat (KM) | 1.719 | theta star (KM) | 1.754 |
| 80% gamma percentile (KM) | 3.222 | 90% gamma percentile (KM) | 4.504 |
| 95% gamma percentile (KM) | 5.773 | 99% gamma percentile (KM) | 8.687 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (282.12, α) | 244.2 | Adjusted Chi Square Value (282.12, β) | 243.8 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 2.342 | 95% Gamma Adjusted KM-UCL (use when n<50) | 2.346 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.98 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.478 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0567 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0844 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 2.017 | Mean in Log Scale | 0.309 |
| SD in Original Scale | 1.867 | SD in Log Scale | 0.947 |
| 95% t UCL (assumes normality of ROS data) | 2.297 | 95% Percentile Bootstrap UCL | 2.286 |
| 95% BCA Bootstrap UCL | 2.325 | 95% Bootstrap t UCL | 2.342 |
| 95% H-UCL (Log ROS) | 2.565 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 0.286 | KM Geo Mean | 1.331 |
| KM SD (logged) | 1.017 | 95% Critical H Value (KM-Log) | 2.202 |
| KM Standard Error of Mean (logged) | 0.0955 | 95% H-UCL (KM -Log) | 2.737 |
| KM SD (logged) | 1.017 | 95% Critical H Value (KM-Log) | 2.202 |
| KM Standard Error of Mean (logged) | 0.0955 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 2.048 | Mean in Log Scale | 0.319 |
| SD in Original Scale | 1.861 | SD in Log Scale | 0.976 |
| 95% t UCL (Assumes normality) | 2.327 | 95% H-Stat UCL | 2.686 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

| | | | |
|---|---|---|---|
| 95% KM Approximate Gamma UCL | 2.342 | 95% GROS Approximate Gamma UCL | 2.317 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

COPPER

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 123 | Number of Distinct Observations | 99 |
| | | Number of Missing Observations | 79 |
| Minimum | 0.65 | Mean | 22.19 |
| Maximum | 379.5 | Median | 12.9 |
| SD | 42.28 | Std. Error of Mean | 3.812 |
| Coefficient of Variation | 1.905 | Skewness | 5.907 |

Normal GOF Test

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.461 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.305 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0802 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 28.51 | 95% Adjusted-CLT UCL (Chen-1995) | 30.63 |
| | | 95% Modified-t UCL (Johnson-1978) | 28.85 |

Gamma GOF Test

| | | |
|---|---|---|
| A-D Test Statistic | 2.928 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.792 | Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.128 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.0866 | Data Not Gamma Distributed at 5% Significance Level |

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.81 | k star (bias corrected MLE) | 0.795 |
| Theta hat (MLE) | 27.41 | Theta star (bias corrected MLE) | 27.9 |
| nu hat (MLE) | 199.2 | nu star (bias corrected) | 195.7 |
| MLE Mean (bias corrected) | 22.19 | MLE Sd (bias corrected) | 24.89 |
| | | Approximate Chi Square Value (0.05) | 164.3 |

| | | | |
|---|---|---|---|
| Adjusted Level of Significance | 0.048 | Adjusted Chi Square Value | 164 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 26.43 | 95% Adjusted Gamma UCL (use when n<50) | 26.48 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.983 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk P Value | 0.638 | Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0709 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.0802 | Data appear Lognormal at 5% Significance Level |

Data appear Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | -0.431 | Mean of logged Data | 2.368 |
| Maximum of Logged Data | 5.939 | SD of logged Data | 1.175 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 27.35 | 90% Chebyshev (MVUE) UCL | 29.62 |
| 95% Chebyshev (MVUE) UCL | 33.48 | 97.5% Chebyshev (MVUE) UCL | 38.83 |
| 99% Chebyshev (MVUE) UCL | 49.35 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 28.46 | 95% Jackknife UCL | 28.51 |
| 95% Standard Bootstrap UCL | 28.33 | 95% Bootstrap-t UCL | 33.28 |
| 95% Hall's Bootstrap UCL | 54.02 | 95% Percentile Bootstrap UCL | 29.15 |
| 95% BCA Bootstrap UCL | 30.77 | | |
| 90% Chebyshev(Mean, Sd) UCL | 33.63 | 95% Chebyshev(Mean, Sd) UCL | 38.81 |
| 97.5% Chebyshev(Mean, Sd) UCL | 46 | 99% Chebyshev(Mean, Sd) UCL | 60.12 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% H-UCL | 27.35 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

**CYANIDE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 83 | Number of Distinct Observations | 54 |

| | | | |
|---|---|---|---|
| | | Number of Missing Observations | 115 |
| Number of Detects | 53 | Number of Non-Detects | 30 |
| Number of Distinct Detects | 44 | Number of Distinct Non-Detects | 11 |
| Minimum Detect | 0.058 | Minimum Non-Detect | 0.49 |
| Maximum Detect | 169 | Maximum Non-Detect | 10 |
| Variance Detects | 546.2 | Percent Non-Detects | 36.14% |
| Mean Detects | 5.877 | SD Detects | 23.37 |
| Median Detects | 0.75 | CV Detects | 3.977 |
| Skewness Detects | 6.808 | Kurtosis Detects | 48.06 |
| Mean of Logged Detects | -0.223 | SD of Logged Detects | 1.892 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.253 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.402 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.121 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 3.982 | KM Standard Error of Mean | 2.072 |
| KM SD | 18.68 | 95% KM (BCA) UCL | 8.04 |
| 95% KM (t) UCL | 7.428 | 95% KM (Percentile Bootstrap) UCL | 7.934 |
| 95% KM (z) UCL | 7.39 | 95% KM Bootstrap t UCL | 21.37 |
| 90% KM Chebyshev UCL | 10.2 | 95% KM Chebyshev UCL | 13.01 |
| 97.5% KM Chebyshev UCL | 16.92 | 99% KM Chebyshev UCL | 24.59 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 3.484 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.853 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.184 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.132 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.339 | k star (bias corrected MLE) | 0.332 |
| Theta hat (MLE) | 17.34 | Theta star (bias corrected MLE) | 17.68 |
| nu hat (MLE) | 35.93 | nu star (bias corrected) | 35.23 |
| Mean (detects) | 5.877 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 3.964 |
| Maximum | 169 | Median | 0.16 |
| SD | 18.82 | CV | 4.748 |
| k hat (MLE) | 0.245 | k star (bias corrected MLE) | 0.244 |

| | | | |
|---|---|---|---|
| Theta hat (MLE) | 16.16 | Theta star (bias corrected MLE) | 16.22 |
| nu hat (MLE) | 40.71 | nu star (bias corrected) | 40.57 |
| Adjusted Level of Significance (β) | 0.0471 | | |
| Approximate Chi Square Value (40.57, α) | 26.98 | Adjusted Chi Square Value (40.57, β) | 26.78 |
| 95% Gamma Approximate UCL (use when n>=50) | 5.962 | 95% Gamma Adjusted UCL (use when n<50) | 6.006 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 3.982 | SD (KM) | 18.68 |
| Variance (KM) | 349 | SE of Mean (KM) | 2.072 |
| k hat (KM) | 0.0454 | k star (KM) | 0.0518 |
| nu hat (KM) | 7.542 | nu star (KM) | 8.603 |
| theta hat (KM) | 87.64 | theta star (KM) | 76.84 |
| 80% gamma percentile (KM) | 0.611 | 90% gamma percentile (KM) | 6.362 |
| 95% gamma percentile (KM) | 21.44 | 99% gamma percentile (KM) | 85.39 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (8.60, α) | 3.089 | Adjusted Chi Square Value (8.60, β) | 3.031 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 11.09 | 95% Gamma Adjusted KM-UCL (use when n<50) | 11.3 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.937 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.0116 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.114 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.121 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Approximate Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 3.94 | Mean in Log Scale | -0.569 |
| SD in Original Scale | 18.79 | SD in Log Scale | 1.691 |
| 95% t UCL (assumes normality of ROS data) | 7.372 | 95% Percentile Bootstrap UCL | 7.956 |
| 95% BCA Bootstrap UCL | 10.01 | 95% Bootstrap t UCL | 22.08 |
| 95% H-UCL (Log ROS) | 4.126 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -0.621 | KM Geo Mean | 0.537 |
| KM SD (logged) | 1.752 | 95% Critical H Value (KM-Log) | 3.06 |
| KM Standard Error of Mean (logged) | 0.217 | 95% H-UCL (KM -Log) | 4.51 |
| KM SD (logged) | 1.752 | 95% Critical H Value (KM-Log) | 3.06 |
| KM Standard Error of Mean (logged) | 0.217 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 4.469 | Mean in Log Scale | -0.0404 |
| SD in Original Scale | 18.74 | SD in Log Scale | 1.632 |
| 95% t UCL (Assumes normality) | 7.891 | 95% H-Stat UCL | 6.155 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 4.51 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

## IRON

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 122 | Number of Distinct Observations | 112 |
| | | Number of Missing Observations | 80 |
| Minimum | 1640 | Mean | 6896 |
| Maximum | 47400 | Median | 5715 |
| SD | 5112 | Std. Error of Mean | 462.8 |
| Coefficient of Variation | 0.741 | Skewness | 4.889 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.626 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.212 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0806 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

**Assuming Normal Distribution**

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 7663 | 95% Adjusted-CLT UCL (Chen-1995) | 7876 |
| | | 95% Modified-t UCL (Johnson-1978) | 7697 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 2.593 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.757 | Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.122 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.0842 | Data Not Gamma Distributed at 5% Significance Level |

Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 3.595 | k star (bias corrected MLE) | 3.512 |
| Theta hat (MLE) | 1918 | Theta star (bias corrected MLE) | 1963 |
| nu hat (MLE) | 877.2 | nu star (bias corrected) | 857 |
| MLE Mean (bias corrected) | 6896 | MLE Sd (bias corrected) | 3680 |
| | | Approximate Chi Square Value (0.05) | 790 |
| Adjusted Level of Significance | 0.048 | Adjusted Chi Square Value | 789.3 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 7480 | 95% Adjusted Gamma UCL (use when n<50) | 7487 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.971 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk P Value | 0.112 | Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0785 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.0806 | Data appear Lognormal at 5% Significance Level |

Data appear Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | 7.402 | Mean of logged Data | 8.693 |
| Maximum of Logged Data | 10.77 | SD of logged Data | 0.502 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 7349 | 90% Chebyshev (MVUE) UCL | 7728 |
| 95% Chebyshev (MVUE) UCL | 8169 | 97.5% Chebyshev (MVUE) UCL | 8781 |
| 99% Chebyshev (MVUE) UCL | 9982 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 7657 | 95% Jackknife UCL | 7663 |
| 95% Standard Bootstrap UCL | 7648 | 95% Bootstrap-t UCL | 8021 |
| 95% Hall's Bootstrap UCL | 8730 | 95% Percentile Bootstrap UCL | 7674 |
| 95% BCA Bootstrap UCL | 8027 | | |
| 90% Chebyshev(Mean, Sd) UCL | 8284 | 95% Chebyshev(Mean, Sd) UCL | 8913 |
| 97.5% Chebyshev(Mean, Sd) UCL | 9786 | 99% Chebyshev(Mean, Sd) UCL | 11501 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% H-UCL | 7349 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

**LEAD**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 125 | Number of Distinct Observations | 122 |
| | | Number of Missing Observations | 77 |
| Number of Detects | 124 | Number of Non-Detects | 1 |
| Number of Distinct Detects | 121 | Number of Distinct Non-Detects | 1 |
| Minimum Detect | 1.5 | Minimum Non-Detect | 10 |

| | | | |
|---|---|---|---|
| Maximum Detect | 2290 | Maximum Non-Detect | 10 |
| Variance Detects | 220558 | Percent Non-Detects | 0.8% |
| Mean Detects | 305.6 | SD Detects | 469.6 |
| Median Detects | 129 | CV Detects | 1.537 |
| Skewness Detects | 2.285 | Kurtosis Detects | 4.952 |
| Mean of Logged Detects | 4.476 | SD of Logged Detects | 1.844 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.66 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.276 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0799 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 303.2 | KM Standard Error of Mean | 41.91 |
| KM SD | 466.6 | 95% KM (BCA) UCL | 375.2 |
| 95% KM (t) UCL | 372.6 | 95% KM (Percentile Bootstrap) UCL | 373.2 |
| 95% KM (z) UCL | 372.1 | 95% KM Bootstrap t UCL | 380.5 |
| 90% KM Chebyshev UCL | 428.9 | 95% KM Chebyshev UCL | 485.8 |
| 97.5% KM Chebyshev UCL | 564.9 | 99% KM Chebyshev UCL | 720.1 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 1.45 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.818 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.0946 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.088 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.508 | k star (bias corrected MLE) | 0.501 |
| Theta hat (MLE) | 601.1 | Theta star (bias corrected MLE) | 609.4 |
| nu hat (MLE) | 126.1 | nu star (bias corrected) | 124.3 |
| Mean (detects) | 305.6 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 303.1 |
| Maximum | 2290 | Median | 128 |
| SD | 468.5 | CV | 1.546 |
| k hat (MLE) | 0.487 | k star (bias corrected MLE) | 0.48 |
| Theta hat (MLE) | 623 | Theta star (bias corrected MLE) | 631.2 |
| nu hat (MLE) | 121.6 | nu star (bias corrected) | 120.1 |
| Adjusted Level of Significance (β) | 0.0481 | | |
| Approximate Chi Square Value (120.06, α) | 95.75 | Adjusted Chi Square Value (120.06, β) | 95.5 |

| | | | |
|---|---|---|---|
| 95% Gamma Approximate UCL (use when n>=50) | 380.1 | 95% Gamma Adjusted UCL (use when n<50) | 381.1 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 303.2 | SD (KM) | 466.6 |
| Variance (KM) | 217747 | SE of Mean (KM) | 41.91 |
| k hat (KM) | 0.422 | k star (KM) | 0.417 |
| nu hat (KM) | 105.5 | nu star (KM) | 104.3 |
| theta hat (KM) | 718.2 | theta star (KM) | 726.5 |
| 80% gamma percentile (KM) | 491.6 | 90% gamma percentile (KM) | 849.8 |
| 95% gamma percentile (KM) | 1241 | 99% gamma percentile (KM) | 2221 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (104.33, α) | 81.76 | Adjusted Chi Square Value (104.33, β) | 81.53 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 386.9 | 95% Gamma Adjusted KM-UCL (use when n<50) | 388 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.949 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 3.7995E-4 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0889 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0799 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 303.2 | Mean in Log Scale | 4.455 |
| SD in Original Scale | 468.5 | SD in Log Scale | 1.852 |
| 95% t UCL (assumes normality of ROS data) | 372.6 | 95% Percentile Bootstrap UCL | 377.1 |
| 95% BCA Bootstrap UCL | 386.1 | 95% Bootstrap t UCL | 381.8 |
| 95% H-UCL (Log ROS) | 798.1 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 4.451 | KM Geo Mean | 85.75 |
| KM SD (logged) | 1.85 | 95% Critical H Value (KM-Log) | 3.079 |
| KM Standard Error of Mean (logged) | 0.166 | 95% H-UCL (KM -Log) | 791.9 |
| KM SD (logged) | 1.85 | 95% Critical H Value (KM-Log) | 3.079 |
| KM Standard Error of Mean (logged) | 0.166 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 303.2 | Mean in Log Scale | 4.453 |
| SD in Original Scale | 468.5 | SD in Log Scale | 1.855 |
| 95% t UCL (Assumes normality) | 372.6 | 95% H-Stat UCL | 801.3 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 485.8 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

MANGANESE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 122 | Number of Distinct Observations | 117 |
| | | Number of Missing Observations | 80 |
| Minimum | 3.3 | Mean | 81.97 |
| Maximum | 750 | Median | 34.95 |
| SD | 123 | Std. Error of Mean | 11.13 |
| Coefficient of Variation | 1.5 | Skewness | 3.192 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.609 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.261 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0806 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

**Assuming Normal Distribution**

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 100.4 | 95% Adjusted-CLT UCL (Chen-1995) | 103.7 |
| | | 95% Modified-t UCL (Johnson-1978) | 101 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 3.747 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.791 | Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.151 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.0868 | Data Not Gamma Distributed at 5% Significance Level |

Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.841 | k star (bias corrected MLE) | 0.826 |
| Theta hat (MLE) | 97.49 | Theta star (bias corrected MLE) | 99.29 |
| nu hat (MLE) | 205.1 | nu star (bias corrected) | 201.4 |
| MLE Mean (bias corrected) | 81.97 | MLE Sd (bias corrected) | 90.22 |
| | | Approximate Chi Square Value (0.05) | 169.6 |
| Adjusted Level of Significance | 0.048 | Adjusted Chi Square Value | 169.3 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 97.36 | 95% Adjusted Gamma UCL (use when n<50) | 97.56 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.971 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk P Value | 0.106 | Data appear Lognormal at 5% Significance Level |

| | | | |
|---|---|---|---|
| Lilliefors Test Statistic | 0.0742 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.0806 | Data appear Lognormal at 5% Significance Level | |

Data appear Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | 1.194 | Mean of logged Data | 3.705 |
| Maximum of Logged Data | 6.62 | SD of logged Data | 1.154 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 101 | 90% Chebyshev (MVUE) UCL | 109.4 |
| 95% Chebyshev (MVUE) UCL | 123.5 | 97.5% Chebyshev (MVUE) UCL | 143 |
| 99% Chebyshev (MVUE) UCL | 181.2 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 100.3 | 95% Jackknife UCL | 100.4 |
| 95% Standard Bootstrap UCL | 99.98 | 95% Bootstrap-t UCL | 106.1 |
| 95% Hall's Bootstrap UCL | 104.6 | 95% Percentile Bootstrap UCL | 101.8 |
| 95% BCA Bootstrap UCL | 104.7 | | |
| 90% Chebyshev(Mean, Sd) UCL | 115.4 | 95% Chebyshev(Mean, Sd) UCL | 130.5 |
| 97.5% Chebyshev(Mean, Sd) UCL | 151.5 | 99% Chebyshev(Mean, Sd) UCL | 192.8 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% H-UCL | 101 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

**THALLIUM**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 123 | Number of Distinct Observations | 36 |
| | | Number of Missing Observations | 79 |
| Number of Detects | 11 | Number of Non-Detects | 112 |
| Number of Distinct Detects | 11 | Number of Distinct Non-Detects | 28 |
| Minimum Detect | 0.11 | Minimum Non-Detect | 0.28 |
| Maximum Detect | 0.88 | Maximum Non-Detect | 3.4 |
| Variance Detects | 0.0553 | Percent Non-Detects | 91.06% |
| Mean Detects | 0.332 | SD Detects | 0.235 |
| Median Detects | 0.25 | CV Detects | 0.709 |

| | | | |
|---|---|---|---|
| Skewness Detects | 1.438 | Kurtosis Detects | 1.84 |
| Mean of Logged Detects | -1.306 | SD of Logged Detects | 0.656 |

**Normal GOF Test on Detects Only**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.849 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.85 | Detected Data Not Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.23 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.251 | Detected Data appear Normal at 5% Significance Level | |

Detected Data appear Approximate Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.27 | KM Standard Error of Mean | 0.0437 |
| KM SD | 0.176 | 95% KM (BCA) UCL | 0.346 |
| 95% KM (t) UCL | 0.342 | 95% KM (Percentile Bootstrap) UCL | 0.345 |
| 95% KM (z) UCL | 0.342 | 95% KM Bootstrap t UCL | 0.368 |
| 90% KM Chebyshev UCL | 0.401 | 95% KM Chebyshev UCL | 0.46 |
| 97.5% KM Chebyshev UCL | 0.543 | 99% KM Chebyshev UCL | 0.705 |

**Gamma GOF Tests on Detected Observations Only**

| | | | |
|---|---|---|---|
| A-D Test Statistic | 0.31 | **Anderson-Darling GOF Test** | |
| 5% A-D Critical Value | 0.736 | Detected data appear Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.149 | **Kolmogorov-Smirnov GOF** | |
| 5% K-S Critical Value | 0.258 | Detected data appear Gamma Distributed at 5% Significance Level | |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 2.624 | k star (bias corrected MLE) | 1.969 |
| Theta hat (MLE) | 0.126 | Theta star (bias corrected MLE) | 0.169 |
| nu hat (MLE) | 57.73 | nu star (bias corrected) | 43.32 |
| Mean (detects) | 0.332 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.028 | Mean | 0.258 |
| Maximum | 0.88 | Median | 0.233 |
| SD | 0.15 | CV | 0.581 |
| k hat (MLE) | 2.985 | k star (bias corrected MLE) | 2.917 |
| Theta hat (MLE) | 0.0863 | Theta star (bias corrected MLE) | 0.0883 |
| nu hat (MLE) | 734.3 | nu star (bias corrected) | 717.7 |
| Adjusted Level of Significance (β) | 0.048 | | |
| Approximate Chi Square Value (717.70, α) | 656.5 | Adjusted Chi Square Value (717.70, β) | 655.9 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.282 | 95% Gamma Adjusted UCL (use when n<50) | 0.282 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.27 | SD (KM) | 0.176 |

| | | | |
|---|---|---|---|
| Variance (KM) | 0.0309 | SE of Mean (KM) | 0.0437 |
| k hat (KM) | 2.356 | k star (KM) | 2.304 |
| nu hat (KM) | 579.7 | nu star (KM) | 566.9 |
| theta hat (KM) | 0.115 | theta star (KM) | 0.117 |
| 80% gamma percentile (KM) | 0.397 | 90% gamma percentile (KM) | 0.508 |
| 95% gamma percentile (KM) | 0.613 | 99% gamma percentile (KM) | 0.843 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (566.88, α) | 512.7 | Adjusted Chi Square Value (566.88, β) | 512.1 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.299 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.299 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.965 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.85 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.112 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.251 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.254 | Mean in Log Scale | -1.486 |
| SD in Original Scale | 0.133 | SD in Log Scale | 0.478 |
| 95% t UCL (assumes normality of ROS data) | 0.274 | 95% Percentile Bootstrap UCL | 0.274 |
| 95% BCA Bootstrap UCL | 0.276 | 95% Bootstrap t UCL | 0.276 |
| 95% H-UCL (Log ROS) | 0.274 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.473 | KM Geo Mean | 0.229 |
| KM SD (logged) | 0.547 | 95% Critical H Value (KM-Log) | 1.849 |
| KM Standard Error of Mean (logged) | 0.153 | 95% H-UCL (KM -Log) | 0.292 |
| KM SD (logged) | 0.547 | 95% Critical H Value (KM-Log) | 1.849 |
| KM Standard Error of Mean (logged) | 0.153 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.925 | Mean in Log Scale | -0.221 |
| SD in Original Scale | 0.365 | SD in Log Scale | 0.633 |
| 95% t UCL (Assumes normality) | 0.979 | 95% H-Stat UCL | 1.092 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Normal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (t) UCL | 0.342 |

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

VANADIUM

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 122 | Number of Distinct Observations | 89 |
| | | Number of Missing Observations | 80 |
| Number of Detects | 120 | Number of Non-Detects | 2 |
| Number of Distinct Detects | 88 | Number of Distinct Non-Detects | 2 |
| Minimum Detect | 3.6 | Minimum Non-Detect | 5.3 |
| Maximum Detect | 54.6 | Maximum Non-Detect | 14 |
| Variance Detects | 68.74 | Percent Non-Detects | 1.639% |
| Mean Detects | 11.34 | SD Detects | 8.291 |
| Median Detects | 9.05 | CV Detects | 0.731 |
| Skewness Detects | 3.102 | Kurtosis Detects | 11.43 |
| Mean of Logged Detects | 2.271 | SD of Logged Detects | 0.515 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.67 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.23 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0812 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 11.26 | KM Standard Error of Mean | 0.747 |
| KM SD | 8.219 | 95% KM (BCA) UCL | 12.46 |
| 95% KM (t) UCL | 12.5 | 95% KM (Percentile Bootstrap) UCL | 12.58 |
| 95% KM (z) UCL | 12.49 | 95% KM Bootstrap t UCL | 12.8 |
| 90% KM Chebyshev UCL | 13.5 | 95% KM Chebyshev UCL | 14.52 |
| 97.5% KM Chebyshev UCL | 15.93 | 99% KM Chebyshev UCL | 18.7 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 4.152 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.758 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.142 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0848 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 3.328 | k star (bias corrected MLE) | 3.25 |
| Theta hat (MLE) | 3.407 | Theta star (bias corrected MLE) | 3.489 |
| nu hat (MLE) | 798.7 | nu star (bias corrected) | 780.1 |
| Mean (detects) | 11.34 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 1.262 | Mean | 11.23 |
| Maximum | 54.6 | Median | 8.95 |
| SD | 8.277 | CV | 0.737 |
| k hat (MLE) | 3.167 | k star (bias corrected MLE) | 3.094 |
| Theta hat (MLE) | 3.547 | Theta star (bias corrected MLE) | 3.63 |
| nu hat (MLE) | 772.7 | nu star (bias corrected) | 755 |
| Adjusted Level of Significance (β) | 0.048 | | |
| Approximate Chi Square Value (755.02, α) | 692.3 | Adjusted Chi Square Value (755.02, β) | 691.6 |
| 95% Gamma Approximate UCL (use when n>=50) | 12.25 | 95% Gamma Adjusted UCL (use when n<50) | 12.26 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 11.26 | SD (KM) | 8.219 |
| Variance (KM) | 67.55 | SE of Mean (KM) | 0.747 |
| k hat (KM) | 1.877 | k star (KM) | 1.836 |
| nu hat (KM) | 458 | nu star (KM) | 448.1 |
| theta hat (KM) | 5.999 | theta star (KM) | 6.132 |
| 80% gamma percentile (KM) | 17.03 | 90% gamma percentile (KM) | 22.35 |
| 95% gamma percentile (KM) | 27.45 | 99% gamma percentile (KM) | 38.82 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (448.09, α) | 400 | Adjusted Chi Square Value (448.09, β) | 399.5 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 12.61 | 95% Gamma Adjusted KM-UCL (use when n<50) | 12.63 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.936 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 8.6214E-6 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0971 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0812 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 11.26 | Mean in Log Scale | 2.262 |
| SD in Original Scale | 8.253 | SD in Log Scale | 0.517 |
| 95% t UCL (assumes normality of ROS data) | 12.5 | 95% Percentile Bootstrap UCL | 12.54 |
| 95% BCA Bootstrap UCL | 12.68 | 95% Bootstrap t UCL | 12.8 |
| 95% H-UCL (Log ROS) | 11.97 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 2.263 | KM Geo Mean | 9.61 |
| KM SD (logged) | 0.514 | 95% Critical H Value (KM-Log) | 1.83 |
| KM Standard Error of Mean (logged) | 0.0469 | 95% H-UCL (KM -Log) | 11.95 |
| KM SD (logged) | 0.514 | 95% Critical H Value (KM-Log) | 1.83 |
| KM Standard Error of Mean (logged) | 0.0469 | | |

**DL/2 Statistics**

| DL/2 Normal | | DL/2 Log-Transformed | |
|---|---|---|---|
| Mean in Original Scale | 11.23 | Mean in Log Scale | 2.257 |
| SD in Original Scale | 8.269 | SD in Log Scale | 0.525 |
| 95% t UCL (Assumes normality) | 12.47 | 95% H-Stat UCL | 11.97 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 14.52 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

AROCLOR-1248

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 105 | Number of Distinct Observations | 27 |
| | | Number of Missing Observations | 49 |
| Number of Detects | 7 | Number of Non-Detects | 98 |
| Number of Distinct Detects | 7 | Number of Distinct Non-Detects | 22 |
| Minimum Detect | 0.038 | Minimum Non-Detect | 0.033 |
| Maximum Detect | 0.44 | Maximum Non-Detect | 1.1 |
| Variance Detects | 0.0195 | Percent Non-Detects | 93.33% |
| Mean Detects | 0.134 | SD Detects | 0.139 |
| Median Detects | 0.097 | CV Detects | 1.04 |
| Skewness Detects | 2.291 | Kurtosis Detects | 5.603 |
| Mean of Logged Detects | -2.341 | SD of Logged Detects | 0.825 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.691 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.803 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.369 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.304 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.0399 | KM Standard Error of Mean | 0.00447 |
| KM SD | 0.0421 | 95% KM (BCA) UCL | 0.0486 |
| 95% KM (t) UCL | 0.0474 | 95% KM (Percentile Bootstrap) UCL | 0.0476 |
| 95% KM (z) UCL | 0.0473 | 95% KM Bootstrap t UCL | 0.0583 |
| 90% KM Chebyshev UCL | 0.0534 | 95% KM Chebyshev UCL | 0.0594 |
| 97.5% KM Chebyshev UCL | 0.0679 | 99% KM Chebyshev UCL | 0.0844 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.497 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.719 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.269 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.316 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.653 | k star (bias corrected MLE) | 1.04 |
| Theta hat (MLE) | 0.0811 | Theta star (bias corrected MLE) | 0.129 |
| nu hat (MLE) | 23.14 | nu star (bias corrected) | 14.56 |
| Mean (detects) | 0.134 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 0.0183 |
| Maximum | 0.44 | Median | 0.01 |
| SD | 0.0457 | CV | 2.502 |
| k hat (MLE) | 1.246 | k star (bias corrected MLE) | 1.217 |
| Theta hat (MLE) | 0.0147 | Theta star (bias corrected MLE) | 0.015 |
| nu hat (MLE) | 261.7 | nu star (bias corrected) | 255.6 |
| Adjusted Level of Significance (β) | 0.0477 | | |
| Approximate Chi Square Value (255.59, α) | 219.6 | Adjusted Chi Square Value (255.59, β) | 219.1 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.0213 | 95% Gamma Adjusted UCL (use when n<50) | 0.0213 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.0399 | SD (KM) | 0.0421 |
| Variance (KM) | 0.00177 | SE of Mean (KM) | 0.00447 |
| k hat (KM) | 0.901 | k star (KM) | 0.881 |
| nu hat (KM) | 189.1 | nu star (KM) | 185 |
| theta hat (KM) | 0.0444 | theta star (KM) | 0.0453 |
| 80% gamma percentile (KM) | 0.0649 | 90% gamma percentile (KM) | 0.0949 |
| 95% gamma percentile (KM) | 0.125 | 99% gamma percentile (KM) | 0.196 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (185.04, α) | 154.6 | Adjusted Chi Square Value (185.04, β) | 154.2 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.0478 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.0479 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.922 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.803 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.215 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.304 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.0116 | Mean in Log Scale | -6.487 |
| SD in Original Scale | 0.0471 | SD in Log Scale | 1.843 |
| 95% t UCL (assumes normality of ROS data) | 0.0193 | 95% Percentile Bootstrap UCL | 0.0201 |
| 95% BCA Bootstrap UCL | 0.0265 | 95% Bootstrap t UCL | 0.0314 |
| 95% H-UCL (Log ROS) | 0.0146 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -3.337 | KM Geo Mean | 0.0356 |
| KM SD (logged) | 0.336 | 95% Critical H Value (KM-Log) | 1.749 |
| KM Standard Error of Mean (logged) | 0.036 | 95% H-UCL (KM -Log) | 0.0399 |
| KM SD (logged) | 0.336 | 95% Critical H Value (KM-Log) | 1.749 |
| KM Standard Error of Mean (logged) | 0.036 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.0359 | Mean in Log Scale | -3.769 |
| SD in Original Scale | 0.0707 | SD in Log Scale | 0.666 |
| 95% t UCL (Assumes normality) | 0.0473 | 95% H-Stat UCL | 0.0327 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | | | |
|---|---|---|---|
| 95% KM Approximate Gamma UCL | 0.0478 | 95% GROS Approximate Gamma UCL | 0.0213 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**AROCLOR-1254**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 105 | Number of Distinct Observations | 42 |
| | | Number of Missing Observations | 49 |
| Number of Detects | 26 | Number of Non-Detects | 79 |
| Number of Distinct Detects | 25 | Number of Distinct Non-Detects | 22 |
| Minimum Detect | 0.01 | Minimum Non-Detect | 0.033 |
| Maximum Detect | 0.215 | Maximum Non-Detect | 1.1 |
| Variance Detects | 0.00291 | Percent Non-Detects | 75.24% |
| Mean Detects | 0.0662 | SD Detects | 0.0539 |
| Median Detects | 0.0455 | CV Detects | 0.815 |
| Skewness Detects | 1.411 | Kurtosis Detects | 1.28 |
| Mean of Logged Detects | -3.013 | SD of Logged Detects | 0.799 |

**Normal GOF Test on Detects Only**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.832 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.92 | Detected Data Not Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.214 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.17 | Detected Data Not Normal at 5% Significance Level | |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.0341 | KM Standard Error of Mean | 0.00414 |
| KM SD | 0.034 | 95% KM (BCA) UCL | 0.0414 |
| 95% KM (t) UCL | 0.041 | 95% KM (Percentile Bootstrap) UCL | 0.0409 |
| 95% KM (z) UCL | 0.0409 | 95% KM Bootstrap t UCL | 0.0425 |
| 90% KM Chebyshev UCL | 0.0466 | 95% KM Chebyshev UCL | 0.0522 |
| 97.5% KM Chebyshev UCL | 0.06 | 99% KM Chebyshev UCL | 0.0753 |

**Gamma GOF Tests on Detected Observations Only**

| | | | |
|---|---|---|---|
| A-D Test Statistic | 0.48 | **Anderson-Darling GOF Test** | |
| 5% A-D Critical Value | 0.759 | Detected data appear Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.13 | **Kolmogorov-Smirnov GOF** | |
| 5% K-S Critical Value | 0.174 | Detected data appear Gamma Distributed at 5% Significance Level | |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.832 | k star (bias corrected MLE) | 1.646 |
| Theta hat (MLE) | 0.0361 | Theta star (bias corrected MLE) | 0.0402 |
| nu hat (MLE) | 95.26 | nu star (bias corrected) | 85.61 |
| Mean (detects) | 0.0662 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 0.0288 |
| Maximum | 0.215 | Median | 0.0143 |
| SD | 0.0352 | CV | 1.224 |
| k hat (MLE) | 1.411 | k star (bias corrected MLE) | 1.377 |
| Theta hat (MLE) | 0.0204 | Theta star (bias corrected MLE) | 0.0209 |
| nu hat (MLE) | 296.3 | nu star (bias corrected) | 289.1 |
| Adjusted Level of Significance (β) | 0.0477 | | |
| Approximate Chi Square Value (289.14, α) | 250.8 | Adjusted Chi Square Value (289.14, β) | 250.3 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.0332 | 95% Gamma Adjusted UCL (use when n<50) | 0.0333 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.0341 | SD (KM) | 0.034 |
| Variance (KM) | 0.00115 | SE of Mean (KM) | 0.00414 |
| k hat (KM) | 1.01 | k star (KM) | 0.988 |
| nu hat (KM) | 212.1 | nu star (KM) | 207.4 |

| | | | |
|---|---|---|---|
| theta hat (KM) | 0.0338 | theta star (KM) | 0.0346 |
| 80% gamma percentile (KM) | 0.055 | 90% gamma percentile (KM) | 0.0789 |
| 95% gamma percentile (KM) | 0.103 | 99% gamma percentile (KM) | 0.158 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (207.40, α) | 175.1 | Adjusted Chi Square Value (207.40, β) | 174.7 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.0404 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.0405 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.974 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.92 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0786 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.17 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.0325 | Mean in Log Scale | -3.713 |
| SD in Original Scale | 0.0337 | SD in Log Scale | 0.69 |
| 95% t UCL (assumes normality of ROS data) | 0.0379 | 95% Percentile Bootstrap UCL | 0.0382 |
| 95% BCA Bootstrap UCL | 0.0395 | 95% Bootstrap t UCL | 0.0397 |
| 95% H-UCL (Log ROS) | 0.0353 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -3.649 | KM Geo Mean | 0.026 |
| KM SD (logged) | 0.676 | 95% Critical H Value (KM-Log) | 1.945 |
| KM Standard Error of Mean (logged) | 0.137 | 95% H-UCL (KM -Log) | 0.0372 |
| KM SD (logged) | 0.676 | 95% Critical H Value (KM-Log) | 1.945 |
| KM Standard Error of Mean (logged) | 0.137 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.0417 | Mean in Log Scale | -3.59 |
| SD in Original Scale | 0.0641 | SD in Log Scale | 0.746 |
| 95% t UCL (Assumes normality) | 0.0521 | 95% H-Stat UCL | 0.0422 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | | | |
|---|---|---|---|
| 95% KM Approximate Gamma UCL | 0.0404 | 95% GROS Approximate Gamma UCL | 0.0332 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

AROCLOR-1260

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 105 | Number of Distinct Observations | 57 |
| | | Number of Missing Observations | 49 |
| Number of Detects | 50 | Number of Non-Detects | 55 |
| Number of Distinct Detects | 47 | Number of Distinct Non-Detects | 12 |
| Minimum Detect | 0.003 | Minimum Non-Detect | 0.033 |
| Maximum Detect | 52 | Maximum Non-Detect | 0.053 |
| Variance Detects | 93.09 | Percent Non-Detects | 52.38% |
| Mean Detects | 4.273 | SD Detects | 9.648 |
| Median Detects | 0.24 | CV Detects | 2.258 |
| Skewness Detects | 3.44 | Kurtosis Detects | 13.26 |
| Mean of Logged Detects | -1.125 | SD of Logged Detects | 2.67 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.515 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.947 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.329 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.125 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 2.043 | KM Standard Error of Mean | 0.683 |
| KM SD | 6.925 | 95% KM (BCA) UCL | 3.334 |
| 95% KM (t) UCL | 3.176 | 95% KM (Percentile Bootstrap) UCL | 3.22 |
| 95% KM (z) UCL | 3.166 | 95% KM Bootstrap t UCL | 3.977 |
| 90% KM Chebyshev UCL | 4.092 | 95% KM Chebyshev UCL | 5.019 |
| 97.5% KM Chebyshev UCL | 6.307 | 99% KM Chebyshev UCL | 8.836 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 2.126 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.876 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.188 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.137 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.272 | k star (bias corrected MLE) | 0.269 |
| Theta hat (MLE) | 15.71 | Theta star (bias corrected MLE) | 15.89 |
| nu hat (MLE) | 27.19 | nu star (bias corrected) | 26.89 |
| Mean (detects) | 4.273 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.003 | Mean | 2.04 |
| Maximum | 52 | Median | 0.01 |
| SD | 6.96 | CV | 3.412 |
| k hat (MLE) | 0.201 | k star (bias corrected MLE) | 0.202 |
| Theta hat (MLE) | 10.15 | Theta star (bias corrected MLE) | 10.12 |
| nu hat (MLE) | 42.19 | nu star (bias corrected) | 42.32 |
| Adjusted Level of Significance (β) | 0.0477 | | |
| Approximate Chi Square Value (42.32, α) | 28.4 | Adjusted Chi Square Value (42.32, β) | 28.24 |
| 95% Gamma Approximate UCL (use when n>=50) | 3.039 | 95% Gamma Adjusted UCL (use when n<50) | 3.056 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 2.043 | SD (KM) | 6.925 |
| Variance (KM) | 47.96 | SE of Mean (KM) | 0.683 |
| k hat (KM) | 0.0871 | k star (KM) | 0.0909 |
| nu hat (KM) | 18.28 | nu star (KM) | 19.09 |
| theta hat (KM) | 23.47 | theta star (KM) | 22.47 |
| 80% gamma percentile (KM) | 1.224 | 90% gamma percentile (KM) | 5.207 |
| 95% gamma percentile (KM) | 11.9 | 99% gamma percentile (KM) | 34.03 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (19.09, α) | 10.19 | Adjusted Chi Square Value (19.09, β) | 10.1 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 3.83 | 95% Gamma Adjusted KM-UCL (use when n<50) | 3.865 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.939 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.947 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.108 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.125 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Approximate Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 2.049 | Mean in Log Scale | -2.834 |
| SD in Original Scale | 6.957 | SD in Log Scale | 2.671 |
| 95% t UCL (assumes normality of ROS data) | 3.175 | 95% Percentile Bootstrap UCL | 3.279 |
| 95% BCA Bootstrap UCL | 3.654 | 95% Bootstrap t UCL | 3.861 |
| 95% H-UCL (Log ROS) | 6.175 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -2.765 | KM Geo Mean | 0.063 |
| KM SD (logged) | 2.448 | 95% Critical H Value (KM-Log) | 3.865 |
| KM Standard Error of Mean (logged) | 0.263 | 95% H-UCL (KM -Log) | 3.188 |
| KM SD (logged) | 2.448 | 95% Critical H Value (KM-Log) | 3.865 |
| KM Standard Error of Mean (logged) | 0.263 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 2.044 | Mean in Log Scale | -2.628 |
| SD in Original Scale | 6.958 | SD in Log Scale | 2.332 |
| 95% t UCL (Assumes normality) | 3.171 | 95% H-Stat UCL | 2.56 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Lognormal Distributed at 5% Significance Level

Suggested UCL to Use

| | |
|---|---|
| KM H-UCL | 3.188 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

DIELDRIN

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 49 | Number of Distinct Observations | 21 |
| | | Number of Missing Observations | 102 |
| Number of Detects | 10 | Number of Non-Detects | 39 |
| Number of Distinct Detects | 10 | Number of Distinct Non-Detects | 11 |
| Minimum Detect | 9.6000E-5 | Minimum Non-Detect | 0.0033 |
| Maximum Detect | 0.27 | Maximum Non-Detect | 0.0053 |
| Variance Detects | 0.00762 | Percent Non-Detects | 79.59% |
| Mean Detects | 0.054 | SD Detects | 0.0873 |
| Median Detects | 0.011 | CV Detects | 1.615 |
| Skewness Detects | 2.053 | Kurtosis Detects | 4.098 |
| Mean of Logged Detects | -4.38 | SD of Logged Detects | 2.222 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.671 | Shapiro Wilk GOF Test |
| 5% Shapiro Wilk Critical Value | 0.842 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.373 | Lilliefors GOF Test |
| 5% Lilliefors Critical Value | 0.262 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 0.0111 | KM Standard Error of Mean | 0.00652 |
| KM SD | 0.0433 | 95% KM (BCA) UCL | 0.026 |
| 95% KM (t) UCL | 0.022 | 95% KM (Percentile Bootstrap) UCL | 0.0241 |
| 95% KM (z) UCL | 0.0218 | 95% KM Bootstrap t UCL | 0.0405 |
| 90% KM Chebyshev UCL | 0.0307 | 95% KM Chebyshev UCL | 0.0395 |
| 97.5% KM Chebyshev UCL | 0.0518 | 99% KM Chebyshev UCL | 0.0759 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 0.511 | Anderson-Darling GOF Test |
| 5% A-D Critical Value | 0.787 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.27 | Kolmogorov-Smirnov GOF |
| 5% K-S Critical Value | 0.283 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.443 | k star (bias corrected MLE) | 0.377 |
| Theta hat (MLE) | 0.122 | Theta star (bias corrected MLE) | 0.144 |
| nu hat (MLE) | 8.855 | nu star (bias corrected) | 7.532 |
| Mean (detects) | 0.054 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 9.6000E-5 | Mean | 0.019 |
| Maximum | 0.27 | Median | 0.01 |
| SD | 0.0418 | CV | 2.203 |
| k hat (MLE) | 0.973 | k star (bias corrected MLE) | 0.927 |
| Theta hat (MLE) | 0.0195 | Theta star (bias corrected MLE) | 0.0205 |
| nu hat (MLE) | 95.32 | nu star (bias corrected) | 90.82 |
| Adjusted Level of Significance (β) | 0.0451 | | |
| Approximate Chi Square Value (90.82, α) | 69.85 | Adjusted Chi Square Value (90.82, β) | 69.29 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.0247 | 95% Gamma Adjusted UCL (use when n<50) | 0.0249 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.0111 | SD (KM) | 0.0433 |
| Variance (KM) | 0.00187 | SE of Mean (KM) | 0.00652 |
| k hat (KM) | 0.0659 | k star (KM) | 0.0755 |
| nu hat (KM) | 6.461 | nu star (KM) | 7.399 |
| theta hat (KM) | 0.169 | theta star (KM) | 0.147 |
| 80% gamma percentile (KM) | 0.0047 | 90% gamma percentile (KM) | 0.0253 |
| 95% gamma percentile (KM) | 0.0644 | 99% gamma percentile (KM) | 0.202 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (7.40, α) | 2.392 | Adjusted Chi Square Value (7.40, β) | 2.307 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.0344 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.0356 |

95% Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50)

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.908 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.842 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.219 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.262 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.0112 | Mean in Log Scale | -8.595 |
| SD in Original Scale | 0.0437 | SD in Log Scale | 2.905 |
| 95% t UCL (assumes normality of ROS data) | 0.0217 | 95% Percentile Bootstrap UCL | 0.0225 |
| 95% BCA Bootstrap UCL | 0.0286 | 95% Bootstrap t UCL | 0.0442 |

| | | | |
|---|---|---|---|
| 95% H-UCL (Log ROS) | 0.0992 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -8.255 | KM Geo Mean | 2.5993E-4 |
| KM SD (logged) | 2.183 | 95% Critical H Value (KM-Log) | 3.869 |
| KM Standard Error of Mean (logged) | 0.329 | 95% H-UCL (KM -Log) | 0.00953 |
| KM SD (logged) | 2.183 | 95% Critical H Value (KM-Log) | 3.869 |
| KM Standard Error of Mean (logged) | 0.329 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.0125 | Mean in Log Scale | -5.912 |
| SD in Original Scale | 0.0434 | SD in Log Scale | 1.243 |
| 95% t UCL (Assumes normality) | 0.0229 | 95% H-Stat UCL | 0.00937 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 b | 0.0356 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**BENZO(A)ANTHRACENE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 121 | Number of Distinct Observations | 77 |
| | | Number of Missing Observations | 82 |
| Number of Detects | 98 | Number of Non-Detects | 23 |
| Number of Distinct Detects | 73 | Number of Distinct Non-Detects | 9 |
| Minimum Detect | 0.0061 | Minimum Non-Detect | 0.18 |
| Maximum Detect | 34 | Maximum Non-Detect | 9.3 |
| Variance Detects | 13.57 | Percent Non-Detects | 19.01% |
| Mean Detects | 0.922 | SD Detects | 3.684 |
| Median Detects | 0.145 | CV Detects | 3.998 |
| Skewness Detects | 7.92 | Kurtosis Detects | 68.95 |
| Mean of Logged Detects | -1.632 | SD of Logged Detects | 1.471 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.252 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.402 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0897 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.768 | KM Standard Error of Mean | 0.303 |
| KM SD | 3.315 | 95% KM (BCA) UCL | 1.313 |
| 95% KM (t) UCL | 1.27 | 95% KM (Percentile Bootstrap) UCL | 1.295 |
| 95% KM (z) UCL | 1.266 | 95% KM Bootstrap t UCL | 2.415 |
| 90% KM Chebyshev UCL | 1.677 | 95% KM Chebyshev UCL | 2.089 |
| 97.5% KM Chebyshev UCL | 2.66 | 99% KM Chebyshev UCL | 3.782 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 8.88 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.838 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.229 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0966 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.421 | k star (bias corrected MLE) | 0.415 |
| Theta hat (MLE) | 2.19 | Theta star (bias corrected MLE) | 2.222 |
| nu hat (MLE) | 82.5 | nu star (bias corrected) | 81.3 |
| Mean (detects) | 0.922 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0061 | Mean | 0.748 |
| Maximum | 34 | Median | 0.11 |
| SD | 3.332 | CV | 4.452 |
| k hat (MLE) | 0.352 | k star (bias corrected MLE) | 0.349 |
| Theta hat (MLE) | 2.125 | Theta star (bias corrected MLE) | 2.145 |
| nu hat (MLE) | 85.23 | nu star (bias corrected) | 84.45 |
| Adjusted Level of Significance (β) | 0.048 | | |
| Approximate Chi Square Value (84.45, α) | 64.27 | Adjusted Chi Square Value (84.45, β) | 64.05 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.983 | 95% Gamma Adjusted UCL (use when n<50) | 0.987 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.768 | SD (KM) | 3.315 |
| Variance (KM) | 10.99 | SE of Mean (KM) | 0.303 |
| k hat (KM) | 0.0537 | k star (KM) | 0.0579 |
| nu hat (KM) | 12.99 | nu star (KM) | 14 |
| theta hat (KM) | 14.31 | theta star (KM) | 13.27 |
| 80% gamma percentile (KM) | 0.167 | 90% gamma percentile (KM) | 1.392 |
| 95% gamma percentile (KM) | 4.268 | 99% gamma percentile (KM) | 15.74 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (14.00, α) | 6.573 | Adjusted Chi Square Value (14.00, β) | 6.511 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1.636 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1.652 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.961 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.0293 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0976 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0897 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.765 | Mean in Log Scale | -1.792 |
| SD in Original Scale | 3.328 | SD in Log Scale | 1.393 |
| 95% t UCL (assumes normality of ROS data) | 1.267 | 95% Percentile Bootstrap UCL | 1.348 |
| 95% BCA Bootstrap UCL | 1.73 | 95% Bootstrap t UCL | 2.259 |
| 95% H-UCL (Log ROS) | 0.609 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.807 | KM Geo Mean | 0.164 |
| KM SD (logged) | 1.41 | 95% Critical H Value (KM-Log) | 2.585 |
| KM Standard Error of Mean (logged) | 0.133 | 95% H-UCL (KM -Log) | 0.619 |
| KM SD (logged) | 1.41 | 95% Critical H Value (KM-Log) | 2.585 |
| KM Standard Error of Mean (logged) | 0.133 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.818 | Mean in Log Scale | -1.682 |
| SD in Original Scale | 3.345 | SD in Log Scale | 1.396 |
| 95% t UCL (Assumes normality) | 1.322 | 95% H-Stat UCL | 0.683 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 2.089 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**BENZO(A)PYRENE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 121 | Number of Distinct Observations | 86 |
| | | Number of Missing Observations | 82 |
| Number of Detects | 104 | Number of Non-Detects | 17 |
| Number of Distinct Detects | 78 | Number of Distinct Non-Detects | 12 |
| Minimum Detect | 0.0023 | Minimum Non-Detect | 0.0035 |
| Maximum Detect | 31 | Maximum Non-Detect | 9.3 |

| | | | |
|---|---|---|---|
| Variance Detects | 12.45 | Percent Non-Detects | 14.05% |
| Mean Detects | 0.909 | SD Detects | 3.528 |
| Median Detects | 0.145 | CV Detects | 3.88 |
| Skewness Detects | 7.079 | Kurtosis Detects | 55.25 |
| Mean of Logged Detects | -1.785 | SD of Logged Detects | 1.625 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.267 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.399 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0872 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.795 | KM Standard Error of Mean | 0.299 |
| KM SD | 3.268 | 95% KM (BCA) UCL | 1.388 |
| 95% KM (t) UCL | 1.29 | 95% KM (Percentile Bootstrap) UCL | 1.317 |
| 95% KM (z) UCL | 1.286 | 95% KM Bootstrap t UCL | 2.298 |
| 90% KM Chebyshev UCL | 1.691 | 95% KM Chebyshev UCL | 2.097 |
| 97.5% KM Chebyshev UCL | 2.66 | 99% KM Chebyshev UCL | 3.766 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 9.047 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.845 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.229 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0949 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.391 | k star (bias corrected MLE) | 0.386 |
| Theta hat (MLE) | 2.326 | Theta star (bias corrected MLE) | 2.355 |
| nu hat (MLE) | 81.31 | nu star (bias corrected) | 80.29 |
| Mean (detects) | 0.909 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0023 | Mean | 0.783 |
| Maximum | 31 | Median | 0.13 |
| SD | 3.284 | CV | 4.194 |
| k hat (MLE) | 0.348 | k star (bias corrected MLE) | 0.345 |
| Theta hat (MLE) | 2.252 | Theta star (bias corrected MLE) | 2.272 |
| nu hat (MLE) | 84.13 | nu star (bias corrected) | 83.38 |
| Adjusted Level of Significance (β) | 0.048 | | |
| Approximate Chi Square Value (83.38, α) | 63.34 | Adjusted Chi Square Value (83.38, β) | 63.13 |
| 95% Gamma Approximate UCL (use when n>=50) | 1.031 | 95% Gamma Adjusted UCL (use when n<50) | 1.034 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.795 | SD (KM) | 3.268 |
| Variance (KM) | 10.68 | SE of Mean (KM) | 0.299 |
| k hat (KM) | 0.0592 | k star (KM) | 0.0632 |
| nu hat (KM) | 14.32 | nu star (KM) | 15.3 |
| theta hat (KM) | 13.44 | theta star (KM) | 12.58 |
| 80% gamma percentile (KM) | 0.221 | 90% gamma percentile (KM) | 1.572 |
| 95% gamma percentile (KM) | 4.502 | 99% gamma percentile (KM) | 15.68 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (15.30, α) | 7.468 | Adjusted Chi Square Value (15.30, β) | 7.402 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1.628 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1.643 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.971 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.15 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0886 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0872 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data appear Approximate Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.79 | Mean in Log Scale | -2.016 |
| SD in Original Scale | 3.282 | SD in Log Scale | 1.688 |
| 95% t UCL (assumes normality of ROS data) | 1.285 | 95% Percentile Bootstrap UCL | 1.319 |
| 95% BCA Bootstrap UCL | 1.6 | 95% Bootstrap t UCL | 2.166 |
| 95% H-UCL (Log ROS) | 0.864 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -2.059 | KM Geo Mean | 0.128 |
| KM SD (logged) | 1.795 | 95% Critical H Value (KM-Log) | 3.009 |
| KM Standard Error of Mean (logged) | 0.169 | 95% H-UCL (KM -Log) | 1.046 |
| KM SD (logged) | 1.795 | 95% Critical H Value (KM-Log) | 3.009 |
| KM Standard Error of Mean (logged) | 0.169 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.845 | Mean in Log Scale | -1.94 |
| SD in Original Scale | 3.298 | SD in Log Scale | 1.803 |
| 95% t UCL (Assumes normality) | 1.342 | 95% H-Stat UCL | 1.201 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 1.046 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

BENZO(B)FLUORANTHENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 121 | Number of Distinct Observations | 77 |
| | | Number of Missing Observations | 82 |
| Number of Detects | 98 | Number of Non-Detects | 23 |
| Number of Distinct Detects | 74 | Number of Distinct Non-Detects | 9 |
| Minimum Detect | 0.0094 | Minimum Non-Detect | 0.18 |
| Maximum Detect | 33 | Maximum Non-Detect | 9.3 |
| Variance Detects | 14.4 | Percent Non-Detects | 19.01% |
| Mean Detects | 1.116 | SD Detects | 3.795 |
| Median Detects | 0.205 | CV Detects | 3.401 |
| Skewness Detects | 6.963 | Kurtosis Detects | 54.33 |
| Mean of Logged Detects | -1.319 | SD of Logged Detects | 1.46 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.301 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.385 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0897 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.93 | KM Standard Error of Mean | 0.313 |
| KM SD | 3.421 | 95% KM (BCA) UCL | 1.487 |
| 95% KM (t) UCL | 1.448 | 95% KM (Percentile Bootstrap) UCL | 1.498 |
| 95% KM (z) UCL | 1.444 | 95% KM Bootstrap t UCL | 2.463 |
| 90% KM Chebyshev UCL | 1.868 | 95% KM Chebyshev UCL | 2.293 |
| 97.5% KM Chebyshev UCL | 2.883 | 99% KM Chebyshev UCL | 4.042 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 7.805 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.83 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.209 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0962 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.452 | k star (bias corrected MLE) | 0.445 |
| Theta hat (MLE) | 2.47 | Theta star (bias corrected MLE) | 2.509 |
| nu hat (MLE) | 88.55 | nu star (bias corrected) | 87.17 |
| Mean (detects) | 1.116 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0094 | Mean | 0.906 |
| Maximum | 33 | Median | 0.14 |
| SD | 3.439 | CV | 3.798 |
| k hat (MLE) | 0.362 | k star (bias corrected MLE) | 0.359 |
| Theta hat (MLE) | 2.499 | Theta star (bias corrected MLE) | 2.523 |
| nu hat (MLE) | 87.72 | nu star (bias corrected) | 86.88 |
| Adjusted Level of Significance (β) | 0.048 | | |
| Approximate Chi Square Value (86.88, α) | 66.39 | Adjusted Chi Square Value (86.88, β) | 66.18 |
| 95% Gamma Approximate UCL (use when n>=50) | 1.185 | 95% Gamma Adjusted UCL (use when n<50) | 1.189 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.93 | SD (KM) | 3.421 |
| Variance (KM) | 11.71 | SE of Mean (KM) | 0.313 |
| k hat (KM) | 0.0738 | k star (KM) | 0.0775 |
| nu hat (KM) | 17.87 | nu star (KM) | 18.76 |
| theta hat (KM) | 12.59 | theta star (KM) | 11.99 |
| 80% gamma percentile (KM) | 0.416 | 90% gamma percentile (KM) | 2.16 |
| 95% gamma percentile (KM) | 5.397 | 99% gamma percentile (KM) | 16.71 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (18.76, α) | 9.941 | Adjusted Chi Square Value (18.76, β) | 9.864 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1.754 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1.768 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.963 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.043 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0911 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0897 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.926 | Mean in Log Scale | -1.51 |
| SD in Original Scale | 3.435 | SD in Log Scale | 1.399 |
| 95% t UCL (assumes normality of ROS data) | 1.443 | 95% Percentile Bootstrap UCL | 1.47 |
| 95% BCA Bootstrap UCL | 1.812 | 95% Bootstrap t UCL | 2.407 |
| 95% H-UCL (Log ROS) | 0.816 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.519 | KM Geo Mean | 0.219 |
| KM SD (logged) | 1.411 | 95% Critical H Value (KM-Log) | 2.585 |
| KM Standard Error of Mean (logged) | 0.133 | 95% H-UCL (KM -Log) | 0.827 |
| KM SD (logged) | 1.411 | 95% Critical H Value (KM-Log) | 2.585 |
| KM Standard Error of Mean (logged) | 0.133 | | |

**DL/2 Statistics**

| DL/2 Normal | | DL/2 Log-Transformed | |
|---|---|---|---|
| Mean in Original Scale | 0.976 | Mean in Log Scale | -1.429 |
| SD in Original Scale | 3.449 | SD in Log Scale | 1.401 |
| 95% t UCL (Assumes normality) | 1.495 | 95% H-Stat UCL | 0.888 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 2.293 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

BENZO(K)FLUORANTHENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 121 | Number of Distinct Observations | 71 |
| | | Number of Missing Observations | 82 |
| Number of Detects | 96 | Number of Non-Detects | 25 |
| Number of Distinct Detects | 65 | Number of Distinct Non-Detects | 10 |
| Minimum Detect | 0.0097 | Minimum Non-Detect | 0.18 |
| Maximum Detect | 26 | Maximum Non-Detect | 9.3 |
| Variance Detects | 11.34 | Percent Non-Detects | 20.66% |
| Mean Detects | 0.91 | SD Detects | 3.367 |
| Median Detects | 0.165 | CV Detects | 3.699 |
| Skewness Detects | 6.269 | Kurtosis Detects | 41.24 |
| Mean of Logged Detects | -1.624 | SD of Logged Detects | 1.439 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.271 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.395 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0907 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.747 | KM Standard Error of Mean | 0.275 |
| KM SD | 3.002 | 95% KM (BCA) UCL | 1.305 |
| 95% KM (t) UCL | 1.202 | 95% KM (Percentile Bootstrap) UCL | 1.229 |
| 95% KM (z) UCL | 1.199 | 95% KM Bootstrap t UCL | 2.111 |
| 90% KM Chebyshev UCL | 1.571 | 95% KM Chebyshev UCL | 1.944 |
| 97.5% KM Chebyshev UCL | 2.461 | 99% KM Chebyshev UCL | 3.478 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 9.351 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.837 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.248 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0976 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.426 | k star (bias corrected MLE) | 0.419 |
| Theta hat (MLE) | 2.137 | Theta star (bias corrected MLE) | 2.17 |
| nu hat (MLE) | 81.75 | nu star (bias corrected) | 80.53 |
| Mean (detects) | 0.91 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0097 | Mean | 0.724 |
| Maximum | 26 | Median | 0.11 |
| SD | 3.018 | CV | 4.168 |
| k hat (MLE) | 0.351 | k star (bias corrected MLE) | 0.347 |
| Theta hat (MLE) | 2.065 | Theta star (bias corrected MLE) | 2.084 |
| nu hat (MLE) | 84.85 | nu star (bias corrected) | 84.08 |
| Adjusted Level of Significance (β) | 0.048 | | |
| Approximate Chi Square Value (84.08, α) | 63.94 | Adjusted Chi Square Value (84.08, β) | 63.73 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.952 | 95% Gamma Adjusted UCL (use when n<50) | 0.955 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.747 | SD (KM) | 3.002 |
| Variance (KM) | 9.013 | SE of Mean (KM) | 0.275 |
| k hat (KM) | 0.0619 | k star (KM) | 0.0659 |
| nu hat (KM) | 14.99 | nu star (KM) | 15.95 |
| theta hat (KM) | 12.06 | theta star (KM) | 11.34 |
| 80% gamma percentile (KM) | 0.231 | 90% gamma percentile (KM) | 1.534 |
| 95% gamma percentile (KM) | 4.261 | 99% gamma percentile (KM) | 14.47 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (15.95, α) | 7.925 | Adjusted Chi Square Value (15.95, β) | 7.857 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1.503 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1.516 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.95 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.0037 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.114 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0907 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.744 | Mean in Log Scale | -1.79 |
| SD in Original Scale | 3.014 | SD in Log Scale | 1.353 |
| 95% t UCL (assumes normality of ROS data) | 1.198 | 95% Percentile Bootstrap UCL | 1.238 |
| 95% BCA Bootstrap UCL | 1.517 | 95% Bootstrap t UCL | 2.965 |
| 95% H-UCL (Log ROS) | 0.569 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.801 | KM Geo Mean | 0.165 |
| KM SD (logged) | 1.371 | 95% Critical H Value (KM-Log) | 2.544 |
| KM Standard Error of Mean (logged) | 0.131 | 95% H-UCL (KM -Log) | 0.582 |
| KM SD (logged) | 1.371 | 95% Critical H Value (KM-Log) | 2.544 |
| KM Standard Error of Mean (logged) | 0.131 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.796 | Mean in Log Scale | -1.684 |
| SD in Original Scale | 3.032 | SD in Log Scale | 1.358 |
| 95% t UCL (Assumes normality) | 1.253 | 95% H-Stat UCL | 0.638 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 1.944 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**CHRYSENE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 121 | Number of Distinct Observations | 72 |
| | | Number of Missing Observations | 82 |
| Number of Detects | 100 | Number of Non-Detects | 21 |
| Number of Distinct Detects | 70 | Number of Distinct Non-Detects | 10 |
| Minimum Detect | 0.0057 | Minimum Non-Detect | 0.18 |
| Maximum Detect | 35 | Maximum Non-Detect | 9.3 |
| Variance Detects | 14.19 | Percent Non-Detects | 17.36% |
| Mean Detects | 0.995 | SD Detects | 3.767 |
| Median Detects | 0.205 | CV Detects | 3.786 |
| Skewness Detects | 7.914 | Kurtosis Detects | 69.08 |
| Mean of Logged Detects | -1.402 | SD of Logged Detects | 1.425 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.26 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.396 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0889 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.848 | KM Standard Error of Mean | 0.313 |
| KM SD | 3.424 | 95% KM (BCA) UCL | 1.437 |
| 95% KM (t) UCL | 1.366 | 95% KM (Percentile Bootstrap) UCL | 1.41 |
| 95% KM (z) UCL | 1.362 | 95% KM Bootstrap t UCL | 2.275 |
| 90% KM Chebyshev UCL | 1.786 | 95% KM Chebyshev UCL | 2.212 |
| 97.5% KM Chebyshev UCL | 2.802 | 99% KM Chebyshev UCL | 3.961 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 8.091 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.828 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.225 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0951 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.461 | k star (bias corrected MLE) | 0.453 |
| Theta hat (MLE) | 2.16 | Theta star (bias corrected MLE) | 2.194 |
| nu hat (MLE) | 92.1 | nu star (bias corrected) | 90.67 |
| Mean (detects) | 0.995 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0057 | Mean | 0.824 |
| Maximum | 35 | Median | 0.15 |
| SD | 3.442 | CV | 4.177 |
| k hat (MLE) | 0.377 | k star (bias corrected MLE) | 0.373 |
| Theta hat (MLE) | 2.188 | Theta star (bias corrected MLE) | 2.21 |
| nu hat (MLE) | 91.13 | nu star (bias corrected) | 90.21 |
| Adjusted Level of Significance (β) | 0.048 | | |
| Approximate Chi Square Value (90.21, α) | 69.31 | Adjusted Chi Square Value (90.21, β) | 69.09 |
| 95% Gamma Approximate UCL (use when n>=50) | 1.072 | 95% Gamma Adjusted UCL (use when n<50) | 1.076 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.848 | SD (KM) | 3.424 |
| Variance (KM) | 11.72 | SE of Mean (KM) | 0.313 |
| k hat (KM) | 0.0613 | k star (KM) | 0.0653 |
| nu hat (KM) | 14.84 | nu star (KM) | 15.8 |

| | | | |
|---|---|---|---|
| theta hat (KM) | 13.83 | theta star (KM) | 12.98 |
| 80% gamma percentile (KM) | 0.257 | 90% gamma percentile (KM) | 1.726 |
| 95% gamma percentile (KM) | 4.828 | 99% gamma percentile (KM) | 16.48 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (15.80, α) | 7.823 | Adjusted Chi Square Value (15.80, β) | 7.755 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1.712 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1.727 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.975 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.294 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0873 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0889 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.842 | Mean in Log Scale | -1.56 |
| SD in Original Scale | 3.438 | SD in Log Scale | 1.363 |
| 95% t UCL (assumes normality of ROS data) | 1.36 | 95% Percentile Bootstrap UCL | 1.43 |
| 95% BCA Bootstrap UCL | 1.822 | 95% Bootstrap t UCL | 2.372 |
| 95% H-UCL (Log ROS) | 0.73 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.566 | KM Geo Mean | 0.209 |
| KM SD (logged) | 1.387 | 95% Critical H Value (KM-Log) | 2.561 |
| KM Standard Error of Mean (logged) | 0.132 | 95% H-UCL (KM -Log) | 0.756 |
| KM SD (logged) | 1.387 | 95% Critical H Value (KM-Log) | 2.561 |
| KM Standard Error of Mean (logged) | 0.132 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.9 | Mean in Log Scale | -1.461 |
| SD in Original Scale | 3.452 | SD in Log Scale | 1.378 |
| 95% t UCL (Assumes normality) | 1.42 | 95% H-Stat UCL | 0.826 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 0.756 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

DIBENZO(A,H)ANTHRACENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 120 | Number of Distinct Observations | 75 |
| | | Number of Missing Observations | 83 |
| Number of Detects | 81 | Number of Non-Detects | 39 |
| Number of Distinct Detects | 65 | Number of Distinct Non-Detects | 14 |
| Minimum Detect | 1.5000E-4 | Minimum Non-Detect | 0.0036 |
| Maximum Detect | 8.4 | Maximum Non-Detect | 9.3 |
| Variance Detects | 1.8 | Percent Non-Detects | 32.5% |
| Mean Detects | 0.334 | SD Detects | 1.341 |
| Median Detects | 0.039 | CV Detects | 4.021 |
| Skewness Detects | 5.587 | Kurtosis Detects | 31.51 |
| Mean of Logged Detects | -3.258 | SD of Logged Detects | 2.005 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.254 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.43 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0985 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.241 | KM Standard Error of Mean | 0.102 |
| KM SD | 1.109 | 95% KM (BCA) UCL | 0.411 |
| 95% KM (t) UCL | 0.41 | 95% KM (Percentile Bootstrap) UCL | 0.431 |
| 95% KM (z) UCL | 0.409 | 95% KM Bootstrap t UCL | 0.845 |
| 90% KM Chebyshev UCL | 0.548 | 95% KM Chebyshev UCL | 0.687 |
| 97.5% KM Chebyshev UCL | 0.88 | 99% KM Chebyshev UCL | 1.259 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 8.921 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.861 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.261 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.107 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.316 | k star (bias corrected MLE) | 0.313 |
| Theta hat (MLE) | 1.055 | Theta star (bias corrected MLE) | 1.066 |
| nu hat (MLE) | 51.25 | nu star (bias corrected) | 50.69 |
| Mean (detects) | 0.334 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 1.5000E-4 | Mean | 0.247 |
| Maximum | 8.4 | Median | 0.028 |
| SD | 1.11 | CV | 4.496 |
| k hat (MLE) | 0.325 | k star (bias corrected MLE) | 0.322 |
| Theta hat (MLE) | 0.761 | Theta star (bias corrected MLE) | 0.767 |
| nu hat (MLE) | 77.91 | nu star (bias corrected) | 77.3 |
| Adjusted Level of Significance (β) | 0.048 | | |
| Approximate Chi Square Value (77.30, α) | 58.04 | Adjusted Chi Square Value (77.30, β) | 57.84 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.329 | 95% Gamma Adjusted UCL (use when n<50) | 0.33 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.241 | SD (KM) | 1.109 |
| Variance (KM) | 1.229 | SE of Mean (KM) | 0.102 |
| k hat (KM) | 0.0472 | k star (KM) | 0.0515 |
| nu hat (KM) | 11.32 | nu star (KM) | 12.37 |
| theta hat (KM) | 5.106 | theta star (KM) | 4.672 |
| 80% gamma percentile (KM) | 0.0363 | 90% gamma percentile (KM) | 0.382 |
| 95% gamma percentile (KM) | 1.294 | 99% gamma percentile (KM) | 5.174 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (12.37, α) | 5.47 | Adjusted Chi Square Value (12.37, β) | 5.414 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.544 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.55 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.904 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 1.2713E-6 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.184 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0985 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.237 | Mean in Log Scale | -3.473 |
| SD in Original Scale | 1.109 | SD in Log Scale | 1.815 |
| 95% t UCL (assumes normality of ROS data) | 0.405 | 95% Percentile Bootstrap UCL | 0.414 |
| 95% BCA Bootstrap UCL | 0.514 | 95% Bootstrap t UCL | 0.827 |
| 95% H-UCL (Log ROS) | 0.27 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -3.515 | KM Geo Mean | 0.0297 |
| KM SD (logged) | 1.988 | 95% Critical H Value (KM-Log) | 3.323 |
| KM Standard Error of Mean (logged) | 0.213 | 95% H-UCL (KM -Log) | 0.394 |
| KM SD (logged) | 1.988 | 95% Critical H Value (KM-Log) | 3.323 |
| KM Standard Error of Mean (logged) | 0.213 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.311 | Mean in Log Scale | -2.922 |
| SD in Original Scale | 1.178 | SD in Log Scale | 1.853 |
| 95% t UCL (Assumes normality) | 0.49 | 95% H-Stat UCL | 0.512 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 0.687 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

INDENO(1,2,3-CD)PYRENE

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 121 | Number of Distinct Observations | 79 |
| | | Number of Missing Observations | 82 |
| Number of Detects | 95 | Number of Non-Detects | 26 |
| Number of Distinct Detects | 73 | Number of Distinct Non-Detects | 10 |
| Minimum Detect | 0.018 | Minimum Non-Detect | 0.18 |
| Maximum Detect | 15 | Maximum Non-Detect | 9.3 |
| Variance Detects | 2.849 | Percent Non-Detects | 21.49% |
| Mean Detects | 0.471 | SD Detects | 1.688 |
| Median Detects | 0.099 | CV Detects | 3.585 |
| Skewness Detects | 7.398 | Kurtosis Detects | 60.64 |
| Mean of Logged Detects | -2.041 | SD of Logged Detects | 1.285 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.274 | Normal GOF Test on Detected Observations Only |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.394 | Lilliefors GOF Test |
| 5% Lilliefors Critical Value | 0.0911 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 0.39 | KM Standard Error of Mean | 0.137 |
| KM SD | 1.498 | 95% KM (BCA) UCL | 0.64 |
| 95% KM (t) UCL | 0.617 | 95% KM (Percentile Bootstrap) UCL | 0.641 |
| 95% KM (z) UCL | 0.616 | 95% KM Bootstrap t UCL | 1.15 |
| 90% KM Chebyshev UCL | 0.801 | 95% KM Chebyshev UCL | 0.988 |
| 97.5% KM Chebyshev UCL | 1.246 | 99% KM Chebyshev UCL | 1.754 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 9.15 | Anderson-Darling GOF Test |
| 5% A-D Critical Value | 0.82 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.242 | Kolmogorov-Smirnov GOF |
| 5% K-S Critical Value | 0.0972 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.494 | k star (bias corrected MLE) | 0.486 |
| Theta hat (MLE) | 0.953 | Theta star (bias corrected MLE) | 0.97 |
| nu hat (MLE) | 93.89 | nu star (bias corrected) | 92.26 |
| Mean (detects) | 0.471 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 0.375 |
| Maximum | 15 | Median | 0.078 |
| SD | 1.505 | CV | 4.013 |
| k hat (MLE) | 0.419 | k star (bias corrected MLE) | 0.414 |
| Theta hat (MLE) | 0.895 | Theta star (bias corrected MLE) | 0.906 |
| nu hat (MLE) | 101.4 | nu star (bias corrected) | 100.2 |
| Adjusted Level of Significance (β) | 0.048 | | |
| Approximate Chi Square Value (100.22, α) | 78.13 | Adjusted Chi Square Value (100.22, β) | 77.89 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.481 | 95% Gamma Adjusted UCL (use when n<50) | 0.483 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.39 | SD (KM) | 1.498 |
| Variance (KM) | 2.243 | SE of Mean (KM) | 0.137 |
| k hat (KM) | 0.0679 | k star (KM) | 0.0717 |
| nu hat (KM) | 16.43 | nu star (KM) | 17.36 |
| theta hat (KM) | 5.747 | theta star (KM) | 5.441 |
| 80% gamma percentile (KM) | 0.148 | 90% gamma percentile (KM) | 0.858 |
| 95% gamma percentile (KM) | 2.251 | 99% gamma percentile (KM) | 7.272 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (17.36, α) | 8.928 | Adjusted Chi Square Value (17.36, β) | 8.855 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.759 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.765 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.922 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 6.2918E-6 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.117 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0911 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.389 | Mean in Log Scale | -2.153 |
| SD in Original Scale | 1.502 | SD in Log Scale | 1.188 |
| 95% t UCL (assumes normality of ROS data) | 0.615 | 95% Percentile Bootstrap UCL | 0.632 |
| 95% BCA Bootstrap UCL | 0.771 | 95% Bootstrap t UCL | 1.16 |
| 95% H-UCL (Log ROS) | 0.304 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -2.174 | KM Geo Mean | 0.114 |
| KM SD (logged) | 1.206 | 95% Critical H Value (KM-Log) | 2.377 |
| KM Standard Error of Mean (logged) | 0.115 | 95% H-UCL (KM -Log) | 0.305 |
| KM SD (logged) | 1.206 | 95% Critical H Value (KM-Log) | 2.377 |
| KM Standard Error of Mean (logged) | 0.115 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.445 | Mean in Log Scale | -2.015 |
| SD in Original Scale | 1.551 | SD in Log Scale | 1.219 |
| 95% t UCL (Assumes normality) | 0.678 | 95% H-Stat UCL | 0.365 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 0.988 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

NAPHTHALENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 121 | Number of Distinct Observations | 63 |
| | | Number of Missing Observations | 82 |
| Number of Detects | 65 | Number of Non-Detects | 56 |
| Number of Distinct Detects | 56 | Number of Distinct Non-Detects | 9 |
| Minimum Detect | 0.0032 | Minimum Non-Detect | 0.18 |
| Maximum Detect | 9.8 | Maximum Non-Detect | 9.3 |
| Variance Detects | 4.515 | Percent Non-Detects | 46.28% |
| Mean Detects | 0.817 | SD Detects | 2.125 |
| Median Detects | 0.055 | CV Detects | 2.601 |
| Skewness Detects | 3.318 | Kurtosis Detects | 10.58 |
| Mean of Logged Detects | -2.522 | SD of Logged Detects | 2.093 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.435 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.373 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.11 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.463 | KM Standard Error of Mean | 0.146 |
| KM SD | 1.595 | 95% KM (BCA) UCL | 0.725 |
| 95% KM (t) UCL | 0.705 | 95% KM (Percentile Bootstrap) UCL | 0.733 |
| 95% KM (z) UCL | 0.703 | 95% KM Bootstrap t UCL | 0.82 |
| 90% KM Chebyshev UCL | 0.902 | 95% KM Chebyshev UCL | 1.101 |
| 97.5% KM Chebyshev UCL | 1.377 | 99% KM Chebyshev UCL | 1.92 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 5.96 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.866 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.289 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.12 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.298 | k star (bias corrected MLE) | 0.294 |
| Theta hat (MLE) | 2.745 | Theta star (bias corrected MLE) | 2.778 |
| nu hat (MLE) | 38.69 | nu star (bias corrected) | 38.24 |
| Mean (detects) | 0.817 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0032 | Mean | 0.488 |
| Maximum | 9.8 | Median | 0.017 |
| SD | 1.6 | CV | 3.279 |
| k hat (MLE) | 0.287 | k star (bias corrected MLE) | 0.286 |
| Theta hat (MLE) | 1.698 | Theta star (bias corrected MLE) | 1.708 |
| nu hat (MLE) | 69.55 | nu star (bias corrected) | 69.16 |
| Adjusted Level of Significance (β) | 0.048 | | |
| Approximate Chi Square Value (69.16, α) | 51.02 | Adjusted Chi Square Value (69.16, β) | 50.83 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.662 | 95% Gamma Adjusted UCL (use when n<50) | 0.664 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.463 | SD (KM) | 1.595 |
| Variance (KM) | 2.545 | SE of Mean (KM) | 0.146 |
| k hat (KM) | 0.0841 | k star (KM) | 0.0875 |
| nu hat (KM) | 20.34 | nu star (KM) | 21.17 |
| theta hat (KM) | 5.503 | theta star (KM) | 5.287 |
| 80% gamma percentile (KM) | 0.259 | 90% gamma percentile (KM) | 1.155 |
| 95% gamma percentile (KM) | 2.695 | 99% gamma percentile (KM) | 7.848 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (21.17, α) | 11.72 | Adjusted Chi Square Value (21.17, β) | 11.63 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.836 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.842 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.924 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 5.7132E-4 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.147 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.11 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.469 | Mean in Log Scale | -2.919 |
| SD in Original Scale | 1.598 | SD in Log Scale | 1.802 |
| 95% t UCL (assumes normality of ROS data) | 0.709 | 95% Percentile Bootstrap UCL | 0.738 |
| 95% BCA Bootstrap UCL | 0.794 | 95% Bootstrap t UCL | 0.869 |
| 95% H-UCL (Log ROS) | 0.449 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -2.996 | KM Geo Mean | 0.05 |
| KM SD (logged) | 1.772 | 95% Critical H Value (KM-Log) | 2.983 |
| KM Standard Error of Mean (logged) | 0.191 | 95% H-UCL (KM -Log) | 0.389 |
| KM SD (logged) | 1.772 | 95% Critical H Value (KM-Log) | 2.983 |
| KM Standard Error of Mean (logged) | 0.191 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.524 | Mean in Log Scale | -2.389 |
| SD in Original Scale | 1.637 | SD in Log Scale | 1.579 |
| 95% t UCL (Assumes normality) | 0.77 | 95% H-Stat UCL | 0.475 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 1.101 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**BENZENE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 64 | Number of Distinct Observations | 33 |
| | | Number of Missing Observations | 139 |
| Number of Detects | 8 | Number of Non-Detects | 56 |
| Number of Distinct Detects | 8 | Number of Distinct Non-Detects | 27 |
| Minimum Detect | 0.0013 | Minimum Non-Detect | 0.0044 |
| Maximum Detect | 4.2 | Maximum Non-Detect | 59 |

| | | | |
|---|---|---|---|
| Variance Detects | 2.1 | Percent Non-Detects | 87.5% |
| Mean Detects | 0.624 | SD Detects | 1.449 |
| Median Detects | 0.128 | CV Detects | 2.322 |
| Skewness Detects | 2.796 | Kurtosis Detects | 7.863 |
| Mean of Logged Detects | -2.784 | SD of Logged Detects | 2.65 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.487 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.818 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.463 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.283 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.0885 | KM Standard Error of Mean | 0.0756 |
| KM SD | 0.543 | 95% KM (BCA) UCL | 0.243 |
| 95% KM (t) UCL | 0.215 | 95% KM (Percentile Bootstrap) UCL | 0.231 |
| 95% KM (z) UCL | 0.213 | 95% KM Bootstrap t UCL | 1.114 |
| 90% KM Chebyshev UCL | 0.315 | 95% KM Chebyshev UCL | 0.418 |
| 97.5% KM Chebyshev UCL | 0.56 | 99% KM Chebyshev UCL | 0.84 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.507 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.798 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.271 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.317 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.298 | k star (bias corrected MLE) | 0.27 |
| Theta hat (MLE) | 2.09 | Theta star (bias corrected MLE) | 2.312 |
| nu hat (MLE) | 4.776 | nu star (bias corrected) | 4.318 |
| Mean (detects) | 0.624 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0013 | Mean | 0.0867 |
| Maximum | 4.2 | Median | 0.01 |
| SD | 0.525 | CV | 6.047 |
| k hat (MLE) | 0.348 | k star (bias corrected MLE) | 0.342 |
| Theta hat (MLE) | 0.249 | Theta star (bias corrected MLE) | 0.253 |
| nu hat (MLE) | 44.57 | nu star (bias corrected) | 43.82 |
| Adjusted Level of Significance (β) | 0.0463 | | |
| Approximate Chi Square Value (43.82, α) | 29.64 | Adjusted Chi Square Value (43.82, β) | 29.37 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.128 | 95% Gamma Adjusted UCL (use when n<50) | 0.129 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.0885 | SD (KM) | 0.543 |
| Variance (KM) | 0.294 | SE of Mean (KM) | 0.0756 |
| k hat (KM) | 0.0266 | k star (KM) | 0.0358 |
| nu hat (KM) | 3.403 | nu star (KM) | 4.577 |
| theta hat (KM) | 3.328 | theta star (KM) | 2.474 |
| 80% gamma percentile (KM) | 0.00279 | 90% gamma percentile (KM) | 0.0774 |
| 95% gamma percentile (KM) | 0.395 | 99% gamma percentile (KM) | 2.17 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (4.58, α) | 0.962 | Adjusted Chi Square Value (4.58, β) | 0.925 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.421 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.438 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.955 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.818 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.191 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.283 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.0807 | Mean in Log Scale | -5.922 |
| SD in Original Scale | 0.525 | SD in Log Scale | 1.863 |
| 95% t UCL (assumes normality of ROS data) | 0.19 | 95% Percentile Bootstrap UCL | 0.212 |
| 95% BCA Bootstrap UCL | 0.281 | 95% Bootstrap t UCL | 1.232 |
| 95% H-UCL (Log ROS) | 0.0299 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -5.642 | KM Geo Mean | 0.00355 |
| KM SD (logged) | 1.589 | 95% Critical H Value (KM-Log) | 2.562 |
| KM Standard Error of Mean (logged) | 0.398 | 95% H-UCL (KM -Log) | 0.0209 |
| KM SD (logged) | 1.589 | 95% Critical H Value (KM-Log) | 2.562 |
| KM Standard Error of Mean (logged) | 0.398 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.04 | Mean in Log Scale | -4.183 |
| SD in Original Scale | 4.123 | SD in Log Scale | 2.713 |
| 95% t UCL (Assumes normality) | 1.901 | 95% H-Stat UCL | 2.011 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM Approximate Gamma UCL | 0.421 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

ETHYLBENZENE

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 64 | Number of Distinct Observations | 39 |
| | | Number of Missing Observations | 139 |
| Number of Detects | 21 | Number of Non-Detects | 43 |
| Number of Distinct Detects | 20 | Number of Distinct Non-Detects | 21 |
| Minimum Detect | 9.4000E-5 | Minimum Non-Detect | 0.0044 |
| Maximum Detect | 180 | Maximum Non-Detect | 25 |
| Variance Detects | 2300 | Percent Non-Detects | 67.19% |
| Mean Detects | 18.26 | SD Detects | 47.96 |
| Median Detects | 0.56 | CV Detects | 2.626 |
| Skewness Detects | 2.981 | Kurtosis Detects | 8.054 |
| Mean of Logged Detects | -0.689 | SD of Logged Detects | 3.721 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.43 | Shapiro Wilk GOF Test |
| 5% Shapiro Wilk Critical Value | 0.908 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.402 | Lilliefors GOF Test |
| 5% Lilliefors Critical Value | 0.188 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 6.01 | KM Standard Error of Mean | 3.606 |
| KM SD | 28.15 | 95% KM (BCA) UCL | 12.38 |
| 95% KM (t) UCL | 12.03 | 95% KM (Percentile Bootstrap) UCL | 12.36 |
| 95% KM (z) UCL | 11.94 | 95% KM Bootstrap t UCL | 50.51 |
| 90% KM Chebyshev UCL | 16.83 | 95% KM Chebyshev UCL | 21.73 |
| 97.5% KM Chebyshev UCL | 28.53 | 99% KM Chebyshev UCL | 41.89 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 1.008 | Anderson-Darling GOF Test |
| 5% A-D Critical Value | 0.894 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.233 | Kolmogorov-Smirnov GOF |
| 5% K-S Critical Value | 0.21 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.204 | k star (bias corrected MLE) | 0.207 |
| Theta hat (MLE) | 89.45 | Theta star (bias corrected MLE) | 88.34 |
| nu hat (MLE) | 8.573 | nu star (bias corrected) | 8.682 |
| Mean (detects) | 18.26 | | |

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 9.4000E-5 | Mean | 5.998 |
| Maximum | 180 | Median | 0.01 |
| SD | 28.37 | CV | 4.729 |
| k hat (MLE) | 0.15 | k star (bias corrected MLE) | 0.154 |
| Theta hat (MLE) | 39.9 | Theta star (bias corrected MLE) | 39.03 |
| nu hat (MLE) | 19.24 | nu star (bias corrected) | 19.67 |
| Adjusted Level of Significance (β) | 0.0463 | | |
| Approximate Chi Square Value (19.67, α) | 10.61 | Adjusted Chi Square Value (19.67, β) | 10.46 |
| 95% Gamma Approximate UCL (use when n>=50) | 11.12 | 95% Gamma Adjusted UCL (use when n<50) | 11.29 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 6.01 | SD (KM) | 28.15 |
| Variance (KM) | 792.3 | SE of Mean (KM) | 3.606 |
| k hat (KM) | 0.0456 | k star (KM) | 0.0539 |
| nu hat (KM) | 5.835 | nu star (KM) | 6.895 |
| theta hat (KM) | 131.8 | theta star (KM) | 111.6 |
| 80% gamma percentile (KM) | 1.048 | 90% gamma percentile (KM) | 10.06 |
| 95% gamma percentile (KM) | 32.76 | 99% gamma percentile (KM) | 126.9 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (6.89, α) | 2.113 | Adjusted Chi Square Value (6.89, β) | 2.053 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 19.61 | 95% Gamma Adjusted KM-UCL (use when n<50) | 20.19 |

**Lognormal GOF Test on Detected Observations Only**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.936 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.908 | Detected Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.175 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.188 | Detected Data appear Lognormal at 5% Significance Level | |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 5.992 | Mean in Log Scale | -5.744 |
| SD in Original Scale | 28.37 | SD in Log Scale | 4.461 |
| 95% t UCL (assumes normality of ROS data) | 11.91 | 95% Percentile Bootstrap UCL | 12.46 |
| 95% BCA Bootstrap UCL | 15.81 | 95% Bootstrap t UCL | 51.61 |
| 95% H-UCL (Log ROS) | 1987 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -6.043 | KM Geo Mean | 0.00237 |
| KM SD (logged) | 4.379 | 95% Critical H Value (KM-Log) | 5.908 |
| KM Standard Error of Mean (logged) | 0.614 | 95% H-UCL (KM -Log) | 900.3 |
| KM SD (logged) | 4.379 | 95% Critical H Value (KM-Log) | 5.908 |
| KM Standard Error of Mean (logged) | 0.614 | | |

**DL/2 Statistics**

| DL/2 Normal | | DL/2 Log-Transformed | |
|---|---|---|---|
| Mean in Original Scale | 6.213 | Mean in Log Scale | -3.784 |
| SD in Original Scale | 28.36 | SD in Log Scale | 3.372 |
| 95% t UCL (Assumes normality) | 12.13 | 95% H-Stat UCL | 44.57 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 99% KM (Chebyshev) UCL | 41.89 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

METHYLCYCLOHEXANE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 50 | Number of Distinct Observations | 32 |
| | | Number of Missing Observations | 104 |
| Number of Detects | 19 | Number of Non-Detects | 31 |
| Number of Distinct Detects | 19 | Number of Distinct Non-Detects | 13 |
| Minimum Detect | 0.0042 | Minimum Non-Detect | 0.0044 |
| Maximum Detect | 2900 | Maximum Non-Detect | 0.3 |
| Variance Detects | 447248 | Percent Non-Detects | 62% |
| Mean Detects | 194.7 | SD Detects | 668.8 |
| Median Detects | 0.75 | CV Detects | 3.435 |
| Skewness Detects | 4.099 | Kurtosis Detects | 17.23 |
| Mean of Logged Detects | 0.318 | SD of Logged Detects | 3.73 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.331 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.901 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.435 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.197 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 73.98 | KM Standard Error of Mean | 59.9 |
| KM SD | 412.2 | 95% KM (BCA) UCL | 189.8 |
| 95% KM (t) UCL | 174.4 | 95% KM (Percentile Bootstrap) UCL | 187.2 |
| 95% KM (z) UCL | 172.5 | 95% KM Bootstrap t UCL | 1461 |
| 90% KM Chebyshev UCL | 253.7 | 95% KM Chebyshev UCL | 335.1 |
| 97.5% KM Chebyshev UCL | 448 | 99% KM Chebyshev UCL | 669.9 |

**Gamma GOF Tests on Detected Observations Only**

| | | | |
|---|---|---|---|
| A-D Test Statistic | 1.745 | **Anderson-Darling GOF Test** | |
| 5% A-D Critical Value | 0.933 | Detected Data Not Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.266 | **Kolmogorov-Smirnov GOF** | |
| 5% K-S Critical Value | 0.223 | Detected Data Not Gamma Distributed at 5% Significance Level | |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.154 | k star (bias corrected MLE) | 0.165 |
| Theta hat (MLE) | 1260 | Theta star (bias corrected MLE) | 1179 |
| nu hat (MLE) | 5.871 | nu star (bias corrected) | 6.277 |
| Mean (detects) | 194.7 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0042 | Mean | 73.99 |
| Maximum | 2900 | Median | 0.01 |
| SD | 416.4 | CV | 5.628 |
| k hat (MLE) | 0.114 | k star (bias corrected MLE) | 0.12 |
| Theta hat (MLE) | 651.8 | Theta star (bias corrected MLE) | 616.4 |
| nu hat (MLE) | 11.35 | nu star (bias corrected) | 12 |
| Adjusted Level of Significance (β) | 0.0452 | | |
| Approximate Chi Square Value (12.00, α) | 5.229 | Adjusted Chi Square Value (12.00, β) | 5.096 |
| 95% Gamma Approximate UCL (use when n>=50) | 169.8 | 95% Gamma Adjusted UCL (use when n<50) | 174.3 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 73.98 | SD (KM) | 412.2 |
| Variance (KM) | 169939 | SE of Mean (KM) | 59.9 |
| k hat (KM) | 0.0322 | k star (KM) | 0.0436 |
| nu hat (KM) | 3.221 | nu star (KM) | 4.361 |
| theta hat (KM) | 2297 | theta star (KM) | 1696 |
| 80% gamma percentile (KM) | 5.934 | 90% gamma percentile (KM) | 92.75 |
| 95% gamma percentile (KM) | 371.5 | 99% gamma percentile (KM) | 1695 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (4.36, α) | 0.869 | Adjusted Chi Square Value (4.36, β) | 0.826 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 371.2 | 95% Gamma Adjusted KM-UCL (use when n<50) | 390.8 |

**Lognormal GOF Test on Detected Observations Only**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.959 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.901 | Detected Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.128 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.197 | Detected Data appear Lognormal at 5% Significance Level | |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 73.98 | Mean in Log Scale | -5.192 |
| SD in Original Scale | 416.4 | SD in Log Scale | 5.27 |
| 95% t UCL (assumes normality of ROS data) | 172.7 | 95% Percentile Bootstrap UCL | 181.7 |
| 95% BCA Bootstrap UCL | 257.2 | 95% Bootstrap t UCL | 1441 |
| 95% H-UCL (Log ROS) | 3811521 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -3.269 | KM Geo Mean | 0.038 |
| KM SD (logged) | 3.592 | 95% Critical H Value (KM-Log) | 5.983 |
| KM Standard Error of Mean (logged) | 0.522 | 95% H-UCL (KM -Log) | 518.3 |
| KM SD (logged) | 3.592 | 95% Critical H Value (KM-Log) | 5.983 |
| KM Standard Error of Mean (logged) | 0.522 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 73.98 | Mean in Log Scale | -3.499 |
| SD in Original Scale | 416.4 | SD in Log Scale | 3.815 |
| 95% t UCL (Assumes normality) | 172.7 | 95% H-Stat UCL | 1374 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 99% KM (Chebyshev) UCL | 669.9 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

TRICHLOROETHYLENE (TCE)

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 63 | Number of Distinct Observations | 33 |
| | | Number of Missing Observations | 140 |
| Number of Detects | 6 | Number of Non-Detects | 57 |
| Number of Distinct Detects | 6 | Number of Distinct Non-Detects | 28 |
| Minimum Detect | 0.006 | Minimum Non-Detect | 0.0044 |
| Maximum Detect | 0.55 | Maximum Non-Detect | 59 |
| Variance Detects | 0.0445 | Percent Non-Detects | 90.48% |
| Mean Detects | 0.125 | SD Detects | 0.211 |
| Median Detects | 0.0475 | CV Detects | 1.686 |
| Skewness Detects | 2.303 | Kurtosis Detects | 5.424 |
| Mean of Logged Detects | -3.217 | SD of Logged Detects | 1.694 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.64 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.788 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.396 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.325 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.0183 | KM Standard Error of Mean | 0.0112 |
| KM SD | 0.0747 | 95% KM (BCA) UCL | 0.0407 |
| 95% KM (t) UCL | 0.037 | 95% KM (Percentile Bootstrap) UCL | 0.0379 |
| 95% KM (z) UCL | 0.0367 | 95% KM Bootstrap t UCL | 0.0905 |
| 90% KM Chebyshev UCL | 0.0519 | 95% KM Chebyshev UCL | 0.0671 |
| 97.5% KM Chebyshev UCL | 0.0882 | 99% KM Chebyshev UCL | 0.13 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.407 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.733 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.237 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.348 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.55 | k star (bias corrected MLE) | 0.386 |
| Theta hat (MLE) | 0.228 | Theta star (bias corrected MLE) | 0.324 |
| nu hat (MLE) | 6.595 | nu star (bias corrected) | 4.631 |
| Mean (detects) | 0.125 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.006 | Mean | 0.021 |
| Maximum | 0.55 | Median | 0.01 |
| SD | 0.0689 | CV | 3.288 |
| k hat (MLE) | 0.954 | k star (bias corrected MLE) | 0.919 |
| Theta hat (MLE) | 0.022 | Theta star (bias corrected MLE) | 0.0228 |
| nu hat (MLE) | 120.2 | nu star (bias corrected) | 115.8 |
| Adjusted Level of Significance (β) | 0.0462 | | |
| Approximate Chi Square Value (115.85, α) | 92 | Adjusted Chi Square Value (115.85, β) | 91.5 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.0264 | 95% Gamma Adjusted UCL (use when n<50) | 0.0265 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.0183 | SD (KM) | 0.0747 |
| Variance (KM) | 0.00559 | SE of Mean (KM) | 0.0112 |
| k hat (KM) | 0.0602 | k star (KM) | 0.0679 |
| nu hat (KM) | 7.589 | nu star (KM) | 8.561 |

| | | | |
|---|---|---|---|
| theta hat (KM) | 0.305 | theta star (KM) | 0.27 |
| 80% gamma percentile (KM) | 0.00612 | 90% gamma percentile (KM) | 0.0386 |
| 95% gamma percentile (KM) | 0.105 | 99% gamma percentile (KM) | 0.35 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (8.56, α) | 3.064 | Adjusted Chi Square Value (8.56, β) | 2.987 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.0512 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.0526 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.947 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.788 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.163 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.325 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.012 | Mean in Log Scale | -9.549 |
| SD in Original Scale | 0.0704 | SD in Log Scale | 2.727 |
| 95% t UCL (assumes normality of ROS data) | 0.0269 | 95% Percentile Bootstrap UCL | 0.0297 |
| 95% BCA Bootstrap UCL | 0.0415 | 95% Bootstrap t UCL | 0.0961 |
| 95% H-UCL (Log ROS) | 0.0102 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -5.155 | KM Geo Mean | 0.00577 |
| KM SD (logged) | 0.891 | 95% Critical H Value (KM-Log) | 2.174 |
| KM Standard Error of Mean (logged) | 0.138 | 95% H-UCL (KM -Log) | 0.011 |
| KM SD (logged) | 0.891 | 95% Critical H Value (KM-Log) | 2.174 |
| KM Standard Error of Mean (logged) | 0.138 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.013 | Mean in Log Scale | -4.188 |
| SD in Original Scale | 4.134 | SD in Log Scale | 2.699 |
| 95% t UCL (Assumes normality) | 1.883 | 95% H-Stat UCL | 1.958 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM Approximate Gamma UCL | 0.0512 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

| Analyte | Group | Matrix | Valid Obs | Rec. UCL | Method | Max | UCL>Max |
|---|---|---|---|---|---|---|---|
| CHROMIUM, HEXAVALENT | NA | NA | 31 | 0.821 | 95% KM Adjusted Gamma UCL | 2.2 | |

0-2soil_Cr6_NFA no outliers.xlsx

## UCL Statistics for Data Sets with Non-Detects

**0-2soil_Cr6_NFA no outliers.xlsx**

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.11/12/2017 10:17:48 AM |
| From File | ProUCL_FMPHHRA_01.12.17 input_c.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**CHROMIUM, HEXAVALENT**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 31 | Number of Distinct Observations | 21 |
| | | Number of Missing Observations | 155 |
| Number of Detects | 17 | Number of Non-Detects | 14 |
| Number of Distinct Detects | 16 | Number of Distinct Non-Detects | 5 |
| Minimum Detect | 0.38 | Minimum Non-Detect | 0.205 |
| Maximum Detect | 2.2 | Maximum Non-Detect | 0.225 |
| Variance Detects | 0.278 | Percent Non-Detects | 45.16% |
| Mean Detects | 0.934 | SD Detects | 0.527 |
| Median Detects | 0.72 | CV Detects | 0.564 |
| Skewness Detects | 1.407 | Kurtosis Detects | 1.053 |
| Mean of Logged Detects | -0.192 | SD of Logged Detects | 0.494 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.82 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.892 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.239 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.207 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.605 | KM Standard Error of Mean | 0.0971 |
| KM SD | 0.525 | 95% KM (BCA) UCL | 0.773 |
| 95% KM (t) UCL | 0.77 | 95% KM (Percentile Bootstrap) UCL | 0.766 |
| 95% KM (z) UCL | 0.765 | 95% KM Bootstrap t UCL | 0.821 |
| 90% KM Chebyshev UCL | 0.896 | 95% KM Chebyshev UCL | 1.028 |
| 97.5% KM Chebyshev UCL | 1.211 | 99% KM Chebyshev UCL | 1.571 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.743 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.743 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.184 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.21 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data follow Appr. Gamma Distribution at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 4.182 | k star (bias corrected MLE) | 3.483 |
| Theta hat (MLE) | 0.223 | Theta star (bias corrected MLE) | 0.268 |

| | | | |
|---|---|---|---|
| nu hat (MLE) | 142.2 | nu star (bias corrected) | 118.4 |
| Mean (detects) | 0.934 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 0.526 |
| Maximum | 2.2 | Median | 0.51 |
| SD | 0.598 | CV | 1.137 |
| k hat (MLE) | 0.486 | k star (bias corrected MLE) | 0.461 |
| Theta hat (MLE) | 1.082 | Theta star (bias corrected MLE) | 1.142 |
| nu hat (MLE) | 30.15 | nu star (bias corrected) | 28.56 |
| Adjusted Level of Significance (β) | 0.0413 | | |
| Approximate Chi Square Value (28.56, α) | 17.37 | Adjusted Chi Square Value (28.56, β) | 16.88 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.866 | 95% Gamma Adjusted UCL (use when n<50) | 0.89 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.605 | SD (KM) | 0.525 |
| Variance (KM) | 0.275 | SE of Mean (KM) | 0.0971 |
| k hat (KM) | 1.33 | k star (KM) | 1.222 |
| nu hat (KM) | 82.43 | nu star (KM) | 75.79 |
| theta hat (KM) | 0.455 | theta star (KM) | 0.495 |
| 80% gamma percentile (KM) | 0.956 | 90% gamma percentile (KM) | 1.325 |
| 95% gamma percentile (KM) | 1.689 | 99% gamma percentile (KM) | 2.522 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (75.79, α) | 56.74 | Adjusted Chi Square Value (75.79, β) | 55.82 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.808 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.821 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.935 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.892 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.154 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.207 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.617 | Mean in Log Scale | -0.783 |
| SD in Original Scale | 0.525 | SD in Log Scale | 0.781 |
| 95% t UCL (assumes normality of ROS data) | 0.778 | 95% Percentile Bootstrap UCL | 0.784 |
| 95% BCA Bootstrap UCL | 0.804 | 95% Bootstrap t UCL | 0.826 |
| 95% H-UCL (Log ROS) | 0.846 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -0.821 | KM Geo Mean | 0.44 |
| KM SD (logged) | 0.778 | 95% Critical H Value (KM-Log) | 2.18 |

| | | | |
|---|---|---|---|
| KM Standard Error of Mean (logged) | 0.144 | 95% H-UCL (KM -Log) | 0.812 |
| KM SD (logged) | 0.778 | 95% Critical H Value (KM-Log) | 2.18 |
| KM Standard Error of Mean (logged) | 0.144 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.561 | Mean in Log Scale | -1.108 |
| SD in Original Scale | 0.568 | SD in Log Scale | 1.087 |
| 95% t UCL (Assumes normality) | 0.735 | 95% H-Stat UCL | 0.985 |

**DL/2 is not a recommended method, provided for comparisons and historical reasons**

**Nonparametric Distribution Free UCL Statistics**

**Detected Data appear Approximate Gamma Distributed at 5% Significance Level**

**Suggested UCL to Use**

| | | | |
|---|---|---|---|
| 95% KM Adjusted Gamma UCL | 0.821 | 95% GROS Adjusted Gamma UCL | 0.89 |

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

| Analyte | Group | Matrix | Valid Obs | Rec. UCL | Method | Max | UCL>Max |
|---|---|---|---|---|---|---|---|
| ALUMINUM | NA | NA | 54 | 2822 | 95% H-UCL | 10100 | |
| ANTIMONY | NA | NA | 54 | 119 | 95% KM (Chebyshev) UCL | 1090 | |
| ARSENIC | NA | NA | 45 | 30 | Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1) | 142 | |
| BARIUM | NA | NA | 61 | 625 | KM H-UCL | 3980 | |
| CADMIUM | NA | NA | 51 | 1.2 | KM H-UCL | 401 | |
| CHROMIUM, HEXAVALENT | NA | NA | 20 | 2.1 | 95% KM (Chebyshev) UCL | 6.2 | |
| COBALT | NA | NA | 54 | 2.2 | 95% KM Approximate Gamma UCL | 6.9 | |
| CYANIDE | NA | NA | 59 | 7.8 | 95% KM Approximate Gamma UCL | 32.8 | |
| IRON | NA | NA | 50 | 8483 | 95% H-UCL | 28100 | |
| LEAD | NA | NA | 68 | 1318 | 95% H-UCL | 103000 | |
| MANGANESE | NA | NA | 50 | 91 | 95% H-UCL | 524 | |
| THALLIUM | NA | NA | 54 | 0.35 | 95% KM (t) UCL | 0.66 | |
| VANADIUM | NA | NA | 54 | 13 | 95% H-UCL | 45.4 | |
| ZINC | NA | NA | 54 | 445 | KM H-UCL | 12300 | |
| AROCLOR-1254 | NA | NA | 37 | 0.054 | KM H-UCL | 0.49 | |
| BENZO(A)ANTHRACENE | NA | NA | 59 | 11 | KM H-UCL | 32 | |
| BENZO(A)PYRENE | NA | NA | 59 | 12 | KM H-UCL | 37 | |
| BENZO(B)FLUORANTHENE | NA | NA | 59 | 18 | KM H-UCL | 44 | |
| BENZO(K)FLUORANTHENE | NA | NA | 59 | 8.7 | KM H-UCL | 41 | |
| CHRYSENE | NA | NA | 59 | 15 | KM H-UCL | 55 | |
| DIBENZO(A,H)ANTHRACENE | NA | NA | 59 | 1.6 | KM H-UCL | 14 | |
| INDENO(1,2,3-CD)PYRENE | NA | NA | 58 | 5.6 | KM H-UCL | 37 | |
| NAPHTHALENE | NA | NA | 59 | 5.3 | 97.5% KM (Chebyshev) UCL | 31 | |
| BENZENE | NA | NA | 30 | 0.28 | 95% KM (t) UCL | 2.1 | |
| ETHYLBENZENE | NA | NA | 30 | 6.9 | Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1) | 29 | |
| XYLENES (TOTAL) | NA | NA | 30 | 96 | 97.5% KM (Chebyshev) UCL | 370 | |

0-2soil_SFA.xlsx

**UCL Statistics for Data Sets with Non-Detects**

**0-2soil_SFA.xlsx**

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.11/9/2017 3:44:51 PM |
| From File | ProUCL_FMPHHRA_01.09.17 input_d.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**ALUMINUM**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 54 | Number of Distinct Observations | 50 |
| | | Number of Missing Observations | 49 |
| Minimum | 516 | Mean | 2414 |
| Maximum | 10100 | Median | 1895 |
| SD | 1793 | Std. Error of Mean | 244.1 |
| Coefficient of Variation | 0.743 | Skewness | 2.275 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.77 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 8.269E-11 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.227 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.12 | Data Not Normal at 5% Significance Level |

**Data Not Normal at 5% Significance Level**

**Assuming Normal Distribution**

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 2822 | 95% Adjusted-CLT UCL (Chen-1995) | 2896 |
| | | 95% Modified-t UCL (Johnson-1978) | 2835 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 1.264 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.759 | Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.161 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.122 | Data Not Gamma Distributed at 5% Significance Level |

**Data Not Gamma Distributed at 5% Significance Level**

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 2.663 | k star (bias corrected MLE) | 2.527 |
| Theta hat (MLE) | 906.6 | Theta star (bias corrected MLE) | 955.2 |
| nu hat (MLE) | 287.6 | nu star (bias corrected) | 272.9 |
| MLE Mean (bias corrected) | 2414 | MLE Sd (bias corrected) | 1518 |
| | | Approximate Chi Square Value (0.05) | 235.7 |
| Adjusted Level of Significance | 0.0456 | Adjusted Chi Square Value | 234.7 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 2795 | 95% Adjusted Gamma UCL (use when n<50) | 2807 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.973 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk P Value | 0.445 | Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.116 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.12 | Data appear Lognormal at 5% Significance Level |

Data appear Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | 6.246 | Mean of logged Data | 7.59 |
| Maximum of Logged Data | 9.22 | SD of logged Data | 0.616 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 2822 | 90% Chebyshev (MVUE) UCL | 3024 |
| 95% Chebyshev (MVUE) UCL | 3316 | 97.5% Chebyshev (MVUE) UCL | 3721 |
| 99% Chebyshev (MVUE) UCL | 4516 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 2815 | 95% Jackknife UCL | 2822 |
| 95% Standard Bootstrap UCL | 2810 | 95% Bootstrap-t UCL | 2939 |
| 95% Hall's Bootstrap UCL | 2942 | 95% Percentile Bootstrap UCL | 2838 |
| 95% BCA Bootstrap UCL | 2903 | | |
| 90% Chebyshev(Mean, Sd) UCL | 3146 | 95% Chebyshev(Mean, Sd) UCL | 3478 |
| 97.5% Chebyshev(Mean, Sd) UCL | 3938 | 99% Chebyshev(Mean, Sd) UCL | 4842 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% H-UCL | 2822 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

ANTIMONY

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 54 | Number of Distinct Observations | 45 |
| | | Number of Missing Observations | 49 |
| Number of Detects | 33 | Number of Non-Detects | 21 |
| Number of Distinct Detects | 32 | Number of Distinct Non-Detects | 14 |
| Minimum Detect | 0.3 | Minimum Non-Detect | 0.235 |

| | | | |
|---|---|---|---|
| Maximum Detect | 1090 | Maximum Non-Detect | 3.15 |
| Variance Detects | 36095 | Percent Non-Detects | 38.89% |
| Mean Detects | 47.49 | SD Detects | 190 |
| Median Detects | 1.9 | CV Detects | 4 |
| Skewness Detects | 5.491 | Kurtosis Detects | 30.89 |
| Mean of Logged Detects | 1.163 | SD of Logged Detects | 2.065 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.267 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.931 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.402 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.152 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 29.3 | KM Standard Error of Mean | 20.46 |
| KM SD | 148 | 95% KM (BCA) UCL | 69.9 |
| 95% KM (t) UCL | 63.55 | 95% KM (Percentile Bootstrap) UCL | 68.99 |
| 95% KM (z) UCL | 62.95 | 95% KM Bootstrap t UCL | 253.2 |
| 90% KM Chebyshev UCL | 90.67 | 95% KM Chebyshev UCL | 118.5 |
| 97.5% KM Chebyshev UCL | 157 | 99% KM Chebyshev UCL | 232.8 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 3.9 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.875 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.275 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.168 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.261 | k star (bias corrected MLE) | 0.258 |
| Theta hat (MLE) | 181.7 | Theta star (bias corrected MLE) | 184.2 |
| nu hat (MLE) | 17.25 | nu star (bias corrected) | 17.02 |
| Mean (detects) | 47.49 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 29.03 |
| Maximum | 1090 | Median | 0.52 |
| SD | 149.5 | CV | 5.149 |
| k hat (MLE) | 0.17 | k star (bias corrected MLE) | 0.173 |
| Theta hat (MLE) | 171.1 | Theta star (bias corrected MLE) | 168.2 |
| nu hat (MLE) | 18.32 | nu star (bias corrected) | 18.64 |
| Adjusted Level of Significance (β) | 0.0456 | | |
| Approximate Chi Square Value (18.64, α) | 9.853 | Adjusted Chi Square Value (18.64, β) | 9.677 |

| | | | |
|---|---|---|---|
| 95% Gamma Approximate UCL (use when n>=50) | 54.91 | 95% Gamma Adjusted UCL (use when n<50) | 55.9 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 29.3 | SD (KM) | 148 |
| Variance (KM) | 21909 | SE of Mean (KM) | 20.46 |
| k hat (KM) | 0.0392 | k star (KM) | 0.0494 |
| nu hat (KM) | 4.233 | nu star (KM) | 5.331 |
| theta hat (KM) | 747.7 | theta star (KM) | 593.7 |
| 80% gamma percentile (KM) | 3.796 | 90% gamma percentile (KM) | 43.97 |
| 95% gamma percentile (KM) | 155.1 | 99% gamma percentile (KM) | 640.7 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (5.33, α) | 1.308 | Adjusted Chi Square Value (5.33, β) | 1.255 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 119.4 | 95% Gamma Adjusted KM-UCL (use when n<50) | 124.5 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.899 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.931 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.167 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.152 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 29.28 | Mean in Log Scale | 0.348 |
| SD in Original Scale | 149.4 | SD in Log Scale | 2.049 |
| 95% t UCL (assumes normality of ROS data) | 63.32 | 95% Percentile Bootstrap UCL | 69.32 |
| 95% BCA Bootstrap UCL | 95.39 | 95% Bootstrap t UCL | 284.1 |
| 95% H-UCL (Log ROS) | 32.96 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 0.477 | KM Geo Mean | 1.611 |
| KM SD (logged) | 1.86 | 95% Critical H Value (KM-Log) | 3.46 |
| KM Standard Error of Mean (logged) | 0.267 | 95% H-UCL (KM -Log) | 22 |
| KM SD (logged) | 1.86 | 95% Critical H Value (KM-Log) | 3.46 |
| KM Standard Error of Mean (logged) | 0.267 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 29.48 | Mean in Log Scale | 0.699 |
| SD in Original Scale | 149.4 | SD in Log Scale | 1.779 |
| 95% t UCL (Assumes normality) | 63.51 | 95% H-Stat UCL | 22.2 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 118.5 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

ARSENIC

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 45 | Number of Distinct Observations | 41 |
| | | Number of Missing Observations | 58 |
| Number of Detects | 44 | Number of Non-Detects | 1 |
| Number of Distinct Detects | 40 | Number of Distinct Non-Detects | 1 |
| Minimum Detect | 0.7 | Minimum Non-Detect | 0.55 |
| Maximum Detect | 142 | Maximum Non-Detect | 0.55 |
| Variance Detects | 877.5 | Percent Non-Detects | 2.222% |
| Mean Detects | 19.43 | SD Detects | 29.62 |
| Median Detects | 8.6 | CV Detects | 1.524 |
| Skewness Detects | 2.89 | Kurtosis Detects | 8.54 |
| Mean of Logged Detects | 2.204 | SD of Logged Detects | 1.253 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.604 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.944 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.279 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.132 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 19.01 | KM Standard Error of Mean | 4.387 |
| KM SD | 29.09 | 95% KM (BCA) UCL | 26.57 |
| 95% KM (t) UCL | 26.39 | 95% KM (Percentile Bootstrap) UCL | 26.7 |
| 95% KM (z) UCL | 26.23 | 95% KM Bootstrap t UCL | 31.35 |
| 90% KM Chebyshev UCL | 32.17 | 95% KM Chebyshev UCL | 38.14 |
| 97.5% KM Chebyshev UCL | 46.41 | 99% KM Chebyshev UCL | 62.66 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 1.142 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.788 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.138 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.138 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data follow Appr. Gamma Distribution at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.781 | k star (bias corrected MLE) | 0.742 |
| Theta hat (MLE) | 24.9 | Theta star (bias corrected MLE) | 26.18 |
| nu hat (MLE) | 68.69 | nu star (bias corrected) | 65.34 |
| Mean (detects) | 19.43 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 19 |
| Maximum | 142 | Median | 8.6 |
| SD | 29.43 | CV | 1.549 |
| k hat (MLE) | 0.68 | k star (bias corrected MLE) | 0.65 |
| Theta hat (MLE) | 27.93 | Theta star (bias corrected MLE) | 29.24 |
| nu hat (MLE) | 61.24 | nu star (bias corrected) | 58.49 |
| Adjusted Level of Significance (β) | 0.0447 | | |
| Approximate Chi Square Value (58.49, α) | 41.91 | Adjusted Chi Square Value (58.49, β) | 41.44 |
| 95% Gamma Approximate UCL (use when n>=50) | 26.52 | 95% Gamma Adjusted UCL (use when n<50) | 26.82 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 19.01 | SD (KM) | 29.09 |
| Variance (KM) | 846.3 | SE of Mean (KM) | 4.387 |
| k hat (KM) | 0.427 | k star (KM) | 0.414 |
| nu hat (KM) | 38.45 | nu star (KM) | 37.22 |
| theta hat (KM) | 44.51 | theta star (KM) | 45.98 |
| 80% gamma percentile (KM) | 30.8 | 90% gamma percentile (KM) | 53.39 |
| 95% gamma percentile (KM) | 78.1 | 99% gamma percentile (KM) | 140 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (37.22, α) | 24.25 | Adjusted Chi Square Value (37.22, β) | 23.91 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 29.18 | 95% Gamma Adjusted KM-UCL (use when n<50) | 29.61 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.981 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.944 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.053 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.132 | Detected Data appear Lognormal at 5% Significance Level |

**Detected Data appear Lognormal at 5% Significance Level**

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 19.01 | Mean in Log Scale | 2.132 |
| SD in Original Scale | 29.42 | SD in Log Scale | 1.33 |
| 95% t UCL (assumes normality of ROS data) | 26.38 | 95% Percentile Bootstrap UCL | 27 |
| 95% BCA Bootstrap UCL | 28.7 | 95% Bootstrap t UCL | 30.26 |
| 95% H-UCL (Log ROS) | 35.6 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 2.142 | KM Geo Mean | 8.515 |
| KM SD (logged) | 1.293 | 95% Critical H Value (KM-Log) | 2.722 |
| KM Standard Error of Mean (logged) | 0.195 | 95% H-UCL (KM -Log) | 33.39 |
| KM SD (logged) | 1.293 | 95% Critical H Value (KM-Log) | 2.722 |
| KM Standard Error of Mean (logged) | 0.195 | | |

**DL/2 Statistics**

| DL/2 Normal | | DL/2 Log-Transformed | |
|---|---|---|---|
| Mean in Original Scale | 19.01 | Mean in Log Scale | 2.126 |
| SD in Original Scale | 29.42 | SD in Log Scale | 1.344 |
| 95% t UCL (Assumes normality) | 26.38 | 95% H-Stat UCL | 36.4 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 b | 29.61 |

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**BARIUM**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 61 | Number of Distinct Observations | 61 |
| | | Number of Missing Observations | 42 |
| Number of Detects | 60 | Number of Non-Detects | 1 |
| Number of Distinct Detects | 60 | Number of Distinct Non-Detects | 1 |
| Minimum Detect | 3.3 | Minimum Non-Detect | 9.5 |
| Maximum Detect | 3980 | Maximum Non-Detect | 9.5 |
| Variance Detects | 547750 | Percent Non-Detects | 1.639% |
| Mean Detects | 369 | SD Detects | 740.1 |
| Median Detects | 107.5 | CV Detects | 2.006 |
| Skewness Detects | 3.618 | Kurtosis Detects | 13.56 |
| Mean of Logged Detects | 4.801 | SD of Logged Detects | 1.498 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.499 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.311 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.114 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 363 | KM Standard Error of Mean | 94.17 |
| KM SD | 729.3 | 95% KM (BCA) UCL | 526.9 |
| 95% KM (t) UCL | 520.3 | 95% KM (Percentile Bootstrap) UCL | 516.4 |
| 95% KM (z) UCL | 517.9 | 95% KM Bootstrap t UCL | 599 |

| | | | |
|---|---|---|---|
| 90% KM Chebyshev UCL | 645.5 | 95% KM Chebyshev UCL | 773.5 |
| 97.5% KM Chebyshev UCL | 951.1 | 99% KM Chebyshev UCL | 1300 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 2.261 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.81 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.148 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.121 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.562 | k star (bias corrected MLE) | 0.545 |
| Theta hat (MLE) | 656.4 | Theta star (bias corrected MLE) | 676.9 |
| nu hat (MLE) | 67.45 | nu star (bias corrected) | 65.41 |
| Mean (detects) | 369 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 362.9 |
| Maximum | 3980 | Median | 107 |
| SD | 735.4 | CV | 2.026 |
| k hat (MLE) | 0.508 | k star (bias corrected MLE) | 0.494 |
| Theta hat (MLE) | 714.6 | Theta star (bias corrected MLE) | 734.9 |
| nu hat (MLE) | 61.96 | nu star (bias corrected) | 60.25 |
| Adjusted Level of Significance (β) | 0.0461 | | |
| Approximate Chi Square Value (60.25, α) | 43.4 | Adjusted Chi Square Value (60.25, β) | 43.05 |
| 95% Gamma Approximate UCL (use when n>=50) | 503.8 | 95% Gamma Adjusted UCL (use when n<50) | 507.9 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 363 | SD (KM) | 729.3 |
| Variance (KM) | 531940 | SE of Mean (KM) | 94.17 |
| k hat (KM) | 0.248 | k star (KM) | 0.246 |
| nu hat (KM) | 30.22 | nu star (KM) | 30.07 |
| theta hat (KM) | 1465 | theta star (KM) | 1473 |
| 80% gamma percentile (KM) | 524.5 | 90% gamma percentile (KM) | 1091 |
| 95% gamma percentile (KM) | 1765 | 99% gamma percentile (KM) | 3562 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (30.07, α) | 18.54 | Adjusted Chi Square Value (30.07, β) | 18.33 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 588.5 | 95% Gamma Adjusted KM-UCL (use when n<50) | 595.5 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.982 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.753 | Detected Data appear Lognormal at 5% Significance Level |

| | | | |
|---|---|---|---|
| Lilliefors Test Statistic | 0.0637 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.114 | Detected Data appear Lognormal at 5% Significance Level | |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 363 | Mean in Log Scale | 4.748 |
| SD in Original Scale | 735.4 | SD in Log Scale | 1.541 |
| 95% t UCL (assumes normality of ROS data) | 520.3 | 95% Percentile Bootstrap UCL | 524 |
| 95% BCA Bootstrap UCL | 579.5 | 95% Bootstrap t UCL | 621.3 |
| 95% H-UCL (Log ROS) | 632.2 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 4.744 | KM Geo Mean | 114.9 |
| KM SD (logged) | 1.537 | 95% Critical H Value (KM-Log) | 2.58 |
| KM Standard Error of Mean (logged) | 0.199 | 95% H-UCL (KM -Log) | 624.9 |
| KM SD (logged) | 1.537 | 95% Critical H Value (KM-Log) | 2.58 |
| KM Standard Error of Mean (logged) | 0.199 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 363 | Mean in Log Scale | 4.748 |
| SD in Original Scale | 735.4 | SD in Log Scale | 1.542 |
| 95% t UCL (Assumes normality) | 520.3 | 95% H-Stat UCL | 634 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 624.9 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**CADMIUM**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 51 | Number of Distinct Observations | 41 |
| | | Number of Missing Observations | 52 |
| Number of Detects | 45 | Number of Non-Detects | 6 |
| Number of Distinct Detects | 36 | Number of Distinct Non-Detects | 5 |
| Minimum Detect | 0.034 | Minimum Non-Detect | 0.03 |
| Maximum Detect | 401 | Maximum Non-Detect | 0.27 |
| Variance Detects | 3567 | Percent Non-Detects | 11.76% |
| Mean Detects | 9.262 | SD Detects | 59.73 |
| Median Detects | 0.22 | CV Detects | 6.449 |
| Skewness Detects | 6.708 | Kurtosis Detects | 45 |

| | | | |
|---|---|---|---|
| Mean of Logged Detects | -1.373 | SD of Logged Detects | 1.508 |

**Normal GOF Test on Detects Only**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.156 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.945 | Detected Data Not Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.526 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.131 | Detected Data Not Normal at 5% Significance Level | |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 8.179 | KM Standard Error of Mean | 7.867 |
| KM SD | 55.55 | 95% KM (BCA) UCL | 23.88 |
| 95% KM (t) UCL | 21.36 | 95% KM (Percentile Bootstrap) UCL | 23.87 |
| 95% KM (z) UCL | 21.12 | 95% KM Bootstrap t UCL | 1557 |
| 90% KM Chebyshev UCL | 31.78 | 95% KM Chebyshev UCL | 42.47 |
| 97.5% KM Chebyshev UCL | 57.31 | 99% KM Chebyshev UCL | 86.46 |

**Gamma GOF Tests on Detected Observations Only**

| | | | |
|---|---|---|---|
| A-D Test Statistic | 11.87 | **Anderson-Darling GOF Test** | |
| 5% A-D Critical Value | 0.909 | Detected Data Not Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.443 | **Kolmogorov-Smirnov GOF** | |
| 5% K-S Critical Value | 0.146 | Detected Data Not Gamma Distributed at 5% Significance Level | |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.204 | k star (bias corrected MLE) | 0.205 |
| Theta hat (MLE) | 45.43 | Theta star (bias corrected MLE) | 45.16 |
| nu hat (MLE) | 18.35 | nu star (bias corrected) | 18.46 |
| Mean (detects) | 9.262 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 8.173 |
| Maximum | 401 | Median | 0.17 |
| SD | 56.11 | CV | 6.865 |
| k hat (MLE) | 0.192 | k star (bias corrected MLE) | 0.194 |
| Theta hat (MLE) | 42.54 | Theta star (bias corrected MLE) | 42.15 |
| nu hat (MLE) | 19.6 | nu star (bias corrected) | 19.78 |
| Adjusted Level of Significance (β) | 0.0453 | | |
| Approximate Chi Square Value (19.78, α) | 10.69 | Adjusted Chi Square Value (19.78, β) | 10.49 |
| 95% Gamma Approximate UCL (use when n>=50) | 15.12 | 95% Gamma Adjusted UCL (use when n<50) | 15.41 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 8.179 | SD (KM) | 55.55 |
| Variance (KM) | 3086 | SE of Mean (KM) | 7.867 |

| | | | |
|---|---|---|---|
| k hat (KM) | 0.0217 | k star (KM) | 0.0335 |
| nu hat (KM) | 2.211 | nu star (KM) | 3.414 |
| theta hat (KM) | 377.4 | theta star (KM) | 244.4 |
| 80% gamma percentile (KM) | 0.18 | 90% gamma percentile (KM) | 6.204 |
| 95% gamma percentile (KM) | 34.79 | 99% gamma percentile (KM) | 204.7 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (3.41, α) | 0.505 | Adjusted Chi Square Value (3.41, β) | 0.476 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 55.3 | 95% Gamma Adjusted KM-UCL (use when n<50) | 58.64 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.801 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.945 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.13 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.131 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Approximate Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 8.177 | Mean in Log Scale | -1.649 |
| SD in Original Scale | 56.11 | SD in Log Scale | 1.64 |
| 95% t UCL (assumes normality of ROS data) | 21.34 | 95% Percentile Bootstrap UCL | 23.89 |
| 95% BCA Bootstrap UCL | 31.78 | 95% Bootstrap t UCL | 1430 |
| 95% H-UCL (Log ROS) | 1.498 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.578 | KM Geo Mean | 0.206 |
| KM SD (logged) | 1.525 | 95% Critical H Value (KM-Log) | 2.912 |
| KM Standard Error of Mean (logged) | 0.217 | 95% H-UCL (KM -Log) | 1.236 |
| KM SD (logged) | 1.525 | 95% Critical H Value (KM-Log) | 2.912 |
| KM Standard Error of Mean (logged) | 0.217 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 8.179 | Mean in Log Scale | -1.611 |
| SD in Original Scale | 56.11 | SD in Log Scale | 1.595 |
| 95% t UCL (Assumes normality) | 21.35 | 95% H-Stat UCL | 1.401 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 1.236 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

CHROMIUM, HEXAVALENT

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 20 | Number of Distinct Observations | 18 |
| | | Number of Missing Observations | 71 |
| Number of Detects | 12 | Number of Non-Detects | 8 |
| Number of Distinct Detects | 12 | Number of Distinct Non-Detects | 6 |
| Minimum Detect | 0.43 | Minimum Non-Detect | 0.215 |
| Maximum Detect | 6.2 | Maximum Non-Detect | 0.255 |
| Variance Detects | 2.628 | Percent Non-Detects | 40% |
| Mean Detects | 1.138 | SD Detects | 1.621 |
| Median Detects | 0.58 | CV Detects | 1.424 |
| Skewness Detects | 3.272 | Kurtosis Detects | 10.97 |
| Mean of Logged Detects | -0.268 | SD of Logged Detects | 0.746 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.464 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.859 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.382 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.243 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.769 | KM Standard Error of Mean | 0.3 |
| KM SD | 1.285 | 95% KM (BCA) UCL | 1.337 |
| 95% KM (t) UCL | 1.288 | 95% KM (Percentile Bootstrap) UCL | 1.332 |
| 95% KM (z) UCL | 1.262 | 95% KM Bootstrap t UCL | 2.954 |
| 90% KM Chebyshev UCL | 1.669 | 95% KM Chebyshev UCL | 2.077 |
| 97.5% KM Chebyshev UCL | 2.643 | 99% KM Chebyshev UCL | 3.754 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 1.941 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.748 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.306 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.25 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.4 | k star (bias corrected MLE) | 1.106 |
| Theta hat (MLE) | 0.813 | Theta star (bias corrected MLE) | 1.03 |
| nu hat (MLE) | 33.6 | nu star (bias corrected) | 26.53 |
| Mean (detects) | 1.138 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 0.687 |
| Maximum | 6.2 | Median | 0.48 |
| SD | 1.358 | CV | 1.976 |
| k hat (MLE) | 0.404 | k star (bias corrected MLE) | 0.376 |
| Theta hat (MLE) | 1.702 | Theta star (bias corrected MLE) | 1.825 |
| nu hat (MLE) | 16.15 | nu star (bias corrected) | 15.06 |
| Adjusted Level of Significance (β) | 0.038 | | |
| Approximate Chi Square Value (15.06, α) | 7.303 | Adjusted Chi Square Value (15.06, β) | 6.878 |
| 95% Gamma Approximate UCL (use when n>=50) | 1.417 | 95% Gamma Adjusted UCL (use when n<50) | 1.504 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.769 | SD (KM) | 1.285 |
| Variance (KM) | 1.65 | SE of Mean (KM) | 0.3 |
| k hat (KM) | 0.358 | k star (KM) | 0.338 |
| nu hat (KM) | 14.33 | nu star (KM) | 13.52 |
| theta hat (KM) | 2.146 | theta star (KM) | 2.276 |
| 80% gamma percentile (KM) | 1.21 | 90% gamma percentile (KM) | 2.232 |
| 95% gamma percentile (KM) | 3.383 | 99% gamma percentile (KM) | 6.333 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (13.52, α) | 6.242 | Adjusted Chi Square Value (13.52, β) | 5.854 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1.665 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1.776 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.713 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.859 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.253 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.243 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.739 | Mean in Log Scale | -0.957 |
| SD in Original Scale | 1.332 | SD in Log Scale | 1.044 |
| 95% t UCL (assumes normality of ROS data) | 1.254 | 95% Percentile Bootstrap UCL | 1.317 |
| 95% BCA Bootstrap UCL | 1.622 | 95% Bootstrap t UCL | 2.756 |
| 95% H-UCL (Log ROS) | 1.263 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -0.776 | KM Geo Mean | 0.46 |
| KM SD (logged) | 0.832 | 95% Critical H Value (KM-Log) | 2.401 |
| KM Standard Error of Mean (logged) | 0.194 | 95% H-UCL (KM -Log) | 1.029 |
| KM SD (logged) | 0.832 | 95% Critical H Value (KM-Log) | 2.401 |
| KM Standard Error of Mean (logged) | 0.194 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.729 | Mean in Log Scale | -1.028 |
| SD in Original Scale | 1.337 | SD in Log Scale | 1.111 |
| 95% t UCL (Assumes normality) | 1.246 | 95% H-Stat UCL | 1.353 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 2.077 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

COBALT

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 54 | Number of Distinct Observations | 40 |
| | | Number of Missing Observations | 49 |
| Number of Detects | 49 | Number of Non-Detects | 5 |
| Number of Distinct Detects | 37 | Number of Distinct Non-Detects | 5 |
| Minimum Detect | 0.069 | Minimum Non-Detect | 0.21 |
| Maximum Detect | 6.9 | Maximum Non-Detect | 2.7 |
| Variance Detects | 2.574 | Percent Non-Detects | 9.259% |
| Mean Detects | 1.9 | SD Detects | 1.604 |
| Median Detects | 1.4 | CV Detects | 0.844 |
| Skewness Detects | 1.466 | Kurtosis Detects | 1.894 |
| Mean of Logged Detects | 0.244 | SD of Logged Detects | 1.018 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.85 | Shapiro Wilk GOF Test |
| 5% Shapiro Wilk Critical Value | 0.947 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.158 | Lilliefors GOF Test |
| 5% Lilliefors Critical Value | 0.126 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 1.807 | KM Standard Error of Mean | 0.215 |
| KM SD | 1.555 | 95% KM (BCA) UCL | 2.178 |
| 95% KM (t) UCL | 2.168 | 95% KM (Percentile Bootstrap) UCL | 2.144 |
| 95% KM (z) UCL | 2.161 | 95% KM Bootstrap t UCL | 2.221 |
| 90% KM Chebyshev UCL | 2.453 | 95% KM Chebyshev UCL | 2.746 |
| 97.5% KM Chebyshev UCL | 3.152 | 99% KM Chebyshev UCL | 3.949 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 0.296 | Anderson-Darling GOF Test |
| 5% A-D Critical Value | 0.77 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.0898 | Kolmogorov-Smirnov GOF |
| 5% K-S Critical Value | 0.129 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.398 | k star (bias corrected MLE) | 1.326 |
| Theta hat (MLE) | 1.359 | Theta star (bias corrected MLE) | 1.433 |
| nu hat (MLE) | 137 | nu star (bias corrected) | 130 |
| Mean (detects) | 1.9 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.069 | Mean | 1.798 |
| Maximum | 6.9 | Median | 1.4 |
| SD | 1.565 | CV | 0.87 |
| k hat (MLE) | 1.347 | k star (bias corrected MLE) | 1.285 |
| Theta hat (MLE) | 1.335 | Theta star (bias corrected MLE) | 1.4 |
| nu hat (MLE) | 145.5 | nu star (bias corrected) | 138.8 |
| Adjusted Level of Significance (β) | 0.0456 | | |
| Approximate Chi Square Value (138.76, α) | 112.5 | Adjusted Chi Square Value (138.76, β) | 111.9 |
| 95% Gamma Approximate UCL (use when n>=50) | 2.217 | 95% Gamma Adjusted UCL (use when n<50) | 2.23 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 1.807 | SD (KM) | 1.555 |
| Variance (KM) | 2.418 | SE of Mean (KM) | 0.215 |
| k hat (KM) | 1.351 | k star (KM) | 1.288 |
| nu hat (KM) | 145.9 | nu star (KM) | 139.1 |
| theta hat (KM) | 1.338 | theta star (KM) | 1.403 |
| 80% gamma percentile (KM) | 2.841 | 90% gamma percentile (KM) | 3.909 |
| 95% gamma percentile (KM) | 4.957 | 99% gamma percentile (KM) | 7.347 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (139.09, α) | 112.8 | Adjusted Chi Square Value (139.09, β) | 112.2 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 2.228 | 95% Gamma Adjusted KM-UCL (use when n<50) | 2.24 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.944 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.947 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.149 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.126 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 1.791 | Mean in Log Scale | 0.18 |
| SD in Original Scale | 1.567 | SD in Log Scale | 1.003 |
| 95% t UCL (assumes normality of ROS data) | 2.148 | 95% Percentile Bootstrap UCL | 2.152 |
| 95% BCA Bootstrap UCL | 2.185 | 95% Bootstrap t UCL | 2.204 |
| 95% H-UCL (Log ROS) | 2.73 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 0.167 | KM Geo Mean | 1.182 |
| KM SD (logged) | 1.044 | 95% Critical H Value (KM-Log) | 2.376 |
| KM Standard Error of Mean (logged) | 0.148 | 95% H-UCL (KM -Log) | 2.867 |
| KM SD (logged) | 1.044 | 95% Critical H Value (KM-Log) | 2.376 |
| KM Standard Error of Mean (logged) | 0.148 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.814 | Mean in Log Scale | 0.191 |
| SD in Original Scale | 1.557 | SD in Log Scale | 1.027 |
| 95% t UCL (Assumes normality) | 2.168 | 95% H-Stat UCL | 2.86 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | | | |
|---|---|---|---|
| 95% KM Approximate Gamma UCL | 2.228 | 95% GROS Approximate Gamma UCL | 2.217 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

CYANIDE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 59 | Number of Distinct Observations | 45 |
| | | Number of Missing Observations | 39 |
| Number of Detects | 39 | Number of Non-Detects | 20 |
| Number of Distinct Detects | 36 | Number of Distinct Non-Detects | 11 |
| Minimum Detect | 0.057 | Minimum Non-Detect | 0.2 |
| Maximum Detect | 32.8 | Maximum Non-Detect | 5 |
| Variance Detects | 85.82 | Percent Non-Detects | 33.9% |
| Mean Detects | 7.913 | SD Detects | 9.264 |
| Median Detects | 3.9 | CV Detects | 1.171 |
| Skewness Detects | 1.544 | Kurtosis Detects | 1.331 |
| Mean of Logged Detects | 1.336 | SD of Logged Detects | 1.38 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.756 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.939 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.24 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.14 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 5.412 | KM Standard Error of Mean | 1.088 |
| KM SD | 8.233 | 95% KM (BCA) UCL | 7.159 |
| 95% KM (t) UCL | 7.23 | 95% KM (Percentile Bootstrap) UCL | 7.138 |
| 95% KM (z) UCL | 7.201 | 95% KM Bootstrap t UCL | 7.449 |
| 90% KM Chebyshev UCL | 8.675 | 95% KM Chebyshev UCL | 10.15 |
| 97.5% KM Chebyshev UCL | 12.21 | 99% KM Chebyshev UCL | 16.24 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.596 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.786 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.12 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.147 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.81 | k star (bias corrected MLE) | 0.764 |
| Theta hat (MLE) | 9.775 | Theta star (bias corrected MLE) | 10.35 |
| nu hat (MLE) | 63.14 | nu star (bias corrected) | 59.62 |
| Mean (detects) | 7.913 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 5.323 |
| Maximum | 32.8 | Median | 1.5 |
| SD | 8.354 | CV | 1.569 |
| k hat (MLE) | 0.316 | k star (bias corrected MLE) | 0.311 |
| Theta hat (MLE) | 16.85 | Theta star (bias corrected MLE) | 17.11 |
| nu hat (MLE) | 37.27 | nu star (bias corrected) | 36.71 |
| Adjusted Level of Significance (β) | 0.0459 | | |
| Approximate Chi Square Value (36.71, α) | 23.84 | Adjusted Chi Square Value (36.71, β) | 23.58 |
| 95% Gamma Approximate UCL (use when n>=50) | 8.196 | 95% Gamma Adjusted UCL (use when n<50) | 8.287 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 5.412 | SD (KM) | 8.233 |
| Variance (KM) | 67.78 | SE of Mean (KM) | 1.088 |
| k hat (KM) | 0.432 | k star (KM) | 0.421 |
| nu hat (KM) | 50.99 | nu star (KM) | 49.73 |
| theta hat (KM) | 12.52 | theta star (KM) | 12.84 |
| 80% gamma percentile (KM) | 8.783 | 90% gamma percentile (KM) | 15.14 |
| 95% gamma percentile (KM) | 22.08 | 99% gamma percentile (KM) | 39.44 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (49.73, α) | 34.54 | Adjusted Chi Square Value (49.73, β) | 34.22 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 7.792 | 95% Gamma Adjusted KM-UCL (use when n<50) | 7.864 |

**Lognormal GOF Test on Detected Observations Only**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.961 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.939 | Detected Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.0743 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.14 | Detected Data appear Lognormal at 5% Significance Level | |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 5.407 | Mean in Log Scale | 0.532 |
| SD in Original Scale | 8.295 | SD in Log Scale | 1.658 |
| 95% t UCL (assumes normality of ROS data) | 7.212 | 95% Percentile Bootstrap UCL | 7.213 |
| 95% BCA Bootstrap UCL | 7.412 | 95% Bootstrap t UCL | 7.687 |
| 95% H-UCL (Log ROS) | 14.03 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 0.26 | KM Geo Mean | 1.297 |
| KM SD (logged) | 2.053 | 95% Critical H Value (KM-Log) | 3.938 |
| KM Standard Error of Mean (logged) | 0.293 | 95% H-UCL (KM -Log) | 30.88 |
| KM SD (logged) | 2.053 | 95% Critical H Value (KM-Log) | 3.938 |
| KM Standard Error of Mean (logged) | 0.293 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 5.547 | Mean in Log Scale | 0.651 |
| SD in Original Scale | 8.224 | SD in Log Scale | 1.633 |
| 95% t UCL (Assumes normality) | 7.336 | 95% H-Stat UCL | 14.9 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM Approximate Gamma UCL | 7.792 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**IRON**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 50 | Number of Distinct Observations | 49 |
| | | Number of Missing Observations | 53 |
| Minimum | 915 | Mean | 6937 |
| Maximum | 28100 | Median | 5175 |
| SD | 5370 | Std. Error of Mean | 759.4 |

| | | | |
|---|---|---|---|
| Coefficient of Variation | 0.774 | Skewness | 2.057 |

**Normal GOF Test**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.793 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.947 | Data Not Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.192 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.125 | Data Not Normal at 5% Significance Level | |

Data Not Normal at 5% Significance Level

**Assuming Normal Distribution**

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 8210 | 95% Adjusted-CLT UCL (Chen-1995) | 8422 |
| | | 95% Modified-t UCL (Johnson-1978) | 8247 |

**Gamma GOF Test**

| | | | |
|---|---|---|---|
| A-D Test Statistic | 0.83 | **Anderson-Darling Gamma GOF Test** | |
| 5% A-D Critical Value | 0.761 | Data Not Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.128 | **Kolmogorov-Smirnov Gamma GOF Test** | |
| 5% K-S Critical Value | 0.127 | Data Not Gamma Distributed at 5% Significance Level | |

Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 2.287 | k star (bias corrected MLE) | 2.163 |
| Theta hat (MLE) | 3033 | Theta star (bias corrected MLE) | 3207 |
| nu hat (MLE) | 228.7 | nu star (bias corrected) | 216.3 |
| MLE Mean (bias corrected) | 6937 | MLE Sd (bias corrected) | 4716 |
| | | Approximate Chi Square Value (0.05) | 183.3 |
| Adjusted Level of Significance | 0.0452 | Adjusted Chi Square Value | 182.4 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 8188 | 95% Adjusted Gamma UCL (use when n<50) | 8228 |

**Lognormal GOF Test**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.985 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.947 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.0819 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.125 | Data appear Lognormal at 5% Significance Level | |

Data appear Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | 6.819 | Mean of logged Data | 8.61 |
| Maximum of Logged Data | 10.24 | SD of logged Data | 0.687 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 8483 | 90% Chebyshev (MVUE) UCL | 9110 |
| 95% Chebyshev (MVUE) UCL | 10106 | 97.5% Chebyshev (MVUE) UCL | 11489 |
| 99% Chebyshev (MVUE) UCL | 14205 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 8186 | 95% Jackknife UCL | 8210 |
| 95% Standard Bootstrap UCL | 8177 | 95% Bootstrap-t UCL | 8553 |
| 95% Hall's Bootstrap UCL | 8536 | 95% Percentile Bootstrap UCL | 8270 |
| 95% BCA Bootstrap UCL | 8394 | | |
| 90% Chebyshev(Mean, Sd) UCL | 9215 | 95% Chebyshev(Mean, Sd) UCL | 10247 |
| 97.5% Chebyshev(Mean, Sd) UCL | 11680 | 99% Chebyshev(Mean, Sd) UCL | 14493 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% H-UCL | 8483 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

**LEAD**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 68 | Number of Distinct Observations | 67 |
| | | Number of Missing Observations | 35 |
| Minimum | 1.7 | Mean | 1880 |
| Maximum | 103000 | Median | 142.5 |
| SD | 12465 | Std. Error of Mean | 1512 |
| Coefficient of Variation | 6.63 | Skewness | 8.208 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.148 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.452 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.107 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

**Assuming Normal Distribution**

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 4401 | 95% Adjusted-CLT UCL (Chen-1995) | 5974 |
| | | 95% Modified-t UCL (Johnson-1978) | 4652 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 8.973 | **Anderson-Darling Gamma GOF Test** |

| | | | |
|---|---|---|---|
| 5% A-D Critical Value | 0.883 | Data Not Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.303 | **Kolmogorov-Smirnov Gamma GOF Test** | |
| 5% K-S Critical Value | 0.118 | Data Not Gamma Distributed at 5% Significance Level | |

Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.265 | k star (bias corrected MLE) | 0.263 |
| Theta hat (MLE) | 7105 | Theta star (bias corrected MLE) | 7155 |
| nu hat (MLE) | 35.99 | nu star (bias corrected) | 35.73 |
| MLE Mean (bias corrected) | 1880 | MLE Sd (bias corrected) | 3668 |
| | | Approximate Chi Square Value (0.05) | 23.06 |
| Adjusted Level of Significance | 0.0465 | Adjusted Chi Square Value | 22.83 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 2914 | 95% Adjusted Gamma UCL (use when n<50) | 2942 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.977 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk P Value | 0.513 | Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0728 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.107 | Data appear Lognormal at 5% Significance Level |

Data appear Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | 0.531 | Mean of logged Data | 4.88 |
| Maximum of Logged Data | 11.54 | SD of logged Data | 1.837 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 1318 | 90% Chebyshev (MVUE) UCL | 1324 |
| 95% Chebyshev (MVUE) UCL | 1621 | 97.5% Chebyshev (MVUE) UCL | 2033 |
| 99% Chebyshev (MVUE) UCL | 2842 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 4366 | 95% Jackknife UCL | 4401 |
| 95% Standard Bootstrap UCL | 4320 | 95% Bootstrap-t UCL | 45381 |
| 95% Hall's Bootstrap UCL | 26086 | 95% Percentile Bootstrap UCL | 4882 |
| 95% BCA Bootstrap UCL | 6506 | | |
| 90% Chebyshev(Mean, Sd) UCL | 6415 | 95% Chebyshev(Mean, Sd) UCL | 8469 |
| 97.5% Chebyshev(Mean, Sd) UCL | 11320 | 99% Chebyshev(Mean, Sd) UCL | 16920 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% H-UCL | 1318 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.

H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.

It is therefore recommended to avoid the use of H-statistic based 95% UCLs.

Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

MANGANESE

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 50 | Number of Distinct Observations | 49 |
| | | Number of Missing Observations | 53 |
| Minimum | 6.7 | Mean | 70.55 |
| Maximum | 524 | Median | 36.9 |
| SD | 103.3 | Std. Error of Mean | 14.61 |
| Coefficient of Variation | 1.464 | Skewness | 3.05 |

Normal GOF Test

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.566 | Shapiro Wilk GOF Test |
| 5% Shapiro Wilk Critical Value | 0.947 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.321 | Lilliefors GOF Test |
| 5% Lilliefors Critical Value | 0.125 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

| | | | |
|---|---|---|---|
| 95% Normal UCL | | 95% UCLs (Adjusted for Skewness) | |
| 95% Student's-t UCL | 95.04 | 95% Adjusted-CLT UCL (Chen-1995) | 101.3 |
| | | 95% Modified-t UCL (Johnson-1978) | 96.09 |

Gamma GOF Test

| | | |
|---|---|---|
| A-D Test Statistic | 2.495 | Anderson-Darling Gamma GOF Test |
| 5% A-D Critical Value | 0.78 | Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.181 | Kolmogorov-Smirnov Gamma GOF Test |
| 5% K-S Critical Value | 0.129 | Data Not Gamma Distributed at 5% Significance Level |

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.01 | k star (bias corrected MLE) | 0.963 |
| Theta hat (MLE) | 69.86 | Theta star (bias corrected MLE) | 73.29 |
| nu hat (MLE) | 101 | nu star (bias corrected) | 96.26 |
| MLE Mean (bias corrected) | 70.55 | MLE Sd (bias corrected) | 71.91 |
| | | Approximate Chi Square Value (0.05) | 74.63 |
| Adjusted Level of Significance | 0.0452 | Adjusted Chi Square Value | 74.07 |

Assuming Gamma Distribution

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 91 | 95% Adjusted Gamma UCL (use when n<50) | 91.69 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.949 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.947 | Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.101 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.125 | Data appear Lognormal at 5% Significance Level |

Data appear Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | 1.902 | Mean of logged Data | 3.685 |
| Maximum of Logged Data | 6.261 | SD of logged Data | 0.997 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 91.48 | 90% Chebyshev (MVUE) UCL | 96.72 |
| 95% Chebyshev (MVUE) UCL | 111.3 | 97.5% Chebyshev (MVUE) UCL | 131.5 |
| 99% Chebyshev (MVUE) UCL | 171.1 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 94.58 | 95% Jackknife UCL | 95.04 |
| 95% Standard Bootstrap UCL | 94.95 | 95% Bootstrap-t UCL | 107.5 |
| 95% Hall's Bootstrap UCL | 101 | 95% Percentile Bootstrap UCL | 96.58 |
| 95% BCA Bootstrap UCL | 102.3 | | |
| 90% Chebyshev(Mean, Sd) UCL | 114.4 | 95% Chebyshev(Mean, Sd) UCL | 134.2 |
| 97.5% Chebyshev(Mean, Sd) UCL | 161.8 | 99% Chebyshev(Mean, Sd) UCL | 215.9 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% H-UCL | 91.48 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

**THALLIUM**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 54 | Number of Distinct Observations | 33 |
| | | Number of Missing Observations | 49 |
| Number of Detects | 8 | Number of Non-Detects | 46 |
| Number of Distinct Detects | 8 | Number of Distinct Non-Detects | 25 |
| Minimum Detect | 0.44 | Minimum Non-Detect | 0.11 |
| Maximum Detect | 0.66 | Maximum Non-Detect | 1.9 |

| | | | |
|---|---|---|---|
| Variance Detects | 0.00504 | Percent Non-Detects | 85.19% |
| Mean Detects | 0.501 | SD Detects | 0.071 |
| Median Detects | 0.48 | CV Detects | 0.142 |
| Skewness Detects | 1.894 | Kurtosis Detects | 4.013 |
| Mean of Logged Detects | -0.699 | SD of Logged Detects | 0.131 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.803 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.818 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.218 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.283 | Detected Data appear Normal at 5% Significance Level |

Detected Data appear Approximate Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.271 | KM Standard Error of Mean | 0.0473 |
| KM SD | 0.195 | 95% KM (BCA) UCL | 0.379 |
| 95% KM (t) UCL | 0.35 | 95% KM (Percentile Bootstrap) UCL | 0.361 |
| 95% KM (z) UCL | 0.349 | 95% KM Bootstrap t UCL | 0.335 |
| 90% KM Chebyshev UCL | 0.413 | 95% KM Chebyshev UCL | 0.477 |
| 97.5% KM Chebyshev UCL | 0.566 | 99% KM Chebyshev UCL | 0.742 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.584 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.715 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.187 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.293 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 63.73 | k star (bias corrected MLE) | 39.92 |
| Theta hat (MLE) | 0.00786 | Theta star (bias corrected MLE) | 0.0126 |
| nu hat (MLE) | 1020 | nu star (bias corrected) | 638.7 |
| Mean (detects) | 0.501 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.269 | Mean | 0.392 |
| Maximum | 0.66 | Median | 0.387 |
| SD | 0.0766 | CV | 0.195 |
| k hat (MLE) | 28.52 | k star (bias corrected MLE) | 26.95 |
| Theta hat (MLE) | 0.0137 | Theta star (bias corrected MLE) | 0.0145 |
| nu hat (MLE) | 3081 | nu star (bias corrected) | 2911 |
| Adjusted Level of Significance (β) | 0.0456 | | |
| Approximate Chi Square Value (N/A, α) | 2786 | Adjusted Chi Square Value (N/A, β) | 2783 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.409 | 95% Gamma Adjusted UCL (use when n<50) | 0.41 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.271 | SD (KM) | 0.195 |
| Variance (KM) | 0.0381 | SE of Mean (KM) | 0.0473 |
| k hat (KM) | 1.928 | k star (KM) | 1.833 |
| nu hat (KM) | 208.2 | nu star (KM) | 198 |
| theta hat (KM) | 0.141 | theta star (KM) | 0.148 |
| 80% gamma percentile (KM) | 0.41 | 90% gamma percentile (KM) | 0.538 |
| 95% gamma percentile (KM) | 0.661 | 99% gamma percentile (KM) | 0.935 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (197.95, α) | 166.4 | Adjusted Chi Square Value (197.95, β) | 165.6 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.322 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.324 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.845 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.818 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.188 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.283 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.406 | Mean in Log Scale | -0.914 |
| SD in Original Scale | 0.0658 | SD in Log Scale | 0.152 |
| 95% t UCL (assumes normality of ROS data) | 0.421 | 95% Percentile Bootstrap UCL | 0.422 |
| 95% BCA Bootstrap UCL | 0.421 | 95% Bootstrap t UCL | 0.423 |
| 95% H-UCL (Log ROS) | 0.421 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.583 | KM Geo Mean | 0.205 |
| KM SD (logged) | 0.744 | 95% Critical H Value (KM-Log) | 2.069 |
| KM Standard Error of Mean (logged) | 0.181 | 95% H-UCL (KM -Log) | 0.335 |
| KM SD (logged) | 0.744 | 95% Critical H Value (KM-Log) | 2.069 |
| KM Standard Error of Mean (logged) | 0.181 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.471 | Mean in Log Scale | -0.911 |
| SD in Original Scale | 0.203 | SD in Log Scale | 0.671 |
| 95% t UCL (Assumes normality) | 0.518 | 95% H-Stat UCL | 0.606 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Normal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (t) UCL | 0.35 |

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

VANADIUM

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 54 | Number of Distinct Observations | 43 |
| | | Number of Missing Observations | 49 |
| Minimum | 2.5 | Mean | 10.83 |
| Maximum | 45.4 | Median | 7.4 |
| SD | 8.658 | Std. Error of Mean | 1.178 |
| Coefficient of Variation | 0.8 | Skewness | 2.354 |

Normal GOF Test

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.727 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 1.184E-12 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.21 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.12 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 12.8 | 95% Adjusted-CLT UCL (Chen-1995) | 13.17 |
| | | 95% Modified-t UCL (Johnson-1978) | 12.86 |

Gamma GOF Test

| | | |
|---|---|---|
| A-D Test Statistic | 1.808 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.76 | Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.146 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.122 | Data Not Gamma Distributed at 5% Significance Level |

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

| | | | |
|---|---|---|---|
| k hat (MLE) | 2.473 | k star (bias corrected MLE) | 2.348 |
| Theta hat (MLE) | 4.378 | Theta star (bias corrected MLE) | 4.611 |
| nu hat (MLE) | 267.1 | nu star (bias corrected) | 253.6 |
| MLE Mean (bias corrected) | 10.83 | MLE Sd (bias corrected) | 7.065 |
| | | Approximate Chi Square Value (0.05) | 217.7 |
| Adjusted Level of Significance | 0.0456 | Adjusted Chi Square Value | 216.8 |

Assuming Gamma Distribution

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 12.61 | 95% Adjusted Gamma UCL (use when n<50) | 12.66 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.955 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk P Value | 0.0753 | Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.114 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.12 | Data appear Lognormal at 5% Significance Level |

Data appear Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | 0.916 | Mean of logged Data | 2.166 |
| Maximum of Logged Data | 3.816 | SD of logged Data | 0.627 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 12.59 | 90% Chebyshev (MVUE) UCL | 13.49 |
| 95% Chebyshev (MVUE) UCL | 14.82 | 97.5% Chebyshev (MVUE) UCL | 16.65 |
| 99% Chebyshev (MVUE) UCL | 20.25 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 12.76 | 95% Jackknife UCL | 12.8 |
| 95% Standard Bootstrap UCL | 12.71 | 95% Bootstrap-t UCL | 13.59 |
| 95% Hall's Bootstrap UCL | 13.38 | 95% Percentile Bootstrap UCL | 12.85 |
| 95% BCA Bootstrap UCL | 13.17 | | |
| 90% Chebyshev(Mean, Sd) UCL | 14.36 | 95% Chebyshev(Mean, Sd) UCL | 15.96 |
| 97.5% Chebyshev(Mean, Sd) UCL | 18.18 | 99% Chebyshev(Mean, Sd) UCL | 22.55 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% H-UCL | 12.59 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

**ZINC**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 54 | Number of Distinct Observations | 54 |
| | | Number of Missing Observations | 49 |
| Number of Detects | 53 | Number of Non-Detects | 1 |
| Number of Distinct Detects | 53 | Number of Distinct Non-Detects | 1 |
| Minimum Detect | 3.8 | Minimum Non-Detect | 3.15 |
| Maximum Detect | 12300 | Maximum Non-Detect | 3.15 |

| | | | |
|---|---|---|---|
| Variance Detects | 2810220 | Percent Non-Detects | 1.852% |
| Mean Detects | 389.5 | SD Detects | 1676 |
| Median Detects | 93.8 | CV Detects | 4.304 |
| Skewness Detects | 7.163 | Kurtosis Detects | 51.82 |
| Mean of Logged Detects | 4.581 | SD of Logged Detects | 1.372 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.204 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.435 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.121 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 382.3 | KM Standard Error of Mean | 226.1 |
| KM SD | 1646 | 95% KM (BCA) UCL | 842.6 |
| 95% KM (t) UCL | 760.9 | 95% KM (Percentile Bootstrap) UCL | 831.4 |
| 95% KM (z) UCL | 754.3 | 95% KM Bootstrap t UCL | 3547 |
| 90% KM Chebyshev UCL | 1061 | 95% KM Chebyshev UCL | 1368 |
| 97.5% KM Chebyshev UCL | 1794 | 99% KM Chebyshev UCL | 2632 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 4.539 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.823 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.228 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.13 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.464 | k star (bias corrected MLE) | 0.451 |
| Theta hat (MLE) | 838.7 | Theta star (bias corrected MLE) | 864.3 |
| nu hat (MLE) | 49.22 | nu star (bias corrected) | 47.77 |
| Mean (detects) | 389.5 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 382.3 |
| Maximum | 12300 | Median | 91.6 |
| SD | 1661 | CV | 4.346 |
| k hat (MLE) | 0.425 | k star (bias corrected MLE) | 0.413 |
| Theta hat (MLE) | 900.4 | Theta star (bias corrected MLE) | 924.9 |
| nu hat (MLE) | 45.85 | nu star (bias corrected) | 44.64 |
| Adjusted Level of Significance (β) | 0.0456 | | |
| Approximate Chi Square Value (44.64, α) | 30.32 | Adjusted Chi Square Value (44.64, β) | 29.99 |
| 95% Gamma Approximate UCL (use when n>=50) | 562.9 | 95% Gamma Adjusted UCL (use when n<50) | 569 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 382.3 | SD (KM) | 1646 |
| Variance (KM) | 2708850 | SE of Mean (KM) | 226.1 |
| k hat (KM) | 0.054 | k star (KM) | 0.0633 |
| nu hat (KM) | 5.828 | nu star (KM) | 6.838 |
| theta hat (KM) | 7085 | theta star (KM) | 6039 |
| 80% gamma percentile (KM) | 106.9 | 90% gamma percentile (KM) | 757.4 |
| 95% gamma percentile (KM) | 2166 | 99% gamma percentile (KM) | 7535 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (6.84, α) | 2.082 | Adjusted Chi Square Value (6.84, β) | 2.011 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1256 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1300 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.972 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.421 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0808 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.121 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 382.3 | Mean in Log Scale | 4.516 |
| SD in Original Scale | 1661 | SD in Log Scale | 1.441 |
| 95% t UCL (assumes normality of ROS data) | 760.8 | 95% Percentile Bootstrap UCL | 831.3 |
| 95% BCA Bootstrap UCL | 1272 | 95% Bootstrap t UCL | 3384 |
| 95% H-UCL (Log ROS) | 460.2 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 4.518 | KM Geo Mean | 91.61 |
| KM SD (logged) | 1.424 | 95% Critical H Value (KM-Log) | 2.893 |
| KM Standard Error of Mean (logged) | 0.196 | 95% H-UCL (KM -Log) | 444.8 |
| KM SD (logged) | 1.424 | 95% Critical H Value (KM-Log) | 2.893 |
| KM Standard Error of Mean (logged) | 0.196 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 382.3 | Mean in Log Scale | 4.505 |
| SD in Original Scale | 1661 | SD in Log Scale | 1.471 |
| 95% t UCL (Assumes normality) | 760.8 | 95% H-Stat UCL | 484.2 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 444.8 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

AROCLOR-1254

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 37 | Number of Distinct Observations | 23 |
| | | Number of Missing Observations | 57 |
| Number of Detects | 16 | Number of Non-Detects | 21 |
| Number of Distinct Detects | 15 | Number of Distinct Non-Detects | 8 |
| Minimum Detect | 0.011 | Minimum Non-Detect | 0.0085 |
| Maximum Detect | 0.49 | Maximum Non-Detect | 0.022 |
| Variance Detects | 0.013 | Percent Non-Detects | 56.76% |
| Mean Detects | 0.0862 | SD Detects | 0.114 |
| Median Detects | 0.0565 | CV Detects | 1.325 |
| Skewness Detects | 3.324 | Kurtosis Detects | 11.94 |
| Mean of Logged Detects | -2.882 | SD of Logged Detects | 0.878 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.555 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.887 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.337 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.213 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.0425 | KM Standard Error of Mean | 0.0139 |
| KM SD | 0.0821 | 95% KM (BCA) UCL | 0.0701 |
| 95% KM (t) UCL | 0.0661 | 95% KM (Percentile Bootstrap) UCL | 0.0684 |
| 95% KM (z) UCL | 0.0655 | 95% KM Bootstrap t UCL | 0.101 |
| 90% KM Chebyshev UCL | 0.0844 | 95% KM Chebyshev UCL | 0.103 |
| 97.5% KM Chebyshev UCL | 0.13 | 99% KM Chebyshev UCL | 0.181 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.856 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.758 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.228 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.22 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.302 | k star (bias corrected MLE) | 1.1 |
| Theta hat (MLE) | 0.0662 | Theta star (bias corrected MLE) | 0.0784 |
| nu hat (MLE) | 41.67 | nu star (bias corrected) | 35.19 |
| Mean (detects) | 0.0862 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 0.0429 |
| Maximum | 0.49 | Median | 0.01 |
| SD | 0.0831 | CV | 1.934 |
| k hat (MLE) | 0.829 | k star (bias corrected MLE) | 0.78 |
| Theta hat (MLE) | 0.0518 | Theta star (bias corrected MLE) | 0.055 |
| nu hat (MLE) | 61.38 | nu star (bias corrected) | 57.73 |
| Adjusted Level of Significance (β) | 0.0431 | | |
| Approximate Chi Square Value (57.73, α) | 41.27 | Adjusted Chi Square Value (57.73, β) | 40.66 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.0601 | 95% Gamma Adjusted UCL (use when n<50) | 0.061 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.0425 | SD (KM) | 0.0821 |
| Variance (KM) | 0.00674 | SE of Mean (KM) | 0.0139 |
| k hat (KM) | 0.268 | k star (KM) | 0.265 |
| nu hat (KM) | 19.86 | nu star (KM) | 19.58 |
| theta hat (KM) | 0.158 | theta star (KM) | 0.161 |
| 80% gamma percentile (KM) | 0.063 | 90% gamma percentile (KM) | 0.127 |
| 95% gamma percentile (KM) | 0.202 | 99% gamma percentile (KM) | 0.401 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (19.58, α) | 10.55 | Adjusted Chi Square Value (19.58, β) | 10.26 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.079 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.0812 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.958 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.887 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.156 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.213 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.0408 | Mean in Log Scale | -4.231 |
| SD in Original Scale | 0.084 | SD in Log Scale | 1.407 |
| 95% t UCL (assumes normality of ROS data) | 0.0641 | 95% Percentile Bootstrap UCL | 0.0653 |
| 95% BCA Bootstrap UCL | 0.0799 | 95% Bootstrap t UCL | 0.0937 |
| 95% H-UCL (Log ROS) | 0.0771 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -3.907 | KM Geo Mean | 0.0201 |
| KM SD (logged) | 1.059 | 95% Critical H Value (KM-Log) | 2.457 |
| KM Standard Error of Mean (logged) | 0.184 | 95% H-UCL (KM -Log) | 0.0544 |
| KM SD (logged) | 1.059 | 95% Critical H Value (KM-Log) | 2.457 |
| KM Standard Error of Mean (logged) | 0.184 | | |

**DL/2 Statistics**

| DL/2 Normal | | DL/2 Log-Transformed | |
|---|---|---|---|
| Mean in Original Scale | 0.0422 | Mean in Log Scale | -3.955 |
| SD in Original Scale | 0.0834 | SD in Log Scale | 1.119 |
| 95% t UCL (Assumes normality) | 0.0653 | 95% H-Stat UCL | 0.0574 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 0.0544 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

BENZO(A)ANTHRACENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 59 | Number of Distinct Observations | 52 |
| | | Number of Missing Observations | 44 |
| Number of Detects | 50 | Number of Non-Detects | 9 |
| Number of Distinct Detects | 45 | Number of Distinct Non-Detects | 8 |
| Minimum Detect | 0.014 | Minimum Non-Detect | 0.09 |
| Maximum Detect | 32 | Maximum Non-Detect | 1.85 |
| Variance Detects | 52.24 | Percent Non-Detects | 15.25% |
| Mean Detects | 3.819 | SD Detects | 7.228 |
| Median Detects | 0.49 | CV Detects | 1.893 |
| Skewness Detects | 2.375 | Kurtosis Detects | 5.122 |
| Mean of Logged Detects | -0.306 | SD of Logged Detects | 1.939 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.582 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.947 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.343 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.125 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 3.26 | KM Standard Error of Mean | 0.884 |
| KM SD | 6.718 | 95% KM (BCA) UCL | 4.854 |
| 95% KM (t) UCL | 4.737 | 95% KM (Percentile Bootstrap) UCL | 4.72 |
| 95% KM (z) UCL | 4.713 | 95% KM Bootstrap t UCL | 5.331 |
| 90% KM Chebyshev UCL | 5.911 | 95% KM Chebyshev UCL | 7.111 |
| 97.5% KM Chebyshev UCL | 8.778 | 99% KM Chebyshev UCL | 12.05 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 2.567 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.838 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.209 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.134 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.4 | k star (bias corrected MLE) | 0.389 |
| Theta hat (MLE) | 9.555 | Theta star (bias corrected MLE) | 9.816 |
| nu hat (MLE) | 39.97 | nu star (bias corrected) | 38.91 |
| Mean (detects) | 3.819 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 3.238 |
| Maximum | 32 | Median | 0.43 |
| SD | 6.785 | CV | 2.096 |
| k hat (MLE) | 0.319 | k star (bias corrected MLE) | 0.314 |
| Theta hat (MLE) | 10.14 | Theta star (bias corrected MLE) | 10.3 |
| nu hat (MLE) | 37.69 | nu star (bias corrected) | 37.1 |
| Adjusted Level of Significance (β) | 0.0459 | | |
| Approximate Chi Square Value (37.10, α) | 24.16 | Adjusted Chi Square Value (37.10, β) | 23.9 |
| 95% Gamma Approximate UCL (use when n>=50) | 4.973 | 95% Gamma Adjusted UCL (use when n<50) | 5.028 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 3.26 | SD (KM) | 6.718 |
| Variance (KM) | 45.13 | SE of Mean (KM) | 0.884 |
| k hat (KM) | 0.235 | k star (KM) | 0.235 |
| nu hat (KM) | 27.78 | nu star (KM) | 27.71 |
| theta hat (KM) | 13.84 | theta star (KM) | 13.88 |
| 80% gamma percentile (KM) | 4.624 | 90% gamma percentile (KM) | 9.823 |
| 95% gamma percentile (KM) | 16.07 | 99% gamma percentile (KM) | 32.86 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (27.71, α) | 16.7 | Adjusted Chi Square Value (27.71, β) | 16.48 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 5.409 | 95% Gamma Adjusted KM-UCL (use when n<50) | 5.479 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.96 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.947 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.115 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.125 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 3.253 | Mean in Log Scale | -0.658 |
| SD in Original Scale | 6.778 | SD in Log Scale | 1.998 |
| 95% t UCL (assumes normality of ROS data) | 4.728 | 95% Percentile Bootstrap UCL | 4.745 |
| 95% BCA Bootstrap UCL | 5.058 | 95% Bootstrap t UCL | 5.19 |
| 95% H-UCL (Log ROS) | 10.46 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -0.666 | KM Geo Mean | 0.514 |
| KM SD (logged) | 2.014 | 95% Critical H Value (KM-Log) | 3.874 |
| KM Standard Error of Mean (logged) | 0.271 | 95% H-UCL (KM -Log) | 10.88 |
| KM SD (logged) | 2.014 | 95% Critical H Value (KM-Log) | 3.874 |
| KM Standard Error of Mean (logged) | 0.271 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 3.283 | Mean in Log Scale | -0.552 |
| SD in Original Scale | 6.766 | SD in Log Scale | 1.933 |
| 95% t UCL (Assumes normality) | 4.755 | 95% H-Stat UCL | 9.677 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 10.88 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**BENZO(A)PYRENE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 59 | Number of Distinct Observations | 52 |
| | | Number of Missing Observations | 44 |
| Number of Detects | 50 | Number of Non-Detects | 9 |
| Number of Distinct Detects | 45 | Number of Distinct Non-Detects | 8 |
| Minimum Detect | 0.012 | Minimum Non-Detect | 0.09 |
| Maximum Detect | 37 | Maximum Non-Detect | 1.85 |
| Variance Detects | 61.59 | Percent Non-Detects | 15.25% |
| Mean Detects | 4.103 | SD Detects | 7.848 |
| Median Detects | 0.62 | CV Detects | 1.913 |
| Skewness Detects | 2.528 | Kurtosis Detects | 6.371 |
| Mean of Logged Detects | -0.22 | SD of Logged Detects | 1.934 |

**Normal GOF Test on Detects Only**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.577 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.947 | Detected Data Not Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.341 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.125 | Detected Data Not Normal at 5% Significance Level | |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 3.5 | KM Standard Error of Mean | 0.959 |
| KM SD | 7.292 | 95% KM (BCA) UCL | 5.234 |
| 95% KM (t) UCL | 5.103 | 95% KM (Percentile Bootstrap) UCL | 5.138 |
| 95% KM (z) UCL | 5.078 | 95% KM Bootstrap t UCL | 5.573 |
| 90% KM Chebyshev UCL | 6.378 | 95% KM Chebyshev UCL | 7.681 |
| 97.5% KM Chebyshev UCL | 9.49 | 99% KM Chebyshev UCL | 13.04 |

**Gamma GOF Tests on Detected Observations Only**

| | | | |
|---|---|---|---|
| A-D Test Statistic | 2.517 | **Anderson-Darling GOF Test** | |
| 5% A-D Critical Value | 0.838 | Detected Data Not Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.21 | **Kolmogorov-Smirnov GOF** | |
| 5% K-S Critical Value | 0.134 | Detected Data Not Gamma Distributed at 5% Significance Level | |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.403 | k star (bias corrected MLE) | 0.392 |
| Theta hat (MLE) | 10.18 | Theta star (bias corrected MLE) | 10.47 |
| nu hat (MLE) | 40.28 | nu star (bias corrected) | 39.2 |
| Mean (detects) | 4.103 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 3.478 |
| Maximum | 37 | Median | 0.45 |
| SD | 7.365 | CV | 2.117 |
| k hat (MLE) | 0.32 | k star (bias corrected MLE) | 0.315 |
| Theta hat (MLE) | 10.88 | Theta star (bias corrected MLE) | 11.05 |
| nu hat (MLE) | 37.71 | nu star (bias corrected) | 37.13 |
| Adjusted Level of Significance (β) | 0.0459 | | |
| Approximate Chi Square Value (37.13, α) | 24.18 | Adjusted Chi Square Value (37.13, β) | 23.92 |
| 95% Gamma Approximate UCL (use when n>=50) | 5.341 | 95% Gamma Adjusted UCL (use when n<50) | 5.4 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 3.5 | SD (KM) | 7.292 |
| Variance (KM) | 53.18 | SE of Mean (KM) | 0.959 |
| k hat (KM) | 0.23 | k star (KM) | 0.23 |
| nu hat (KM) | 27.19 | nu star (KM) | 27.14 |

| | | | |
|---|---|---|---|
| theta hat (KM) | 15.19 | theta star (KM) | 15.22 |
| 80% gamma percentile (KM) | 4.924 | 90% gamma percentile (KM) | 10.56 |
| 95% gamma percentile (KM) | 17.36 | 99% gamma percentile (KM) | 35.69 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (27.14, α) | 16.26 | Adjusted Chi Square Value (27.14, β) | 16.05 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 5.843 | 95% Gamma Adjusted KM-UCL (use when n<50) | 5.92 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.965 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.947 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.108 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.125 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 3.494 | Mean in Log Scale | -0.579 |
| SD in Original Scale | 7.358 | SD in Log Scale | 2 |
| 95% t UCL (assumes normality of ROS data) | 5.095 | 95% Percentile Bootstrap UCL | 5.213 |
| 95% BCA Bootstrap UCL | 5.56 | 95% Bootstrap t UCL | 5.687 |
| 95% H-UCL (Log ROS) | 11.39 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -0.59 | KM Geo Mean | 0.554 |
| KM SD (logged) | 2.023 | 95% Critical H Value (KM-Log) | 3.887 |
| KM Standard Error of Mean (logged) | 0.273 | 95% H-UCL (KM -Log) | 12.04 |
| KM SD (logged) | 2.023 | 95% Critical H Value (KM-Log) | 3.887 |
| KM Standard Error of Mean (logged) | 0.273 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 3.523 | Mean in Log Scale | -0.479 |
| SD in Original Scale | 7.345 | SD in Log Scale | 1.939 |
| 95% t UCL (Assumes normality) | 5.122 | 95% H-Stat UCL | 10.57 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 12.04 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

BENZO(B)FLUORANTHENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 59 | Number of Distinct Observations | 53 |
| | | Number of Missing Observations | 44 |
| Number of Detects | 50 | Number of Non-Detects | 9 |
| Number of Distinct Detects | 46 | Number of Distinct Non-Detects | 8 |
| Minimum Detect | 0.016 | Minimum Non-Detect | 0.09 |
| Maximum Detect | 44 | Maximum Non-Detect | 1.85 |
| Variance Detects | 115.3 | Percent Non-Detects | 15.25% |
| Mean Detects | 5.682 | SD Detects | 10.74 |
| Median Detects | 0.715 | CV Detects | 1.89 |
| Skewness Detects | 2.201 | Kurtosis Detects | 3.862 |
| Mean of Logged Detects | 0.0204 | SD of Logged Detects | 1.983 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.578 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.947 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.341 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.125 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 4.839 | KM Standard Error of Mean | 1.313 |
| KM SD | 9.984 | 95% KM (BCA) UCL | 7.342 |
| 95% KM (t) UCL | 7.034 | 95% KM (Percentile Bootstrap) UCL | 7.11 |
| 95% KM (z) UCL | 6.998 | 95% KM Bootstrap t UCL | 8.08 |
| 90% KM Chebyshev UCL | 8.778 | 95% KM Chebyshev UCL | 10.56 |
| 97.5% KM Chebyshev UCL | 13.04 | 99% KM Chebyshev UCL | 17.9 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 2.756 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.842 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.211 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.134 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.386 | k star (bias corrected MLE) | 0.376 |
| Theta hat (MLE) | 14.74 | Theta star (bias corrected MLE) | 15.12 |
| nu hat (MLE) | 38.56 | nu star (bias corrected) | 37.58 |
| Mean (detects) | 5.682 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 4.817 |
| Maximum | 44 | Median | 0.56 |
| SD | 10.08 | CV | 2.093 |
| k hat (MLE) | 0.305 | k star (bias corrected MLE) | 0.301 |
| Theta hat (MLE) | 15.81 | Theta star (bias corrected MLE) | 16.03 |
| nu hat (MLE) | 35.96 | nu star (bias corrected) | 35.46 |
| Adjusted Level of Significance (β) | 0.0459 | | |
| Approximate Chi Square Value (35.46, α) | 22.84 | Adjusted Chi Square Value (35.46, β) | 22.58 |
| 95% Gamma Approximate UCL (use when n>=50) | 7.48 | 95% Gamma Adjusted UCL (use when n<50) | 7.564 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 4.839 | SD (KM) | 9.984 |
| Variance (KM) | 99.68 | SE of Mean (KM) | 1.313 |
| k hat (KM) | 0.235 | k star (KM) | 0.234 |
| nu hat (KM) | 27.72 | nu star (KM) | 27.64 |
| theta hat (KM) | 20.6 | theta star (KM) | 20.66 |
| 80% gamma percentile (KM) | 6.857 | 90% gamma percentile (KM) | 14.58 |
| 95% gamma percentile (KM) | 23.87 | 99% gamma percentile (KM) | 48.84 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (27.64, α) | 16.65 | Adjusted Chi Square Value (27.64, β) | 16.43 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 8.033 | 95% Gamma Adjusted KM-UCL (use when n<50) | 8.138 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.957 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.947 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.108 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.125 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 4.833 | Mean in Log Scale | -0.374 |
| SD in Original Scale | 10.07 | SD in Log Scale | 2.08 |
| 95% t UCL (assumes normality of ROS data) | 7.025 | 95% Percentile Bootstrap UCL | 7.061 |
| 95% BCA Bootstrap UCL | 7.586 | 95% Bootstrap t UCL | 7.676 |
| 95% H-UCL (Log ROS) | 17.76 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -0.384 | KM Geo Mean | 0.681 |
| KM SD (logged) | 2.094 | 95% Critical H Value (KM-Log) | 4.008 |
| KM Standard Error of Mean (logged) | 0.281 | 95% H-UCL (KM -Log) | 18.37 |
| KM SD (logged) | 2.094 | 95% Critical H Value (KM-Log) | 4.008 |
| KM Standard Error of Mean (logged) | 0.281 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 4.861 | Mean in Log Scale | -0.275 |
| SD in Original Scale | 10.06 | SD in Log Scale | 2.009 |
| 95% t UCL (Assumes normality) | 7.051 | 95% H-Stat UCL | 15.85 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Lognormal Distributed at 5% Significance Level

Suggested UCL to Use

| | |
|---|---|
| KM H-UCL | 18.37 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

BENZO(K)FLUORANTHENE

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 59 | Number of Distinct Observations | 48 |
| | | Number of Missing Observations | 44 |
| Number of Detects | 50 | Number of Non-Detects | 9 |
| Number of Distinct Detects | 43 | Number of Distinct Non-Detects | 8 |
| Minimum Detect | 0.0087 | Minimum Non-Detect | 0.09 |
| Maximum Detect | 41 | Maximum Non-Detect | 1.85 |
| Variance Detects | 56.85 | Percent Non-Detects | 15.25% |
| Mean Detects | 3.424 | SD Detects | 7.54 |
| Median Detects | 0.61 | CV Detects | 2.202 |
| Skewness Detects | 3.479 | Kurtosis Detects | 13.53 |
| Mean of Logged Detects | -0.388 | SD of Logged Detects | 1.88 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.507 | Shapiro Wilk GOF Test |
| 5% Shapiro Wilk Critical Value | 0.947 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.344 | Lilliefors GOF Test |
| 5% Lilliefors Critical Value | 0.125 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 2.927 | KM Standard Error of Mean | 0.917 |
| KM SD | 6.971 | 95% KM (BCA) UCL | 4.701 |
| 95% KM (t) UCL | 4.459 | 95% KM (Percentile Bootstrap) UCL | 4.48 |
| 95% KM (z) UCL | 4.435 | 95% KM Bootstrap t UCL | 5.664 |
| 90% KM Chebyshev UCL | 5.677 | 95% KM Chebyshev UCL | 6.923 |
| 97.5% KM Chebyshev UCL | 8.653 | 99% KM Chebyshev UCL | 12.05 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 2.549 | Anderson-Darling GOF Test |
| 5% A-D Critical Value | 0.837 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.241 | Kolmogorov-Smirnov GOF |
| 5% K-S Critical Value | 0.134 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.405 | k star (bias corrected MLE) | 0.394 |
| Theta hat (MLE) | 8.445 | Theta star (bias corrected MLE) | 8.681 |
| nu hat (MLE) | 40.55 | nu star (bias corrected) | 39.45 |
| Mean (detects) | 3.424 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0087 | Mean | 2.904 |
| Maximum | 41 | Median | 0.35 |
| SD | 7.04 | CV | 2.425 |
| k hat (MLE) | 0.325 | k star (bias corrected MLE) | 0.319 |
| Theta hat (MLE) | 8.946 | Theta star (bias corrected MLE) | 9.092 |
| nu hat (MLE) | 38.3 | nu star (bias corrected) | 37.68 |
| Adjusted Level of Significance (β) | 0.0459 | | |
| Approximate Chi Square Value (37.68, α) | 24.63 | Adjusted Chi Square Value (37.68, β) | 24.36 |
| 95% Gamma Approximate UCL (use when n>=50) | 4.443 | 95% Gamma Adjusted UCL (use when n<50) | 4.491 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 2.927 | SD (KM) | 6.971 |
| Variance (KM) | 48.6 | SE of Mean (KM) | 0.917 |
| k hat (KM) | 0.176 | k star (KM) | 0.179 |
| nu hat (KM) | 20.8 | nu star (KM) | 21.08 |
| theta hat (KM) | 16.6 | theta star (KM) | 16.39 |
| 80% gamma percentile (KM) | 3.614 | 90% gamma percentile (KM) | 8.823 |
| 95% gamma percentile (KM) | 15.51 | 99% gamma percentile (KM) | 34.28 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (21.08, α) | 11.65 | Adjusted Chi Square Value (21.08, β) | 11.47 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 5.296 | 95% Gamma Adjusted KM-UCL (use when n<50) | 5.377 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.978 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.947 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.118 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.125 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 2.919 | Mean in Log Scale | -0.716 |
| SD in Original Scale | 7.034 | SD in Log Scale | 1.924 |
| 95% t UCL (assumes normality of ROS data) | 4.45 | 95% Percentile Bootstrap UCL | 4.597 |
| 95% BCA Bootstrap UCL | 5.261 | 95% Bootstrap t UCL | 5.459 |
| 95% H-UCL (Log ROS) | 7.998 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -0.731 | KM Geo Mean | 0.481 |
| KM SD (logged) | 1.959 | 95% Critical H Value (KM-Log) | 3.792 |
| KM Standard Error of Mean (logged) | 0.266 | 95% H-UCL (KM -Log) | 8.696 |
| KM SD (logged) | 1.959 | 95% Critical H Value (KM-Log) | 3.792 |
| KM Standard Error of Mean (logged) | 0.266 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 2.948 | Mean in Log Scale | -0.621 |
| SD in Original Scale | 7.023 | SD in Log Scale | 1.875 |
| 95% t UCL (Assumes normality) | 4.477 | 95% H-Stat UCL | 7.689 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 8.696 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

CHRYSENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 59 | Number of Distinct Observations | 53 |
| | | Number of Missing Observations | 44 |
| Number of Detects | 50 | Number of Non-Detects | 9 |
| Number of Distinct Detects | 46 | Number of Distinct Non-Detects | 8 |
| Minimum Detect | 0.019 | Minimum Non-Detect | 0.09 |
| Maximum Detect | 55 | Maximum Non-Detect | 1.85 |
| Variance Detects | 112.7 | Percent Non-Detects | 15.25% |
| Mean Detects | 5.194 | SD Detects | 10.62 |
| Median Detects | 0.76 | CV Detects | 2.044 |
| Skewness Detects | 2.979 | Kurtosis Detects | 9.904 |
| Mean of Logged Detects | -0.0349 | SD of Logged Detects | 1.938 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.548 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.947 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.332 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.125 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 4.428 | KM Standard Error of Mean | 1.295 |
| KM SD | 9.844 | 95% KM (BCA) UCL | 6.845 |
| 95% KM (t) UCL | 6.592 | 95% KM (Percentile Bootstrap) UCL | 6.695 |
| 95% KM (z) UCL | 6.557 | 95% KM Bootstrap t UCL | 7.652 |
| 90% KM Chebyshev UCL | 8.312 | 95% KM Chebyshev UCL | 10.07 |
| 97.5% KM Chebyshev UCL | 12.51 | 99% KM Chebyshev UCL | 17.31 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 2.544 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.84 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.209 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.134 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.392 | k star (bias corrected MLE) | 0.382 |
| Theta hat (MLE) | 13.24 | Theta star (bias corrected MLE) | 13.59 |
| nu hat (MLE) | 39.23 | nu star (bias corrected) | 38.21 |
| Mean (detects) | 5.194 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 4.403 |
| Maximum | 55 | Median | 0.55 |
| SD | 9.939 | CV | 2.257 |
| k hat (MLE) | 0.31 | k star (bias corrected MLE) | 0.305 |
| Theta hat (MLE) | 14.21 | Theta star (bias corrected MLE) | 14.42 |
| nu hat (MLE) | 36.55 | nu star (bias corrected) | 36.03 |
| Adjusted Level of Significance (β) | 0.0459 | | |
| Approximate Chi Square Value (36.03, α) | 23.29 | Adjusted Chi Square Value (36.03, β) | 23.03 |
| 95% Gamma Approximate UCL (use when n>=50) | 6.811 | 95% Gamma Adjusted UCL (use when n<50) | 6.887 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 4.428 | SD (KM) | 9.844 |
| Variance (KM) | 96.91 | SE of Mean (KM) | 1.295 |
| k hat (KM) | 0.202 | k star (KM) | 0.203 |
| nu hat (KM) | 23.87 | nu star (KM) | 23.99 |
| theta hat (KM) | 21.89 | theta star (KM) | 21.78 |
| 80% gamma percentile (KM) | 5.884 | 90% gamma percentile (KM) | 13.39 |
| 95% gamma percentile (KM) | 22.72 | 99% gamma percentile (KM) | 48.32 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (23.99, α) | 13.84 | Adjusted Chi Square Value (23.99, β) | 13.65 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 7.674 | 95% Gamma Adjusted KM-UCL (use when n<50) | 7.783 |

**Lognormal GOF Test on Detected Observations Only**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.968 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.947 | Detected Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.106 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.125 | Detected Data appear Lognormal at 5% Significance Level | |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 4.42 | Mean in Log Scale | -0.412 |
| SD in Original Scale | 9.931 | SD in Log Scale | 2.027 |
| 95% t UCL (assumes normality of ROS data) | 6.582 | 95% Percentile Bootstrap UCL | 6.592 |
| 95% BCA Bootstrap UCL | 7.179 | 95% Bootstrap t UCL | 7.752 |
| 95% H-UCL (Log ROS) | 14.56 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -0.421 | KM Geo Mean | 0.657 |
| KM SD (logged) | 2.04 | 95% Critical H Value (KM-Log) | 3.916 |
| KM Standard Error of Mean (logged) | 0.274 | 95% H-UCL (KM -Log) | 15.01 |
| KM SD (logged) | 2.04 | 95% Critical H Value (KM-Log) | 3.916 |
| KM Standard Error of Mean (logged) | 0.274 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 4.448 | Mean in Log Scale | -0.322 |
| SD in Original Scale | 9.92 | SD in Log Scale | 1.965 |
| 95% t UCL (Assumes normality) | 6.607 | 95% H-Stat UCL | 13.31 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 15.01 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**DIBENZO(A,H)ANTHRACENE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 59 | Number of Distinct Observations | 49 |
| | | Number of Missing Observations | 44 |
| Number of Detects | 42 | Number of Non-Detects | 17 |
| Number of Distinct Detects | 40 | Number of Distinct Non-Detects | 12 |
| Minimum Detect | 0.0046 | Minimum Non-Detect | 0.085 |
| Maximum Detect | 14 | Maximum Non-Detect | 2.1 |

| | | | |
|---|---|---|---|
| Variance Detects | 6.165 | Percent Non-Detects | 28.81% |
| Mean Detects | 1.128 | SD Detects | 2.483 |
| Median Detects | 0.14 | CV Detects | 2.2 |
| Skewness Detects | 3.848 | Kurtosis Detects | 17.75 |
| Mean of Logged Detects | -1.531 | SD of Logged Detects | 1.864 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.498 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.942 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.344 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.135 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.829 | KM Standard Error of Mean | 0.28 |
| KM SD | 2.125 | 95% KM (BCA) UCL | 1.338 |
| 95% KM (t) UCL | 1.298 | 95% KM (Percentile Bootstrap) UCL | 1.33 |
| 95% KM (z) UCL | 1.29 | 95% KM Bootstrap t UCL | 1.707 |
| 90% KM Chebyshev UCL | 1.67 | 95% KM Chebyshev UCL | 2.05 |
| 97.5% KM Chebyshev UCL | 2.579 | 99% KM Chebyshev UCL | 3.617 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 2.448 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.837 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.221 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.146 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.399 | k star (bias corrected MLE) | 0.386 |
| Theta hat (MLE) | 2.832 | Theta star (bias corrected MLE) | 2.924 |
| nu hat (MLE) | 33.47 | nu star (bias corrected) | 32.42 |
| Mean (detects) | 1.128 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0046 | Mean | 0.806 |
| Maximum | 14 | Median | 0.086 |
| SD | 2.149 | CV | 2.666 |
| k hat (MLE) | 0.311 | k star (bias corrected MLE) | 0.307 |
| Theta hat (MLE) | 2.59 | Theta star (bias corrected MLE) | 2.628 |
| nu hat (MLE) | 36.74 | nu star (bias corrected) | 36.2 |
| Adjusted Level of Significance (β) | 0.0459 | | |
| Approximate Chi Square Value (36.20, α) | 23.43 | Adjusted Chi Square Value (36.20, β) | 23.17 |
| 95% Gamma Approximate UCL (use when n>=50) | 1.246 | 95% Gamma Adjusted UCL (use when n<50) | 1.259 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.829 | SD (KM) | 2.125 |
| Variance (KM) | 4.514 | SE of Mean (KM) | 0.28 |
| k hat (KM) | 0.152 | k star (KM) | 0.156 |
| nu hat (KM) | 17.97 | nu star (KM) | 18.39 |
| theta hat (KM) | 5.444 | theta star (KM) | 5.32 |
| 80% gamma percentile (KM) | 0.931 | 90% gamma percentile (KM) | 2.471 |
| 95% gamma percentile (KM) | 4.529 | 99% gamma percentile (KM) | 10.45 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (18.39, α) | 9.674 | Adjusted Chi Square Value (18.39, β) | 9.515 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1.576 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1.603 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.92 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.942 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.124 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.135 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Approximate Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.82 | Mean in Log Scale | -1.956 |
| SD in Original Scale | 2.144 | SD in Log Scale | 1.745 |
| 95% t UCL (assumes normality of ROS data) | 1.287 | 95% Percentile Bootstrap UCL | 1.301 |
| 95% BCA Bootstrap UCL | 1.502 | 95% Bootstrap t UCL | 1.713 |
| 95% H-UCL (Log ROS) | 1.443 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.97 | KM Geo Mean | 0.139 |
| KM SD (logged) | 1.79 | 95% Critical H Value (KM-Log) | 3.554 |
| KM Standard Error of Mean (logged) | 0.251 | 95% H-UCL (KM -Log) | 1.596 |
| KM SD (logged) | 1.79 | 95% Critical H Value (KM-Log) | 3.554 |
| KM Standard Error of Mean (logged) | 0.251 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.885 | Mean in Log Scale | -1.681 |
| SD in Original Scale | 2.132 | SD in Log Scale | 1.717 |
| 95% t UCL (Assumes normality) | 1.348 | 95% H-Stat UCL | 1.771 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 1.596 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

INDENO(1,2,3-CD)PYRENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 58 | Number of Distinct Observations | 51 |
| | | Number of Missing Observations | 45 |
| Number of Detects | 46 | Number of Non-Detects | 12 |
| Number of Distinct Detects | 42 | Number of Distinct Non-Detects | 10 |
| Minimum Detect | 0.037 | Minimum Non-Detect | 0.085 |
| Maximum Detect | 37 | Maximum Non-Detect | 1.85 |
| Variance Detects | 45.44 | Percent Non-Detects | 20.69% |
| Mean Detects | 3.201 | SD Detects | 6.741 |
| Median Detects | 0.455 | CV Detects | 2.106 |
| Skewness Detects | 3.412 | Kurtosis Detects | 13.92 |
| Mean of Logged Detects | -0.474 | SD of Logged Detects | 1.84 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.533 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.945 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.349 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.129 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 2.566 | KM Standard Error of Mean | 0.805 |
| KM SD | 6.067 | 95% KM (BCA) UCL | 3.986 |
| 95% KM (t) UCL | 3.913 | 95% KM (Percentile Bootstrap) UCL | 3.943 |
| 95% KM (z) UCL | 3.891 | 95% KM Bootstrap t UCL | 4.934 |
| 90% KM Chebyshev UCL | 4.983 | 95% KM Chebyshev UCL | 6.077 |
| 97.5% KM Chebyshev UCL | 7.596 | 99% KM Chebyshev UCL | 10.58 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 2.733 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.837 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.232 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.14 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.402 | k star (bias corrected MLE) | 0.39 |
| Theta hat (MLE) | 7.967 | Theta star (bias corrected MLE) | 8.206 |
| nu hat (MLE) | 36.96 | nu star (bias corrected) | 35.88 |
| Mean (detects) | 3.201 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 2.54 |
| Maximum | 37 | Median | 0.3 |
| SD | 6.129 | CV | 2.413 |
| k hat (MLE) | 0.304 | k star (bias corrected MLE) | 0.3 |
| Theta hat (MLE) | 8.348 | Theta star (bias corrected MLE) | 8.466 |
| nu hat (MLE) | 35.3 | nu star (bias corrected) | 34.81 |
| Adjusted Level of Significance (β) | 0.0459 | | |
| Approximate Chi Square Value (34.81, α) | 22.31 | Adjusted Chi Square Value (34.81, β) | 22.05 |
| 95% Gamma Approximate UCL (use when n>=50) | 3.963 | 95% Gamma Adjusted UCL (use when n<50) | 4.009 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 2.566 | SD (KM) | 6.067 |
| Variance (KM) | 36.81 | SE of Mean (KM) | 0.805 |
| k hat (KM) | 0.179 | k star (KM) | 0.181 |
| nu hat (KM) | 20.75 | nu star (KM) | 21.01 |
| theta hat (KM) | 14.34 | theta star (KM) | 14.17 |
| 80% gamma percentile (KM) | 3.196 | 90% gamma percentile (KM) | 7.742 |
| 95% gamma percentile (KM) | 13.55 | 99% gamma percentile (KM) | 29.83 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (21.01, α) | 11.6 | Adjusted Chi Square Value (21.01, β) | 11.42 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 4.648 | 95% Gamma Adjusted KM-UCL (use when n<50) | 4.721 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.942 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.945 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.12 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.129 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Approximate Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 2.559 | Mean in Log Scale | -0.911 |
| SD in Original Scale | 6.122 | SD in Log Scale | 1.879 |
| 95% t UCL (assumes normality of ROS data) | 3.903 | 95% Percentile Bootstrap UCL | 4.003 |
| 95% BCA Bootstrap UCL | 4.371 | 95% Bootstrap t UCL | 4.861 |
| 95% H-UCL (Log ROS) | 5.822 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -0.896 | KM Geo Mean | 0.408 |
| KM SD (logged) | 1.857 | 95% Critical H Value (KM-Log) | 3.61 |
| KM Standard Error of Mean (logged) | 0.25 | 95% H-UCL (KM -Log) | 5.567 |
| KM SD (logged) | 1.857 | 95% Critical H Value (KM-Log) | 3.61 |
| KM Standard Error of Mean (logged) | 0.25 | | |

**DL/2 Statistics**

| DL/2 Normal | | DL/2 Log-Transformed | |
|---|---|---|---|
| Mean in Original Scale | 2.591 | Mean in Log Scale | -0.808 |
| SD in Original Scale | 6.111 | SD in Log Scale | 1.839 |
| 95% t UCL (Assumes normality) | 3.932 | 95% H-Stat UCL | 5.785 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 5.567 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

## NAPHTHALENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 59 | Number of Distinct Observations | 42 |
| | | Number of Missing Observations | 44 |
| Number of Detects | 20 | Number of Non-Detects | 39 |
| Number of Distinct Detects | 19 | Number of Distinct Non-Detects | 23 |
| Minimum Detect | 0.007 | Minimum Non-Detect | 0.085 |
| Maximum Detect | 31 | Maximum Non-Detect | 7.5 |
| Variance Detects | 68.16 | Percent Non-Detects | 66.1% |
| Mean Detects | 3.378 | SD Detects | 8.256 |
| Median Detects | 0.055 | CV Detects | 2.444 |
| Skewness Detects | 2.728 | Kurtosis Detects | 7.072 |
| Mean of Logged Detects | -2.074 | SD of Logged Detects | 2.565 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.482 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.905 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.452 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.192 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 1.175 | KM Standard Error of Mean | 0.661 |
| KM SD | 4.945 | 95% KM (BCA) UCL | 2.398 |
| 95% KM (t) UCL | 2.28 | 95% KM (Percentile Bootstrap) UCL | 2.326 |
| 95% KM (z) UCL | 2.262 | 95% KM Bootstrap t UCL | 4.885 |
| 90% KM Chebyshev UCL | 3.157 | 95% KM Chebyshev UCL | 4.055 |
| 97.5% KM Chebyshev UCL | 5.301 | 99% KM Chebyshev UCL | 7.749 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 2.913 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.883 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.405 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.214 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.22 | k star (bias corrected MLE) | 0.221 |
| Theta hat (MLE) | 15.34 | Theta star (bias corrected MLE) | 15.32 |
| nu hat (MLE) | 8.809 | nu star (bias corrected) | 8.821 |
| Mean (detects) | 3.378 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.007 | Mean | 1.154 |
| Maximum | 31 | Median | 0.01 |
| SD | 4.991 | CV | 4.323 |
| k hat (MLE) | 0.193 | k star (bias corrected MLE) | 0.194 |
| Theta hat (MLE) | 5.992 | Theta star (bias corrected MLE) | 5.946 |
| nu hat (MLE) | 22.73 | nu star (bias corrected) | 22.91 |
| Adjusted Level of Significance (β) | 0.0459 | | |
| Approximate Chi Square Value (22.91, α) | 13.02 | Adjusted Chi Square Value (22.91, β) | 12.84 |
| 95% Gamma Approximate UCL (use when n>=50) | 2.031 | 95% Gamma Adjusted UCL (use when n<50) | 2.06 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 1.175 | SD (KM) | 4.945 |
| Variance (KM) | 24.45 | SE of Mean (KM) | 0.661 |
| k hat (KM) | 0.0565 | k star (KM) | 0.0649 |
| nu hat (KM) | 6.664 | nu star (KM) | 7.659 |
| theta hat (KM) | 20.81 | theta star (KM) | 18.11 |
| 80% gamma percentile (KM) | 0.35 | 90% gamma percentile (KM) | 2.381 |
| 95% gamma percentile (KM) | 6.687 | 99% gamma percentile (KM) | 22.91 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (7.66, α) | 2.539 | Adjusted Chi Square Value (7.66, β) | 2.466 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 3.545 | 95% Gamma Adjusted KM-UCL (use when n<50) | 3.65 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.821 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.905 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.273 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.192 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 1.178 | Mean in Log Scale | -2.898 |
| SD in Original Scale | 4.985 | SD in Log Scale | 1.733 |
| 95% t UCL (assumes normality of ROS data) | 2.262 | 95% Percentile Bootstrap UCL | 2.398 |
| 95% BCA Bootstrap UCL | 2.863 | 95% Bootstrap t UCL | 4.856 |
| 95% H-UCL (Log ROS) | 0.546 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -3.03 | KM Geo Mean | 0.0483 |
| KM SD (logged) | 1.746 | 95% Critical H Value (KM-Log) | 3.493 |
| KM Standard Error of Mean (logged) | 0.284 | 95% H-UCL (KM -Log) | 0.495 |
| KM SD (logged) | 1.746 | 95% Critical H Value (KM-Log) | 3.493 |
| KM Standard Error of Mean (logged) | 0.284 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.416 | Mean in Log Scale | -1.968 |
| SD in Original Scale | 4.969 | SD in Log Scale | 1.825 |
| 95% t UCL (Assumes normality) | 2.498 | 95% H-Stat UCL | 1.751 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 97.5% KM (Chebyshev) UCL | 5.301 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**BENZENE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 30 | Number of Distinct Observations | 19 |
| | | Number of Missing Observations | 75 |
| Number of Detects | 4 | Number of Non-Detects | 26 |
| Number of Distinct Detects | 4 | Number of Distinct Non-Detects | 16 |
| Minimum Detect | 0.0039 | Minimum Non-Detect | 0.00225 |
| Maximum Detect | 2.1 | Maximum Non-Detect | 5.5 |
| Variance Detects | 0.978 | Percent Non-Detects | 86.67% |
| Mean Detects | 0.856 | SD Detects | 0.989 |
| Median Detects | 0.66 | CV Detects | 1.155 |
| Skewness Detects | 0.654 | Kurtosis Detects | -2.242 |
| Mean of Logged Detects | -1.686 | SD of Logged Detects | 2.857 |

**Normal GOF Test on Detects Only**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.896 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.748 | Detected Data appear Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.272 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.375 | Detected Data appear Normal at 5% Significance Level | |

Detected Data appear Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.121 | KM Standard Error of Mean | 0.0929 |
| KM SD | 0.433 | 95% KM (BCA) UCL | N/A |
| 95% KM (t) UCL | 0.279 | 95% KM (Percentile Bootstrap) UCL | N/A |
| 95% KM (z) UCL | 0.274 | 95% KM Bootstrap t UCL | N/A |
| 90% KM Chebyshev UCL | 0.4 | 95% KM Chebyshev UCL | 0.526 |
| 97.5% KM Chebyshev UCL | 0.701 | 99% KM Chebyshev UCL | 1.045 |

**Gamma GOF Tests on Detected Observations Only**

| | | | |
|---|---|---|---|
| A-D Test Statistic | 0.29 | **Anderson-Darling GOF Test** | |
| 5% A-D Critical Value | 0.69 | Detected data appear Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.269 | **Kolmogorov-Smirnov GOF** | |
| 5% K-S Critical Value | 0.413 | Detected data appear Gamma Distributed at 5% Significance Level | |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.426 | k star (bias corrected MLE) | 0.273 |
| Theta hat (MLE) | 2.01 | Theta star (bias corrected MLE) | 3.134 |
| nu hat (MLE) | 3.406 | nu star (bias corrected) | 2.185 |
| Mean (detects) | 0.856 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0039 | Mean | 0.123 |
| Maximum | 2.1 | Median | 0.01 |
| SD | 0.432 | CV | 3.519 |
| k hat (MLE) | 0.322 | k star (bias corrected MLE) | 0.312 |
| Theta hat (MLE) | 0.382 | Theta star (bias corrected MLE) | 0.394 |
| nu hat (MLE) | 19.31 | nu star (bias corrected) | 18.71 |
| Adjusted Level of Significance (β) | 0.041 | | |
| Approximate Chi Square Value (18.71, α) | 9.905 | Adjusted Chi Square Value (18.71, β) | 9.536 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.232 | 95% Gamma Adjusted UCL (use when n<50) | N/A |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.121 | SD (KM) | 0.433 |
| Variance (KM) | 0.188 | SE of Mean (KM) | 0.0929 |
| k hat (KM) | 0.0777 | k star (KM) | 0.0921 |
| nu hat (KM) | 4.661 | nu star (KM) | 5.529 |

| | | | |
|---|---|---|---|
| theta hat (KM) | 1.554 | theta star (KM) | 1.311 |
| 80% gamma percentile (KM) | 0.0739 | 90% gamma percentile (KM) | 0.31 |
| 95% gamma percentile (KM) | 0.703 | 99% gamma percentile (KM) | 1.998 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (5.53, α) | 1.404 | Adjusted Chi Square Value (5.53, β) | 1.289 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.476 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.518 |

95% Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50)

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.905 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.748 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.243 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.375 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.114 | Mean in Log Scale | -11.58 |
| SD in Original Scale | 0.434 | SD in Log Scale | 4.709 |
| 95% t UCL (assumes normality of ROS data) | 0.249 | 95% Percentile Bootstrap UCL | 0.258 |
| 95% BCA Bootstrap UCL | 0.324 | 95% Bootstrap t UCL | 2.298 |
| 95% H-UCL (Log ROS) | 1046 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -5.446 | KM Geo Mean | 0.00431 |
| KM SD (logged) | 1.791 | 95% Critical H Value (KM-Log) | 3.608 |
| KM Standard Error of Mean (logged) | 0.391 | 95% H-UCL (KM -Log) | 0.0713 |
| KM SD (logged) | 1.791 | 95% Critical H Value (KM-Log) | 3.608 |
| KM Standard Error of Mean (logged) | 0.391 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.247 | Mean in Log Scale | -4.691 |
| SD in Original Scale | 0.646 | SD in Log Scale | 2.565 |
| 95% t UCL (Assumes normality) | 0.447 | 95% H-Stat UCL | 2.491 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Normal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (t) UCL | 0.279 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

ETHYLBENZENE

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 30 | Number of Distinct Observations | 20 |
| | | Number of Missing Observations | 75 |
| Number of Detects | 8 | Number of Non-Detects | 22 |
| Number of Distinct Detects | 8 | Number of Distinct Non-Detects | 13 |
| Minimum Detect | 0.003 | Minimum Non-Detect | 0.00225 |
| Maximum Detect | 29 | Maximum Non-Detect | 5.5 |
| Variance Detects | 117.1 | Percent Non-Detects | 73.33% |
| Mean Detects | 7.4 | SD Detects | 10.82 |
| Median Detects | 2.41 | CV Detects | 1.462 |
| Skewness Detects | 1.521 | Kurtosis Detects | 1.265 |
| Mean of Logged Detects | -0.428 | SD of Logged Detects | 3.449 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.751 | Shapiro Wilk GOF Test |
| 5% Shapiro Wilk Critical Value | 0.818 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.29 | Lilliefors GOF Test |
| 5% Lilliefors Critical Value | 0.283 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 1.983 | KM Standard Error of Mean | 1.204 |
| KM SD | 6.166 | 95% KM (BCA) UCL | 4.166 |
| 95% KM (t) UCL | 4.028 | 95% KM (Percentile Bootstrap) UCL | 4.033 |
| 95% KM (z) UCL | 3.963 | 95% KM Bootstrap t UCL | 9.17 |
| 90% KM Chebyshev UCL | 5.594 | 95% KM Chebyshev UCL | 7.23 |
| 97.5% KM Chebyshev UCL | 9.5 | 99% KM Chebyshev UCL | 13.96 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 0.259 | Anderson-Darling GOF Test |
| 5% A-D Critical Value | 0.803 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.181 | Kolmogorov-Smirnov GOF |
| 5% K-S Critical Value | 0.318 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.286 | k star (bias corrected MLE) | 0.262 |
| Theta hat (MLE) | 25.87 | Theta star (bias corrected MLE) | 28.23 |
| nu hat (MLE) | 4.576 | nu star (bias corrected) | 4.194 |
| Mean (detects) | 7.4 | | |

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.003 | Mean | 1.981 |
| Maximum | 29 | Median | 0.01 |
| SD | 6.27 | CV | 3.166 |
| k hat (MLE) | 0.179 | k star (bias corrected MLE) | 0.184 |
| Theta hat (MLE) | 11.05 | Theta star (bias corrected MLE) | 10.79 |
| nu hat (MLE) | 10.76 | nu star (bias corrected) | 11.01 |
| Adjusted Level of Significance (β) | 0.041 | | |
| Approximate Chi Square Value (11.01, α) | 4.585 | Adjusted Chi Square Value (11.01, β) | 4.347 |
| 95% Gamma Approximate UCL (use when n>=50) | 4.757 | 95% Gamma Adjusted UCL (use when n<50) | 5.018 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 1.983 | SD (KM) | 6.166 |
| Variance (KM) | 38.02 | SE of Mean (KM) | 1.204 |
| k hat (KM) | 0.103 | k star (KM) | 0.115 |
| nu hat (KM) | 6.204 | nu star (KM) | 6.917 |
| theta hat (KM) | 19.17 | theta star (KM) | 17.2 |
| 80% gamma percentile (KM) | 1.66 | 90% gamma percentile (KM) | 5.553 |
| 95% gamma percentile (KM) | 11.37 | 99% gamma percentile (KM) | 29.3 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (6.92, α) | 2.125 | Adjusted Chi Square Value (6.92, β) | 1.976 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 6.453 | 95% Gamma Adjusted KM-UCL (use when n<50) | 6.942 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.911 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.818 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.198 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.283 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 1.973 | Mean in Log Scale | -8.183 |
| SD in Original Scale | 6.272 | SD in Log Scale | 5.43 |
| 95% t UCL (assumes normality of ROS data) | 3.919 | 95% Percentile Bootstrap UCL | 3.972 |
| 95% BCA Bootstrap UCL | 5.044 | 95% Bootstrap t UCL | 11.14 |
| 95% H-UCL (Log ROS) | 13448811 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -4.525 | KM Geo Mean | 0.0108 |
| KM SD (logged) | 3.019 | 95% Critical H Value (KM-Log) | 5.613 |
| KM Standard Error of Mean (logged) | 0.597 | 95% H-UCL (KM -Log) | 24.03 |
| KM SD (logged) | 3.019 | 95% Critical H Value (KM-Log) | 5.613 |
| KM Standard Error of Mean (logged) | 0.597 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 2.089 | Mean in Log Scale | -4.137 |
| SD in Original Scale | 6.255 | SD in Log Scale | 3.352 |
| 95% t UCL (Assumes normality) | 4.03 | 95% H-Stat UCL | 206.1 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

| | |
|---|---|
| Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 b | 6.942 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

XYLENES (TOTAL)

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 30 | Number of Distinct Observations | 18 |
| | | Number of Missing Observations | 75 |
| Number of Detects | 6 | Number of Non-Detects | 24 |
| Number of Distinct Detects | 6 | Number of Distinct Non-Detects | 13 |
| Minimum Detect | 0.34 | Minimum Non-Detect | 0.00225 |
| Maximum Detect | 370 | Maximum Non-Detect | 5.5 |
| Variance Detects | 22270 | Percent Non-Detects | 80% |
| Mean Detects | 65.46 | SD Detects | 149.2 |
| Median Detects | 6.15 | CV Detects | 2.28 |
| Skewness Detects | 2.447 | Kurtosis Detects | 5.99 |
| Mean of Logged Detects | 1.791 | SD of Logged Detects | 2.379 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.518 | Shapiro Wilk GOF Test |
| 5% Shapiro Wilk Critical Value | 0.788 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.481 | Lilliefors GOF Test |
| 5% Lilliefors Critical Value | 0.325 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 13.1 | KM Standard Error of Mean | 13.26 |
| KM SD | 66.31 | 95% KM (BCA) UCL | 37.75 |
| 95% KM (t) UCL | 35.63 | 95% KM (Percentile Bootstrap) UCL | 37.66 |
| 95% KM (z) UCL | 34.91 | 95% KM Bootstrap t UCL | 492.6 |
| 90% KM Chebyshev UCL | 52.89 | 95% KM Chebyshev UCL | 70.91 |
| 97.5% KM Chebyshev UCL | 95.92 | 99% KM Chebyshev UCL | 145.1 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 0.789 | Anderson-Darling GOF Test |
| 5% A-D Critical Value | 0.77 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.4 | Kolmogorov-Smirnov GOF |
| 5% K-S Critical Value | 0.358 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.29 | k star (bias corrected MLE) | 0.256 |
| Theta hat (MLE) | 225.6 | Theta star (bias corrected MLE) | 255.5 |
| nu hat (MLE) | 3.481 | nu star (bias corrected) | 3.074 |
| Mean (detects) | 65.46 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 13.1 |
| Maximum | 370 | Median | 0.01 |
| SD | 67.44 | CV | 5.149 |
| k hat (MLE) | 0.133 | k star (bias corrected MLE) | 0.142 |
| Theta hat (MLE) | 98.78 | Theta star (bias corrected MLE) | 92.53 |
| nu hat (MLE) | 7.957 | nu star (bias corrected) | 8.494 |
| Adjusted Level of Significance (β) | 0.041 | | |
| Approximate Chi Square Value (8.49, α) | 3.025 | Adjusted Chi Square Value (8.49, β) | 2.839 |
| 95% Gamma Approximate UCL (use when n>=50) | 36.79 | 95% Gamma Adjusted UCL (use when n<50) | 39.2 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 13.1 | SD (KM) | 66.31 |
| Variance (KM) | 4397 | SE of Mean (KM) | 13.26 |
| k hat (KM) | 0.039 | k star (KM) | 0.0573 |
| nu hat (KM) | 2.341 | nu star (KM) | 3.441 |
| theta hat (KM) | 335.7 | theta star (KM) | 228.4 |
| 80% gamma percentile (KM) | 2.773 | 90% gamma percentile (KM) | 23.52 |
| 95% gamma percentile (KM) | 72.64 | 99% gamma percentile (KM) | 269.4 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (3.44, α) | 0.514 | Adjusted Chi Square Value (3.44, β) | 0.457 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 87.66 | 95% Gamma Adjusted KM-UCL (use when n<50) | 98.53 |

95% Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50)

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.921 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.788 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.266 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.325 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 13.09 | Mean in Log Scale | -5.876 |
| SD in Original Scale | 67.44 | SD in Log Scale | 4.513 |
| 95% t UCL (assumes normality of ROS data) | 34.02 | 95% Percentile Bootstrap UCL | 37.56 |
| 95% BCA Bootstrap UCL | 50.28 | 95% Bootstrap t UCL | 628.6 |

| | |
|---|---|
| 95% H-UCL (Log ROS) | 70203 |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -4.47 | KM Geo Mean | 0.0114 |
| KM SD (logged) | 3.32 | 95% Critical H Value (KM-Log) | 6.123 |
| KM Standard Error of Mean (logged) | 0.672 | 95% H-UCL (KM -Log) | 123.2 |
| KM SD (logged) | 3.32 | 95% Critical H Value (KM-Log) | 6.123 |
| KM Standard Error of Mean (logged) | 0.672 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 13.23 | Mean in Log Scale | -4.029 |
| SD in Original Scale | 67.42 | SD in Log Scale | 3.684 |
| 95% t UCL (Assumes normality) | 34.14 | 95% H-Stat UCL | 1591 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 97.5% KM (Chebyshev) UCL | 95.92 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

| Analyte | Group | Matrix | Valid Obs | Rec. UCL | Method | Max | UCL>Max |
|---|---|---|---|---|---|---|---|
| ALUMINUM | NA | NA | 170 | 3481 | 95% Approximate Gamma UCL | 12100 | |
| ANTIMONY | NA | NA | 170 | 11.99 | KM H-UCL | 515 | |
| ARSENIC | NA | NA | 158 | 124.2 | 95% KM (Chebyshev) UCL | 1125 | |
| BARIUM | NA | NA | 169 | 1289 | 95% KM (Chebyshev) UCL | 14500 | |
| CADMIUM | NA | NA | 170 | 1.452 | KM H-UCL | 36.6 | |
| CHROMIUM, HEXAVALENT | NA | NA | 29 | 0.837 | 95% KM Adjusted Gamma UCL | 2.8 | |
| COBALT | NA | NA | 170 | 8.321 | 95% KM (Chebyshev) UCL | 82.4 | |
| COPPER | NA | NA | 168 | 129.3 | KM H-UCL | 1360 | |
| CYANIDE | NA | NA | 159 | 88.47 | KM H-UCL | 353 | |
| IRON | NA | NA | 170 | 14897 | 95% Chebyshev (Mean, Sd) UCL | 49200 | |
| LEAD | NA | NA | 223 | 1117 | 95% KM (Chebyshev) UCL | 15200 | |
| MANGANESE | NA | NA | 168 | 183.6 | 95% H-UCL | 1420 | |
| MERCURY | NA | NA | 162 | 1.623 | KM H-UCL | 25.2 | |
| THALLIUM | NA | NA | 170 | 0.522 | 95% KM (t) UCL | 3.8 | |
| VANADIUM | NA | NA | 164 | 19.32 | KM H-UCL | 87.8 | |
| ZINC | NA | NA | 170 | 648.9 | 95% KM (Chebyshev) UCL | 5270 | |
| AROCLOR-1254 | NA | NA | 117 | 0.0736 | 95% KM (t) UCL | 1.4 | |
| AROCLOR-1260 | NA | NA | 117 | 0.417 | 95% KM Approximate Gamma UCL | 3.1 | |
| DIELDRIN | NA | NA | 91 | 0.0104 | KM H-UCL | 0.077 | |
| BENZO(A)ANTHRACENE | NA | NA | 156 | 3.143 | 95% KM (Chebyshev) UCL | 29 | |
| BENZO(A)PYRENE | NA | NA | 156 | 3.774 | 95% KM (Chebyshev) UCL | 37 | |
| BENZO(B)FLUORANTHENE | NA | NA | 156 | 4.481 | 95% KM Approximate Gamma UCL | 76 | |
| BENZO(K)FLUORANTHENE | NA | NA | 156 | 3.104 | 95% KM Approximate Gamma UCL | 37 | |
| CHRYSENE | NA | NA | 156 | 4.533 | 95% KM (Chebyshev) UCL | 45 | |
| DIBENZO(A,H)ANTHRACENE | NA | NA | 156 | 0.591 | 95% KM Approximate Gamma UCL | 4.9 | |
| INDENO(1,2,3-CD)PYRENE | NA | NA | 155 | 1.903 | 95% KM Approximate Gamma UCL | 20 | |
| PENTACHLOROPHENOL | NA | NA | 140 | 0.529 | KM H-UCL | 8.7 | |

0-2soil_UNDV.xlsx

**UCL Statistics for Data Sets with Non-Detects**

**0-2soil_UNDV.xlsx**

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.11/18/2017 10:20:28 AM |
| From File | ProUCL_FMPHHRA_01.18.17 input_e.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**ALUMINUM**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 170 | Number of Distinct Observations | 154 |
| | | Number of Missing Observations | 99 |
| Minimum | 95 | Mean | 3133 |
| Maximum | 12100 | Median | 2260 |
| SD | 2605 | Std. Error of Mean | 199.8 |
| Coefficient of Variation | 0.831 | Skewness | 1.474 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.84 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.151 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0684 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

**Assuming Normal Distribution**

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 3464 | 95% Adjusted-CLT UCL (Chen-1995) | 3486 |
| | | 95% Modified-t UCL (Johnson-1978) | 3468 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 0.47 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.77 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.0515 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.0727 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.548 | k star (bias corrected MLE) | 1.525 |
| Theta hat (MLE) | 2024 | Theta star (bias corrected MLE) | 2055 |
| nu hat (MLE) | 526.4 | nu star (bias corrected) | 518.4 |
| MLE Mean (bias corrected) | 3133 | MLE Sd (bias corrected) | 2538 |
| | | Approximate Chi Square Value (0.05) | 466.6 |
| Adjusted Level of Significance | 0.0486 | Adjusted Chi Square Value | 466.2 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50) | 3481 | 95% Adjusted Gamma UCL (use when n<50) | 3484 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.96 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk P Value | 9.1519E-4 | Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.062 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.0684 | Data appear Lognormal at 5% Significance Level |

Data appear Approximate Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | 4.554 | Mean of logged Data | 7.693 |
| Maximum of Logged Data | 9.401 | SD of logged Data | 0.923 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 3897 | 90% Chebyshev (MVUE) UCL | 4185 |
| 95% Chebyshev (MVUE) UCL | 4566 | 97.5% Chebyshev (MVUE) UCL | 5093 |
| 99% Chebyshev (MVUE) UCL | 6130 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 3462 | 95% Jackknife UCL | 3464 |
| 95% Standard Bootstrap UCL | 3458 | 95% Bootstrap-t UCL | 3489 |
| 95% Hall's Bootstrap UCL | 3474 | 95% Percentile Bootstrap UCL | 3478 |
| 95% BCA Bootstrap UCL | 3476 | | |
| 90% Chebyshev(Mean, Sd) UCL | 3733 | 95% Chebyshev(Mean, Sd) UCL | 4004 |
| 97.5% Chebyshev(Mean, Sd) UCL | 4381 | 99% Chebyshev(Mean, Sd) UCL | 5122 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% Approximate Gamma UCL | 3481 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

ANTIMONY

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 170 | Number of Distinct Observations | 110 |
| | | Number of Missing Observations | 99 |
| Number of Detects | 98 | Number of Non-Detects | 72 |
| Number of Distinct Detects | 83 | Number of Distinct Non-Detects | 44 |
| Minimum Detect | 0.27 | Minimum Non-Detect | 0.48 |
| Maximum Detect | 515 | Maximum Non-Detect | 12.1 |
| Variance Detects | 4239 | Percent Non-Detects | 42.35% |
| Mean Detects | 21.67 | SD Detects | 65.11 |
| Median Detects | 5.55 | CV Detects | 3.005 |
| Skewness Detects | 5.961 | Kurtosis Detects | 39.66 |

| | | | |
|---|---|---|---|
| Mean of Logged Detects | 1.735 | SD of Logged Detects | 1.474 |

**Normal GOF Test on Detects Only**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.338 | **Normal GOF Test on Detected Observations Only** | |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.371 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.0897 | Detected Data Not Normal at 5% Significance Level | |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 13.2 | KM Standard Error of Mean | 3.869 |
| KM SD | 50.18 | 95% KM (BCA) UCL | 20.67 |
| 95% KM (t) UCL | 19.6 | 95% KM (Percentile Bootstrap) UCL | 20.24 |
| 95% KM (z) UCL | 19.56 | 95% KM Bootstrap t UCL | 27.79 |
| 90% KM Chebyshev UCL | 24.81 | 95% KM Chebyshev UCL | 30.07 |
| 97.5% KM Chebyshev UCL | 37.36 | 99% KM Chebyshev UCL | 51.7 |

**Gamma GOF Tests on Detected Observations Only**

| | | | |
|---|---|---|---|
| A-D Test Statistic | 6.6 | **Anderson-Darling GOF Test** | |
| 5% A-D Critical Value | 0.824 | Detected Data Not Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.232 | **Kolmogorov-Smirnov GOF** | |
| 5% K-S Critical Value | 0.0959 | Detected Data Not Gamma Distributed at 5% Significance Level | |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.477 | k star (bias corrected MLE) | 0.469 |
| Theta hat (MLE) | 45.4 | Theta star (bias corrected MLE) | 46.15 |
| nu hat (MLE) | 93.55 | nu star (bias corrected) | 92.01 |
| Mean (detects) | 21.67 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 12.49 |
| Maximum | 515 | Median | 1.2 |
| SD | 50.48 | CV | 4.04 |
| k hat (MLE) | 0.21 | k star (bias corrected MLE) | 0.21 |
| Theta hat (MLE) | 59.46 | Theta star (bias corrected MLE) | 59.4 |
| nu hat (MLE) | 71.44 | nu star (bias corrected) | 71.51 |
| Adjusted Level of Significance (β) | 0.0486 | | |
| Approximate Chi Square Value (71.51, α) | 53.04 | Adjusted Chi Square Value (71.51, β) | 52.91 |
| 95% Gamma Approximate UCL (use when n>=50) | 16.85 | 95% Gamma Adjusted UCL (use when n<50) | 16.89 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 13.2 | SD (KM) | 50.18 |
| Variance (KM) | 2518 | SE of Mean (KM) | 3.869 |

| | | | |
|---|---|---|---|
| k hat (KM) | 0.0692 | k star (KM) | 0.0719 |
| nu hat (KM) | 23.53 | nu star (KM) | 24.45 |
| theta hat (KM) | 190.7 | theta star (KM) | 183.6 |
| 80% gamma percentile (KM) | 5.026 | 90% gamma percentile (KM) | 29.08 |
| 95% gamma percentile (KM) | 76.15 | 99% gamma percentile (KM) | 245.7 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (24.45, α) | 14.19 | Adjusted Chi Square Value (24.45, β) | 14.12 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 22.74 | 95% Gamma Adjusted KM-UCL (use when n<50) | 22.85 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.968 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.113 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0871 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0897 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 13.06 | Mean in Log Scale | 1.01 |
| SD in Original Scale | 50.35 | SD in Log Scale | 1.49 |
| 95% t UCL (assumes normality of ROS data) | 19.44 | 95% Percentile Bootstrap UCL | 19.3 |
| 95% BCA Bootstrap UCL | 23.47 | 95% Bootstrap t UCL | 29.54 |
| 95% H-UCL (Log ROS) | 11.26 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 1.032 | KM Geo Mean | 2.808 |
| KM SD (logged) | 1.512 | 95% Critical H Value (KM-Log) | 2.655 |
| KM Standard Error of Mean (logged) | 0.131 | 95% H-UCL (KM -Log) | 11.99 |
| KM SD (logged) | 1.512 | 95% Critical H Value (KM-Log) | 2.655 |
| KM Standard Error of Mean (logged) | 0.131 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 13.54 | Mean in Log Scale | 1.285 |
| SD in Original Scale | 50.24 | SD in Log Scale | 1.353 |
| 95% t UCL (Assumes normality) | 19.91 | 95% H-Stat UCL | 11.7 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 11.99 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

ARSENIC

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 158 | Number of Distinct Observations | 127 |
| | | Number of Missing Observations | 111 |
| Number of Detects | 150 | Number of Non-Detects | 8 |
| Number of Distinct Detects | 122 | Number of Distinct Non-Detects | 7 |
| Minimum Detect | 0.37 | Minimum Non-Detect | 0.81 |
| Maximum Detect | 1125 | Maximum Non-Detect | 1.3 |
| Variance Detects | 22208 | Percent Non-Detects | 5.063% |
| Mean Detects | 77.44 | SD Detects | 149 |
| Median Detects | 9.9 | CV Detects | 1.924 |
| Skewness Detects | 4.06 | Kurtosis Detects | 21.55 |
| Mean of Logged Detects | 2.723 | SD of Logged Detects | 2.002 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.561 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.303 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0727 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 73.55 | KM Standard Error of Mean | 11.63 |
| KM SD | 145.7 | 95% KM (BCA) UCL | 93.68 |
| 95% KM (t) UCL | 92.79 | 95% KM (Percentile Bootstrap) UCL | 93.02 |
| 95% KM (z) UCL | 92.68 | 95% KM Bootstrap t UCL | 99.78 |
| 90% KM Chebyshev UCL | 108.4 | 95% KM Chebyshev UCL | 124.2 |
| 97.5% KM Chebyshev UCL | 146.2 | 99% KM Chebyshev UCL | 189.3 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 5.46 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.843 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.178 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.082 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.404 | k star (bias corrected MLE) | 0.4 |
| Theta hat (MLE) | 191.7 | Theta star (bias corrected MLE) | 193.5 |
| nu hat (MLE) | 121.2 | nu star (bias corrected) | 120.1 |
| Mean (detects) | 77.44 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 73.52 |
| Maximum | 1125 | Median | 8.495 |
| SD | 146.2 | CV | 1.988 |
| k hat (MLE) | 0.346 | k star (bias corrected MLE) | 0.344 |
| Theta hat (MLE) | 212.3 | Theta star (bias corrected MLE) | 213.8 |
| nu hat (MLE) | 109.4 | nu star (bias corrected) | 108.7 |
| Adjusted Level of Significance (β) | 0.0485 | | |
| Approximate Chi Square Value (108.67, α) | 85.61 | Adjusted Chi Square Value (108.67, β) | 85.42 |
| 95% Gamma Approximate UCL (use when n>=50) | 93.33 | 95% Gamma Adjusted UCL (use when n<50) | 93.53 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 73.55 | SD (KM) | 145.7 |
| Variance (KM) | 21227 | SE of Mean (KM) | 11.63 |
| k hat (KM) | 0.255 | k star (KM) | 0.254 |
| nu hat (KM) | 80.54 | nu star (KM) | 80.34 |
| theta hat (KM) | 288.6 | theta star (KM) | 289.3 |
| 80% gamma percentile (KM) | 107.5 | 90% gamma percentile (KM) | 220.5 |
| 95% gamma percentile (KM) | 354.2 | 99% gamma percentile (KM) | 709.4 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (80.34, α) | 60.69 | Adjusted Chi Square Value (80.34, β) | 60.53 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 97.37 | 95% Gamma Adjusted KM-UCL (use when n<50) | 97.62 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.929 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 8.5319E-9 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.116 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0727 | Detected Data Not Lognormal at 5% Significance Level |

**Detected Data Not Lognormal at 5% Significance Level**

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 73.54 | Mean in Log Scale | 2.536 |
| SD in Original Scale | 146.2 | SD in Log Scale | 2.113 |
| 95% t UCL (assumes normality of ROS data) | 92.78 | 95% Percentile Bootstrap UCL | 94.83 |
| 95% BCA Bootstrap UCL | 98.35 | 95% Bootstrap t UCL | 99.84 |
| 95% H-UCL (Log ROS) | 210.7 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 2.555 | KM Geo Mean | 12.88 |
| KM SD (logged) | 2.077 | 95% Critical H Value (KM-Log) | 3.401 |
| KM Standard Error of Mean (logged) | 0.166 | 95% H-UCL (KM -Log) | 195.4 |
| KM SD (logged) | 2.077 | 95% Critical H Value (KM-Log) | 3.401 |
| KM Standard Error of Mean (logged) | 0.166 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 73.55 | Mean in Log Scale | 2.549 |
| SD in Original Scale | 146.2 | SD in Log Scale | 2.093 |
| 95% t UCL (Assumes normality) | 92.79 | 95% H-Stat UCL | 202.3 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 124.2 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

BARIUM

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 169 | Number of Distinct Observations | 158 |
| | | Number of Missing Observations | 100 |
| Number of Detects | 156 | Number of Non-Detects | 13 |
| Number of Distinct Detects | 151 | Number of Distinct Non-Detects | 7 |
| Minimum Detect | 2.9 | Minimum Non-Detect | 15 |
| Maximum Detect | 14500 | Maximum Non-Detect | 21 |
| Variance Detects | 4074179 | Percent Non-Detects | 7.692% |
| Mean Detects | 687.9 | SD Detects | 2018 |
| Median Detects | 216.5 | CV Detects | 2.934 |
| Skewness Detects | 5.801 | Kurtosis Detects | 35.8 |
| Mean of Logged Detects | 5.083 | SD of Logged Detects | 1.73 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.331 | Normal GOF Test on Detected Observations Only |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.367 | Lilliefors GOF Test |
| 5% Lilliefors Critical Value | 0.0713 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 635.7 | KM Standard Error of Mean | 149.8 |
| KM SD | 1942 | 95% KM (BCA) UCL | 938.3 |
| 95% KM (t) UCL | 883.5 | 95% KM (Percentile Bootstrap) UCL | 892.2 |
| 95% KM (z) UCL | 882.1 | 95% KM Bootstrap t UCL | 1036 |
| 90% KM Chebyshev UCL | 1085 | 95% KM Chebyshev UCL | 1289 |
| 97.5% KM Chebyshev UCL | 1571 | 99% KM Chebyshev UCL | 2126 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 6.695 | Anderson-Darling GOF Test |
| 5% A-D Critical Value | 0.833 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.182 | Kolmogorov-Smirnov GOF |
| 5% K-S Critical Value | 0.0799 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.446 | k star (bias corrected MLE) | 0.442 |
| Theta hat (MLE) | 1543 | Theta star (bias corrected MLE) | 1558 |
| nu hat (MLE) | 139.1 | nu star (bias corrected) | 137.8 |
| Mean (detects) | 687.9 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 635 |
| Maximum | 14500 | Median | 179 |
| SD | 1947 | CV | 3.067 |
| k hat (MLE) | 0.322 | k star (bias corrected MLE) | 0.32 |
| Theta hat (MLE) | 1971 | Theta star (bias corrected MLE) | 1982 |
| nu hat (MLE) | 108.9 | nu star (bias corrected) | 108.3 |
| Adjusted Level of Significance (β) | 0.0486 | | |
| Approximate Chi Square Value (108.28, α) | 85.27 | Adjusted Chi Square Value (108.28, β) | 85.09 |
| 95% Gamma Approximate UCL (use when n>=50) | 806.4 | 95% Gamma Adjusted UCL (use when n<50) | 808.1 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 635.7 | SD (KM) | 1942 |
| Variance (KM) | 3769487 | SE of Mean (KM) | 149.8 |
| k hat (KM) | 0.107 | k star (KM) | 0.109 |
| nu hat (KM) | 36.23 | nu star (KM) | 36.92 |
| theta hat (KM) | 5930 | theta star (KM) | 5819 |
| 80% gamma percentile (KM) | 497.7 | 90% gamma percentile (KM) | 1749 |
| 95% gamma percentile (KM) | 3665 | 99% gamma percentile (KM) | 9657 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (36.92, α) | 24.01 | Adjusted Chi Square Value (36.92, β) | 23.92 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 977.4 | 95% Gamma Adjusted KM-UCL (use when n<50) | 981.1 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.962 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.00462 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0822 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0713 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 636 | Mean in Log Scale | 4.88 |
| SD in Original Scale | 1947 | SD in Log Scale | 1.808 |
| 95% t UCL (assumes normality of ROS data) | 883.7 | 95% Percentile Bootstrap UCL | 890.8 |
| 95% BCA Bootstrap UCL | 972.5 | 95% Bootstrap t UCL | 1031 |
| 95% H-UCL (Log ROS) | 1022 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 4.845 | KM Geo Mean | 127 |
| KM SD (logged) | 1.856 | 95% Critical H Value (KM-Log) | 3.031 |
| KM Standard Error of Mean (logged) | 0.144 | 95% H-UCL (KM -Log) | 1098 |
| KM SD (logged) | 1.856 | 95% Critical H Value (KM-Log) | 3.031 |
| KM Standard Error of Mean (logged) | 0.144 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 635.7 | Mean in Log Scale | 4.859 |
| SD in Original Scale | 1947 | SD in Log Scale | 1.836 |
| 95% t UCL (Assumes normality) | 883.4 | 95% H-Stat UCL | 1064 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 1289 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**CADMIUM**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 170 | Number of Distinct Observations | 110 |
| | | Number of Missing Observations | 99 |
| Number of Detects | 129 | Number of Non-Detects | 41 |
| Number of Distinct Detects | 95 | Number of Distinct Non-Detects | 25 |
| Minimum Detect | 0.039 | Minimum Non-Detect | 0.03 |
| Maximum Detect | 36.6 | Maximum Non-Detect | 0.98 |
| Variance Detects | 13.07 | Percent Non-Detects | 24.12% |
| Mean Detects | 1.507 | SD Detects | 3.615 |
| Median Detects | 0.53 | CV Detects | 2.399 |
| Skewness Detects | 7.585 | Kurtosis Detects | 70.41 |
| Mean of Logged Detects | -0.582 | SD of Logged Detects | 1.365 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.392 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.342 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0784 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 1.179 | KM Standard Error of Mean | 0.246 |
| KM SD | 3.191 | 95% KM (BCA) UCL | 1.666 |
| 95% KM (t) UCL | 1.585 | 95% KM (Percentile Bootstrap) UCL | 1.638 |
| 95% KM (z) UCL | 1.583 | 95% KM Bootstrap t UCL | 1.989 |
| 90% KM Chebyshev UCL | 1.916 | 95% KM Chebyshev UCL | 2.25 |
| 97.5% KM Chebyshev UCL | 2.714 | 99% KM Chebyshev UCL | 3.624 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 4.047 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.808 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.158 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.086 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.62 | k star (bias corrected MLE) | 0.611 |
| Theta hat (MLE) | 2.431 | Theta star (bias corrected MLE) | 2.468 |
| nu hat (MLE) | 159.9 | nu star (bias corrected) | 157.5 |
| Mean (detects) | 1.507 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 1.146 |
| Maximum | 36.6 | Median | 0.305 |
| SD | 3.211 | CV | 2.802 |
| k hat (MLE) | 0.391 | k star (bias corrected MLE) | 0.388 |
| Theta hat (MLE) | 2.93 | Theta star (bias corrected MLE) | 2.953 |
| nu hat (MLE) | 133 | nu star (bias corrected) | 132 |
| Adjusted Level of Significance (β) | 0.0486 | | |
| Approximate Chi Square Value (131.97, α) | 106.4 | Adjusted Chi Square Value (131.97, β) | 106.2 |
| 95% Gamma Approximate UCL (use when n>=50) | 1.421 | 95% Gamma Adjusted UCL (use when n<50) | 1.424 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 1.179 | SD (KM) | 3.191 |
| Variance (KM) | 10.18 | SE of Mean (KM) | 0.246 |
| k hat (KM) | 0.136 | k star (KM) | 0.138 |
| nu hat (KM) | 46.38 | nu star (KM) | 46.9 |
| theta hat (KM) | 8.64 | theta star (KM) | 8.546 |
| 80% gamma percentile (KM) | 1.193 | 90% gamma percentile (KM) | 3.448 |
| 95% gamma percentile (KM) | 6.588 | 99% gamma percentile (KM) | 15.86 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (46.90, α) | 32.18 | Adjusted Chi Square Value (46.90, β) | 32.08 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1.718 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1.723 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.977 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.288 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0511 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0784 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 1.173 | Mean in Log Scale | -1.017 |
| SD in Original Scale | 3.202 | SD in Log Scale | 1.477 |
| 95% t UCL (assumes normality of ROS data) | 1.579 | 95% Percentile Bootstrap UCL | 1.629 |
| 95% BCA Bootstrap UCL | 1.856 | 95% Bootstrap t UCL | 1.992 |
| 95% H-UCL (Log ROS) | 1.45 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.007 | KM Geo Mean | 0.365 |
| KM SD (logged) | 1.472 | 95% Critical H Value (KM-Log) | 2.614 |
| KM Standard Error of Mean (logged) | 0.118 | 95% H-UCL (KM -Log) | 1.452 |
| KM SD (logged) | 1.472 | 95% Critical H Value (KM-Log) | 2.614 |
| KM Standard Error of Mean (logged) | 0.118 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.188 | Mean in Log Scale | -0.933 |
| SD in Original Scale | 3.198 | SD in Log Scale | 1.425 |
| 95% t UCL (Assumes normality) | 1.594 | 95% H-Stat UCL | 1.439 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 1.452 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**CHROMIUM, HEXAVALENT**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 29 | Number of Distinct Observations | 25 |
| | | Number of Missing Observations | 202 |
| Number of Detects | 12 | Number of Non-Detects | 17 |
| Number of Distinct Detects | 12 | Number of Distinct Non-Detects | 15 |
| Minimum Detect | 0.363 | Minimum Non-Detect | 0.45 |
| Maximum Detect | 2.8 | Maximum Non-Detect | 2.9 |

| | | | |
|---|---|---|---|
| Variance Detects | 0.411 | Percent Non-Detects | 58.62% |
| Mean Detects | 0.935 | SD Detects | 0.641 |
| Median Detects | 0.76 | CV Detects | 0.686 |
| Skewness Detects | 2.546 | Kurtosis Detects | 7.457 |
| Mean of Logged Detects | -0.213 | SD of Logged Detects | 0.525 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.709 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.859 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.293 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.243 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.631 | KM Standard Error of Mean | 0.0976 |
| KM SD | 0.487 | 95% KM (BCA) UCL | 0.862 |
| 95% KM (t) UCL | 0.797 | 95% KM (Percentile Bootstrap) UCL | 0.816 |
| 95% KM (z) UCL | 0.792 | 95% KM Bootstrap t UCL | 0.91 |
| 90% KM Chebyshev UCL | 0.924 | 95% KM Chebyshev UCL | 1.057 |
| 97.5% KM Chebyshev UCL | 1.241 | 99% KM Chebyshev UCL | 1.603 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.561 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.737 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.213 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.247 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 3.587 | k star (bias corrected MLE) | 2.746 |
| Theta hat (MLE) | 0.261 | Theta star (bias corrected MLE) | 0.34 |
| nu hat (MLE) | 86.08 | nu star (bias corrected) | 65.89 |
| Mean (detects) | 0.935 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 0.45 |
| Maximum | 2.8 | Median | 0.253 |
| SD | 0.583 | CV | 1.295 |
| k hat (MLE) | 0.674 | k star (bias corrected MLE) | 0.627 |
| Theta hat (MLE) | 0.668 | Theta star (bias corrected MLE) | 0.717 |
| nu hat (MLE) | 39.09 | nu star (bias corrected) | 36.38 |
| Adjusted Level of Significance (β) | 0.0407 | | |
| Approximate Chi Square Value (36.38, α) | 23.57 | Adjusted Chi Square Value (36.38, β) | 22.96 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.694 | 95% Gamma Adjusted UCL (use when n<50) | 0.713 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.631 | SD (KM) | 0.487 |
| Variance (KM) | 0.237 | SE of Mean (KM) | 0.0976 |
| k hat (KM) | 1.679 | k star (KM) | 1.529 |
| nu hat (KM) | 97.4 | nu star (KM) | 88.66 |
| theta hat (KM) | 0.376 | theta star (KM) | 0.413 |
| 80% gamma percentile (KM) | 0.975 | 90% gamma percentile (KM) | 1.31 |
| 95% gamma percentile (KM) | 1.634 | 99% gamma percentile (KM) | 2.367 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (88.66, α) | 67.95 | Adjusted Chi Square Value (88.66, β) | 66.87 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.824 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.837 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.941 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.859 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.176 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.243 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.591 | Mean in Log Scale | -0.716 |
| SD in Original Scale | 0.5 | SD in Log Scale | 0.56 |
| 95% t UCL (assumes normality of ROS data) | 0.749 | 95% Percentile Bootstrap UCL | 0.756 |
| 95% BCA Bootstrap UCL | 0.845 | 95% Bootstrap t UCL | 0.91 |
| 95% H-UCL (Log ROS) | 0.706 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -0.623 | KM Geo Mean | 0.536 |
| KM SD (logged) | 0.507 | 95% Critical H Value (KM-Log) | 1.952 |
| KM Standard Error of Mean (logged) | 0.105 | 95% H-UCL (KM -Log) | 0.735 |
| KM SD (logged) | 0.507 | 95% Critical H Value (KM-Log) | 1.952 |
| KM Standard Error of Mean (logged) | 0.105 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.611 | Mean in Log Scale | -0.744 |
| SD in Original Scale | 0.539 | SD in Log Scale | 0.673 |
| 95% t UCL (Assumes normality) | 0.781 | 95% H-Stat UCL | 0.779 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | | | |
|---|---|---|---|
| 95% KM Adjusted Gamma UCL | 0.837 | 95% GROS Adjusted Gamma UCL | 0.713 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

COBALT

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 170 | Number of Distinct Observations | 105 |
| | | Number of Missing Observations | 99 |
| Number of Detects | 156 | Number of Non-Detects | 14 |
| Number of Distinct Detects | 99 | Number of Distinct Non-Detects | 11 |
| Minimum Detect | 0.11 | Minimum Non-Detect | 0.2 |
| Maximum Detect | 82.4 | Maximum Non-Detect | 5.9 |
| Variance Detects | 128.8 | Percent Non-Detects | 8.235% |
| Mean Detects | 4.975 | SD Detects | 11.35 |
| Median Detects | 2.3 | CV Detects | 2.281 |
| Skewness Detects | 5.885 | Kurtosis Detects | 37.17 |
| Mean of Logged Detects | 0.69 | SD of Logged Detects | 1.3 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.376 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.334 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0713 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 4.667 | KM Standard Error of Mean | 0.838 |
| KM SD | 10.89 | 95% KM (BCA) UCL | 6.161 |
| 95% KM (t) UCL | 6.054 | 95% KM (Percentile Bootstrap) UCL | 6.17 |
| 95% KM (z) UCL | 6.046 | 95% KM Bootstrap t UCL | 6.92 |
| 90% KM Chebyshev UCL | 7.182 | 95% KM Chebyshev UCL | 8.321 |
| 97.5% KM Chebyshev UCL | 9.903 | 99% KM Chebyshev UCL | 13.01 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 4.419 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.804 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.109 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0784 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.665 | k star (bias corrected MLE) | 0.657 |
| Theta hat (MLE) | 7.477 | Theta star (bias corrected MLE) | 7.574 |
| nu hat (MLE) | 207.6 | nu star (bias corrected) | 204.9 |
| Mean (detects) | 4.975 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 4.585 |
| Maximum | 82.4 | Median | 1.505 |
| SD | 10.95 | CV | 2.387 |
| k hat (MLE) | 0.532 | k star (bias corrected MLE) | 0.526 |
| Theta hat (MLE) | 8.624 | Theta star (bias corrected MLE) | 8.714 |
| nu hat (MLE) | 180.8 | nu star (bias corrected) | 178.9 |
| Adjusted Level of Significance (β) | 0.0486 | | |
| Approximate Chi Square Value (178.91, α) | 149 | Adjusted Chi Square Value (178.91, β) | 148.7 |
| 95% Gamma Approximate UCL (use when n>=50) | 5.506 | 95% Gamma Adjusted UCL (use when n<50) | 5.515 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 4.667 | SD (KM) | 10.89 |
| Variance (KM) | 118.6 | SE of Mean (KM) | 0.838 |
| k hat (KM) | 0.184 | k star (KM) | 0.184 |
| nu hat (KM) | 62.44 | nu star (KM) | 62.67 |
| theta hat (KM) | 25.41 | theta star (KM) | 25.32 |
| 80% gamma percentile (KM) | 5.875 | 90% gamma percentile (KM) | 14.09 |
| 95% gamma percentile (KM) | 24.55 | 99% gamma percentile (KM) | 53.74 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (62.67, α) | 45.46 | Adjusted Chi Square Value (62.67, β) | 45.34 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 6.434 | 95% Gamma Adjusted KM-UCL (use when n<50) | 6.452 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.968 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.0251 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0739 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0713 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 4.646 | Mean in Log Scale | 0.61 |
| SD in Original Scale | 10.92 | SD in Log Scale | 1.299 |
| 95% t UCL (assumes normality of ROS data) | 6.032 | 95% Percentile Bootstrap UCL | 6.144 |
| 95% BCA Bootstrap UCL | 6.614 | 95% Bootstrap t UCL | 6.907 |
| 95% H-UCL (Log ROS) | 5.454 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 0.605 | KM Geo Mean | 1.832 |
| KM SD (logged) | 1.311 | 95% Critical H Value (KM-Log) | 2.452 |
| KM Standard Error of Mean (logged) | 0.103 | 95% H-UCL (KM -Log) | 5.542 |
| KM SD (logged) | 1.311 | 95% Critical H Value (KM-Log) | 2.452 |
| KM Standard Error of Mean (logged) | 0.103 | | |

**DL/2 Statistics**

| DL/2 Normal | | DL/2 Log-Transformed | |
|---|---|---|---|
| Mean in Original Scale | 4.717 | Mean in Log Scale | 0.654 |
| SD in Original Scale | 10.91 | SD in Log Scale | 1.293 |
| 95% t UCL (Assumes normality) | 6.101 | 95% H-Stat UCL | 5.648 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 8.321 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

COPPER

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 168 | Number of Distinct Observations | 140 |
| | | Number of Missing Observations | 101 |
| Number of Detects | 158 | Number of Non-Detects | 10 |
| Number of Distinct Detects | 136 | Number of Distinct Non-Detects | 7 |
| Minimum Detect | 0.1 | Minimum Non-Detect | 1.9 |
| Maximum Detect | 1360 | Maximum Non-Detect | 2.9 |
| Variance Detects | 24830 | Percent Non-Detects | 5.952% |
| Mean Detects | 68.52 | SD Detects | 157.6 |
| Median Detects | 25.9 | CV Detects | 2.3 |
| Skewness Detects | 6.094 | Kurtosis Detects | 42.22 |
| Mean of Logged Detects | 3.108 | SD of Logged Detects | 1.619 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.404 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.332 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0709 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 64.51 | KM Standard Error of Mean | 11.85 |
| KM SD | 153.2 | 95% KM (BCA) UCL | 85.28 |
| 95% KM (t) UCL | 84.12 | 95% KM (Percentile Bootstrap) UCL | 84.25 |
| 95% KM (z) UCL | 84.01 | 95% KM Bootstrap t UCL | 96.48 |
| 90% KM Chebyshev UCL | 100.1 | 95% KM Chebyshev UCL | 116.2 |
| 97.5% KM Chebyshev UCL | 138.5 | 99% KM Chebyshev UCL | 182.5 |

**Gamma GOF Tests on Detected Observations Only**

| | | | |
|---|---|---|---|
| A-D Test Statistic | 2.432 | **Anderson-Darling GOF Test** | |
| 5% A-D Critical Value | 0.814 | Detected Data Not Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.0929 | **Kolmogorov-Smirnov GOF** | |
| 5% K-S Critical Value | 0.0785 | Detected Data Not Gamma Distributed at 5% Significance Level | |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.558 | k star (bias corrected MLE) | 0.552 |
| Theta hat (MLE) | 122.7 | Theta star (bias corrected MLE) | 124.2 |
| nu hat (MLE) | 176.4 | nu star (bias corrected) | 174.4 |
| Mean (detects) | 68.52 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 64.44 |
| Maximum | 1360 | Median | 21.13 |
| SD | 153.6 | CV | 2.384 |
| k hat (MLE) | 0.429 | k star (bias corrected MLE) | 0.425 |
| Theta hat (MLE) | 150.2 | Theta star (bias corrected MLE) | 151.5 |
| nu hat (MLE) | 144.2 | nu star (bias corrected) | 142.9 |
| Adjusted Level of Significance (β) | 0.0486 | | |
| Approximate Chi Square Value (142.92, α) | 116.3 | Adjusted Chi Square Value (142.92, β) | 116.1 |
| 95% Gamma Approximate UCL (use when n>=50) | 79.2 | 95% Gamma Adjusted UCL (use when n<50) | 79.34 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 64.51 | SD (KM) | 153.2 |
| Variance (KM) | 23458 | SE of Mean (KM) | 11.85 |
| k hat (KM) | 0.177 | k star (KM) | 0.178 |
| nu hat (KM) | 59.61 | nu star (KM) | 59.88 |
| theta hat (KM) | 363.6 | theta star (KM) | 362 |
| 80% gamma percentile (KM) | 79.54 | 90% gamma percentile (KM) | 194.5 |
| 95% gamma percentile (KM) | 342.1 | 99% gamma percentile (KM) | 756.6 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (59.88, α) | 43.09 | Adjusted Chi Square Value (59.88, β) | 42.96 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 89.66 | 95% Gamma Adjusted KM-UCL (use when n<50) | 89.91 |

**Lognormal GOF Test on Detected Observations Only**

| | | | |
|---|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.979 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk P Value | 0.313 | Detected Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.0481 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.0709 | Detected Data appear Lognormal at 5% Significance Level | |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 64.53 | Mean in Log Scale | 2.942 |
| SD in Original Scale | 153.6 | SD in Log Scale | 1.705 |
| 95% t UCL (assumes normality of ROS data) | 84.13 | 95% Percentile Bootstrap UCL | 84.92 |
| 95% BCA Bootstrap UCL | 90.85 | 95% Bootstrap t UCL | 103.2 |
| 95% H-UCL (Log ROS) | 118.3 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 2.914 | KM Geo Mean | 18.43 |
| KM SD (logged) | 1.761 | 95% Critical H Value (KM-Log) | 2.924 |
| KM Standard Error of Mean (logged) | 0.138 | 95% H-UCL (KM -Log) | 129.3 |
| KM SD (logged) | 1.761 | 95% Critical H Value (KM-Log) | 2.924 |
| KM Standard Error of Mean (logged) | 0.138 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 64.51 | Mean in Log Scale | 2.931 |
| SD in Original Scale | 153.6 | SD in Log Scale | 1.722 |
| 95% t UCL (Assumes normality) | 84.11 | 95% H-Stat UCL | 121.1 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 129.3 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**CYANIDE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 159 | Number of Distinct Observations | 121 |
| | | Number of Missing Observations | 96 |
| Number of Detects | 106 | Number of Non-Detects | 53 |
| Number of Distinct Detects | 95 | Number of Distinct Non-Detects | 32 |
| Minimum Detect | 0.07 | Minimum Non-Detect | 0.04 |
| Maximum Detect | 353 | Maximum Non-Detect | 3.8 |
| Variance Detects | 4679 | Percent Non-Detects | 33.33% |
| Mean Detects | 32.57 | SD Detects | 68.4 |
| Median Detects | 6.55 | CV Detects | 2.1 |
| Skewness Detects | 3.2 | Kurtosis Detects | 10.41 |
| Mean of Logged Detects | 1.803 | SD of Logged Detects | 2.008 |

**Normal GOF Test on Detects Only**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.518 | **Normal GOF Test on Detected Observations Only** | |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.317 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.0863 | Detected Data Not Normal at 5% Significance Level | |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 21.81 | KM Standard Error of Mean | 4.592 |
| KM SD | 57.63 | 95% KM (BCA) UCL | 29.79 |
| 95% KM (t) UCL | 29.41 | 95% KM (Percentile Bootstrap) UCL | 29.71 |
| 95% KM (z) UCL | 29.36 | 95% KM Bootstrap t UCL | 31.62 |
| 90% KM Chebyshev UCL | 35.59 | 95% KM Chebyshev UCL | 41.83 |
| 97.5% KM Chebyshev UCL | 50.49 | 99% KM Chebyshev UCL | 67.5 |

**Gamma GOF Tests on Detected Observations Only**

| | | | |
|---|---|---|---|
| A-D Test Statistic | 3.453 | **Anderson-Darling GOF Test** | |
| 5% A-D Critical Value | 0.845 | Detected Data Not Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.156 | **Kolmogorov-Smirnov GOF** | |
| 5% K-S Critical Value | 0.0943 | Detected Data Not Gamma Distributed at 5% Significance Level | |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.393 | k star (bias corrected MLE) | 0.388 |
| Theta hat (MLE) | 82.92 | Theta star (bias corrected MLE) | 83.96 |
| nu hat (MLE) | 83.26 | nu star (bias corrected) | 82.23 |
| Mean (detects) | 32.57 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 21.71 |
| Maximum | 353 | Median | 1.4 |
| SD | 57.85 | CV | 2.664 |
| k hat (MLE) | 0.214 | k star (bias corrected MLE) | 0.214 |
| Theta hat (MLE) | 101.7 | Theta star (bias corrected MLE) | 101.6 |
| nu hat (MLE) | 67.9 | nu star (bias corrected) | 67.96 |
| Adjusted Level of Significance (β) | 0.0485 | | |
| Approximate Chi Square Value (67.96, α) | 49.98 | Adjusted Chi Square Value (67.96, β) | 49.84 |
| 95% Gamma Approximate UCL (use when n>=50) | 29.52 | 95% Gamma Adjusted UCL (use when n<50) | 29.61 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 21.81 | SD (KM) | 57.63 |
| Variance (KM) | 3321 | SE of Mean (KM) | 4.592 |
| k hat (KM) | 0.143 | k star (KM) | 0.145 |
| nu hat (KM) | 45.55 | nu star (KM) | 46.02 |

| | | | |
|---|---|---|---|
| theta hat (KM) | 152.3 | theta star (KM) | 150.7 |
| 80% gamma percentile (KM) | 23.04 | 90% gamma percentile (KM) | 64.33 |
| 95% gamma percentile (KM) | 120.9 | 99% gamma percentile (KM) | 286.1 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (46.02, α) | 31.45 | Adjusted Chi Square Value (46.02, β) | 31.35 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 31.91 | 95% Gamma Adjusted KM-UCL (use when n<50) | 32.02 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.971 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.139 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.041 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0863 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 21.79 | Mean in Log Scale | 0.575 |
| SD in Original Scale | 57.82 | SD in Log Scale | 2.457 |
| 95% t UCL (assumes normality of ROS data) | 29.38 | 95% Percentile Bootstrap UCL | 29.46 |
| 95% BCA Bootstrap UCL | 30.84 | 95% Bootstrap t UCL | 31.79 |
| 95% H-UCL (Log ROS) | 77.63 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 0.536 | KM Geo Mean | 1.708 |
| KM SD (logged) | 2.513 | 95% Critical H Value (KM-Log) | 3.953 |
| KM Standard Error of Mean (logged) | 0.212 | 95% H-UCL (KM -Log) | 88.47 |
| KM SD (logged) | 2.513 | 95% Critical H Value (KM-Log) | 3.953 |
| KM Standard Error of Mean (logged) | 0.212 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 21.92 | Mean in Log Scale | 0.892 |
| SD in Original Scale | 57.77 | SD in Log Scale | 2.175 |
| 95% t UCL (Assumes normality) | 29.5 | 95% H-Stat UCL | 47.81 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 88.47 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

IRON

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 170 | Number of Distinct Observations | 162 |
| | | Number of Missing Observations | 99 |
| Minimum | 88.6 | Mean | 11150 |
| Maximum | 49200 | Median | 6170 |
| SD | 11209 | Std. Error of Mean | 859.7 |
| Coefficient of Variation | 1.005 | Skewness | 1.423 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.806 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.189 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0684 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

**Assuming Normal Distribution**

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 12571 | 95% Adjusted-CLT UCL (Chen-1995) | 12664 |
| | | 95% Modified-t UCL (Johnson-1978) | 12587 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 1.289 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.783 | Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.0842 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.0735 | Data Not Gamma Distributed at 5% Significance Level |

Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.014 | k star (bias corrected MLE) | 1 |
| Theta hat (MLE) | 10991 | Theta star (bias corrected MLE) | 11144 |
| nu hat (MLE) | 344.9 | nu star (bias corrected) | 340.2 |
| MLE Mean (bias corrected) | 11150 | MLE Sd (bias corrected) | 11147 |
| | | Approximate Chi Square Value (0.05) | 298.4 |
| Adjusted Level of Significance | 0.0486 | Adjusted Chi Square Value | 298.1 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 12709 | 95% Adjusted Gamma UCL (use when n<50) | 12723 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.945 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk P Value | 1.1910E-6 | Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0697 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.0684 | Data Not Lognormal at 5% Significance Level |

Data Not Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | 4.484 | Mean of logged Data | 8.751 |

| | | | |
|---|---|---|---|
| Maximum of Logged Data | 10.8 | SD of logged Data | 1.216 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 16511 | 90% Chebyshev (MVUE) UCL | 17900 |
| 95% Chebyshev (MVUE) UCL | 20055 | 97.5% Chebyshev (MVUE) UCL | 23047 |
| 99% Chebyshev (MVUE) UCL | 28924 | | |

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution (0.05)

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 12564 | 95% Jackknife UCL | 12571 |
| 95% Standard Bootstrap UCL | 12542 | 95% Bootstrap-t UCL | 12709 |
| 95% Hall's Bootstrap UCL | 12638 | 95% Percentile Bootstrap UCL | 12626 |
| 95% BCA Bootstrap UCL | 12639 | | |
| 90% Chebyshev(Mean, Sd) UCL | 13729 | 95% Chebyshev(Mean, Sd) UCL | 14897 |
| 97.5% Chebyshev(Mean, Sd) UCL | 16518 | 99% Chebyshev(Mean, Sd) UCL | 19703 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% Chebyshev (Mean, Sd) UCL | 14897 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**LEAD**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 223 | Number of Distinct Observations | 198 |
| | | Number of Missing Observations | 46 |
| Number of Detects | 210 | Number of Non-Detects | 13 |
| Number of Distinct Detects | 197 | Number of Distinct Non-Detects | 1 |
| Minimum Detect | 1 | Minimum Non-Detect | 75 |
| Maximum Detect | 15200 | Maximum Non-Detect | 75 |
| Variance Detects | 2528955 | Percent Non-Detects | 5.83% |
| Mean Detects | 703.6 | SD Detects | 1590 |
| Median Detects | 249 | CV Detects | 2.26 |
| Skewness Detects | 5.401 | Kurtosis Detects | 37.88 |
| Mean of Logged Detects | 5.223 | SD of Logged Detects | 1.865 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.453 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.329 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0616 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 664.2 | KM Standard Error of Mean | 103.9 |
| KM SD | 1548 | 95% KM (BCA) UCL | 840.6 |
| 95% KM (t) UCL | 835.8 | 95% KM (Percentile Bootstrap) UCL | 845.7 |
| 95% KM (z) UCL | 835.1 | 95% KM Bootstrap t UCL | 889.5 |
| 90% KM Chebyshev UCL | 975.9 | 95% KM Chebyshev UCL | 1117 |
| 97.5% KM Chebyshev UCL | 1313 | 99% KM Chebyshev UCL | 1698 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 3.893 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.826 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.121 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0663 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.48 | k star (bias corrected MLE) | 0.476 |
| Theta hat (MLE) | 1467 | Theta star (bias corrected MLE) | 1479 |
| nu hat (MLE) | 201.4 | nu star (bias corrected) | 199.9 |
| Mean (detects) | 703.6 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 662.6 |
| Maximum | 15200 | Median | 210 |
| SD | 1552 | CV | 2.342 |
| k hat (MLE) | 0.362 | k star (bias corrected MLE) | 0.36 |
| Theta hat (MLE) | 1829 | Theta star (bias corrected MLE) | 1839 |
| nu hat (MLE) | 161.5 | nu star (bias corrected) | 160.7 |
| Adjusted Level of Significance (β) | 0.0489 | | |
| Approximate Chi Square Value (160.71, α) | 132.4 | Adjusted Chi Square Value (160.71, β) | 132.2 |
| 95% Gamma Approximate UCL (use when n>=50) | 804.3 | 95% Gamma Adjusted UCL (use when n<50) | 805.3 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 664.2 | SD (KM) | 1548 |
| Variance (KM) | 2395294 | SE of Mean (KM) | 103.9 |
| k hat (KM) | 0.184 | k star (KM) | 0.185 |
| nu hat (KM) | 82.14 | nu star (KM) | 82.37 |
| theta hat (KM) | 3606 | theta star (KM) | 3596 |
| 80% gamma percentile (KM) | 837.1 | 90% gamma percentile (KM) | 2005 |
| 95% gamma percentile (KM) | 3492 | 99% gamma percentile (KM) | 7640 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (82.37, α) | 62.46 | Adjusted Chi Square Value (82.37, β) | 62.35 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 876 | 95% Gamma Adjusted KM-UCL (use when n<50) | 877.6 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.952 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 1.5584E-6 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0832 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0616 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 664 | Mean in Log Scale | 5.089 |
| SD in Original Scale | 1551 | SD in Log Scale | 1.899 |
| 95% t UCL (assumes normality of ROS data) | 835.6 | 95% Percentile Bootstrap UCL | 844.1 |
| 95% BCA Bootstrap UCL | 870.3 | 95% Bootstrap t UCL | 897.6 |
| 95% H-UCL (Log ROS) | 1451 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 5.076 | KM Geo Mean | 160.1 |
| KM SD (logged) | 1.925 | 95% Critical H Value (KM-Log) | 3.078 |
| KM Standard Error of Mean (logged) | 0.131 | 95% H-UCL (KM -Log) | 1520 |
| KM SD (logged) | 1.925 | 95% Critical H Value (KM-Log) | 3.078 |
| KM Standard Error of Mean (logged) | 0.131 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 664.8 | Mean in Log Scale | 5.13 |
| SD in Original Scale | 1551 | SD in Log Scale | 1.848 |
| 95% t UCL (Assumes normality) | 836.3 | 95% H-Stat UCL | 1352 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 1117 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**MANGANESE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 168 | Number of Distinct Observations | 157 |
| | | Number of Missing Observations | 101 |
| Minimum | 2 | Mean | 134 |
| Maximum | 1420 | Median | 41.4 |
| SD | 247.7 | Std. Error of Mean | 19.11 |
| Coefficient of Variation | 1.849 | Skewness | 3.255 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.551 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.297 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0688 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

**Assuming Normal Distribution**

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 165.6 | 95% Adjusted-CLT UCL (Chen-1995) | 170.6 |
| | | 95% Modified-t UCL (Johnson-1978) | 166.4 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 5.754 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.814 | Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.146 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.0757 | Data Not Gamma Distributed at 5% Significance Level |

Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.559 | k star (bias corrected MLE) | 0.553 |
| Theta hat (MLE) | 239.6 | Theta star (bias corrected MLE) | 242.2 |
| nu hat (MLE) | 187.9 | nu star (bias corrected) | 185.9 |
| MLE Mean (bias corrected) | 134 | MLE Sd (bias corrected) | 180.1 |
| | | Approximate Chi Square Value (0.05) | 155.3 |
| Adjusted Level of Significance | 0.0486 | Adjusted Chi Square Value | 155.1 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 160.3 | 95% Adjusted Gamma UCL (use when n<50) | 160.6 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.96 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk P Value | 0.00113 | Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0573 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.0688 | Data appear Lognormal at 5% Significance Level |

Data appear Approximate Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | 0.693 | Mean of logged Data | 3.781 |
| Maximum of Logged Data | 7.258 | SD of logged Data | 1.5 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 183.6 | 90% Chebyshev (MVUE) UCL | 198.6 |
| 95% Chebyshev (MVUE) UCL | 228.2 | 97.5% Chebyshev (MVUE) UCL | 269.3 |
| 99% Chebyshev (MVUE) UCL | 350.1 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 165.4 | 95% Jackknife UCL | 165.6 |
| 95% Standard Bootstrap UCL | 165 | 95% Bootstrap-t UCL | 175.5 |
| 95% Hall's Bootstrap UCL | 171.4 | 95% Percentile Bootstrap UCL | 166.7 |
| 95% BCA Bootstrap UCL | 172.3 | | |
| 90% Chebyshev(Mean, Sd) UCL | 191.3 | 95% Chebyshev(Mean, Sd) UCL | 217.3 |
| 97.5% Chebyshev(Mean, Sd) UCL | 253.3 | 99% Chebyshev(Mean, Sd) UCL | 324.1 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% H-UCL | 183.6 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**ProUCL computes and outputs H-statistic based UCLs for historical reasons only.**
**H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.**
**It is therefore recommended to avoid the use of H-statistic based 95% UCLs.**
**Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.**

MERCURY

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 162 | Number of Distinct Observations | 99 |
| | | Number of Missing Observations | 107 |
| Number of Detects | 132 | Number of Non-Detects | 30 |
| Number of Distinct Detects | 91 | Number of Distinct Non-Detects | 14 |
| Minimum Detect | 0.025 | Minimum Non-Detect | 0.05 |
| Maximum Detect | 25.2 | Maximum Non-Detect | 0.15 |
| Variance Detects | 12.22 | Percent Non-Detects | 18.52% |
| Mean Detects | 1.513 | SD Detects | 3.496 |
| Median Detects | 0.505 | CV Detects | 2.31 |
| Skewness Detects | 5.146 | Kurtosis Detects | 28.77 |
| Mean of Logged Detects | -0.597 | SD of Logged Detects | 1.349 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.406 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.335 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0775 | Detected Data Not Normal at 5% Significance Level |

**Detected Data Not Normal at 5% Significance Level**

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 1.242 | KM Standard Error of Mean | 0.252 |
| KM SD | 3.194 | 95% KM (BCA) UCL | 1.743 |
| 95% KM (t) UCL | 1.659 | 95% KM (Percentile Bootstrap) UCL | 1.673 |
| 95% KM (z) UCL | 1.657 | 95% KM Bootstrap t UCL | 1.94 |

| | | | |
|---|---|---|---|
| 90% KM Chebyshev UCL | 1.998 | 95% KM Chebyshev UCL | 2.341 |
| 97.5% KM Chebyshev UCL | 2.816 | 99% KM Chebyshev UCL | 3.749 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 5.017 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.809 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.157 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0852 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.61 | k star (bias corrected MLE) | 0.601 |
| Theta hat (MLE) | 2.481 | Theta star (bias corrected MLE) | 2.518 |
| nu hat (MLE) | 161 | nu star (bias corrected) | 158.6 |
| Mean (detects) | 1.513 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 1.235 |
| Maximum | 25.2 | Median | 0.368 |
| SD | 3.207 | CV | 2.598 |
| k hat (MLE) | 0.421 | k star (bias corrected MLE) | 0.417 |
| Theta hat (MLE) | 2.932 | Theta star (bias corrected MLE) | 2.958 |
| nu hat (MLE) | 136.4 | nu star (bias corrected) | 135.2 |
| Adjusted Level of Significance (β) | 0.0485 | | |
| Approximate Chi Square Value (135.23, α) | 109.4 | Adjusted Chi Square Value (135.23, β) | 109.2 |
| 95% Gamma Approximate UCL (use when n>=50) | 1.527 | 95% Gamma Adjusted UCL (use when n<50) | 1.53 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 1.242 | SD (KM) | 3.194 |
| Variance (KM) | 10.2 | SE of Mean (KM) | 0.252 |
| k hat (KM) | 0.151 | k star (KM) | 0.153 |
| nu hat (KM) | 49.02 | nu star (KM) | 49.44 |
| theta hat (KM) | 8.213 | theta star (KM) | 8.142 |
| 80% gamma percentile (KM) | 1.372 | 90% gamma percentile (KM) | 3.693 |
| 95% gamma percentile (KM) | 6.815 | 99% gamma percentile (KM) | 15.85 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (49.44, α) | 34.3 | Adjusted Chi Square Value (49.44, β) | 34.19 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1.791 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1.797 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.98 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.438 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0412 | **Lilliefors GOF Test** |

| | | | |
|---|---|---|---|
| 5% Lilliefors Critical Value | 0.0775 | Detected Data appear Lognormal at 5% Significance Level | |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 1.242 | Mean in Log Scale | -1.056 |
| SD in Original Scale | 3.204 | SD in Log Scale | 1.568 |
| 95% t UCL (assumes normality of ROS data) | 1.659 | 95% Percentile Bootstrap UCL | 1.695 |
| 95% BCA Bootstrap UCL | 1.783 | 95% Bootstrap t UCL | 1.917 |
| 95% H-UCL (Log ROS) | 1.662 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.05 | KM Geo Mean | 0.35 |
| KM SD (logged) | 1.553 | 95% Critical H Value (KM-Log) | 2.693 |
| KM Standard Error of Mean (logged) | 0.125 | 95% H-UCL (KM -Log) | 1.623 |
| KM SD (logged) | 1.553 | 95% Critical H Value (KM-Log) | 2.693 |
| KM Standard Error of Mean (logged) | 0.125 | | |

**DL/2 Statistics**

| DL/2 Normal | | DL/2 Log-Transformed | |
|---|---|---|---|
| Mean in Original Scale | 1.242 | Mean in Log Scale | -1.044 |
| SD in Original Scale | 3.204 | SD in Log Scale | 1.542 |
| 95% t UCL (Assumes normality) | 1.659 | 95% H-Stat UCL | 1.601 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 1.623 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**THALLIUM**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 170 | Number of Distinct Observations | 63 |
| | | Number of Missing Observations | 99 |
| Number of Detects | 12 | Number of Non-Detects | 158 |
| Number of Distinct Detects | 12 | Number of Distinct Non-Detects | 56 |
| Minimum Detect | 0.21 | Minimum Non-Detect | 0.3 |
| Maximum Detect | 3.8 | Maximum Non-Detect | 5.2 |
| Variance Detects | 1.246 | Percent Non-Detects | 92.94% |
| Mean Detects | 1.465 | SD Detects | 1.116 |
| Median Detects | 1.15 | CV Detects | 0.762 |
| Skewness Detects | 0.78 | Kurtosis Detects | -0.173 |
| Mean of Logged Detects | 0.0606 | SD of Logged Detects | 0.894 |

**Normal GOF Test on Detects Only**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.899 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.859 | Detected Data appear Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.198 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.243 | Detected Data appear Normal at 5% Significance Level | |

Detected Data appear Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.422 | KM Standard Error of Mean | 0.0605 |
| KM SD | 0.502 | 95% KM (BCA) UCL | 0.584 |
| 95% KM (t) UCL | 0.522 | 95% KM (Percentile Bootstrap) UCL | 0.556 |
| 95% KM (z) UCL | 0.521 | 95% KM Bootstrap t UCL | 0.529 |
| 90% KM Chebyshev UCL | 0.603 | 95% KM Chebyshev UCL | 0.686 |
| 97.5% KM Chebyshev UCL | 0.8 | 99% KM Chebyshev UCL | 1.024 |

**Gamma GOF Tests on Detected Observations Only**

| | | | |
|---|---|---|---|
| A-D Test Statistic | 0.373 | **Anderson-Darling GOF Test** | |
| 5% A-D Critical Value | 0.744 | Detected data appear Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.19 | **Kolmogorov-Smirnov GOF** | |
| 5% K-S Critical Value | 0.249 | Detected data appear Gamma Distributed at 5% Significance Level | |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.703 | k star (bias corrected MLE) | 1.333 |
| Theta hat (MLE) | 0.86 | Theta star (bias corrected MLE) | 1.099 |
| nu hat (MLE) | 40.88 | nu star (bias corrected) | 32 |
| Mean (detects) | 1.465 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 0.239 |
| Maximum | 3.8 | Median | 0.01 |
| SD | 0.508 | CV | 2.127 |
| k hat (MLE) | 0.371 | k star (bias corrected MLE) | 0.368 |
| Theta hat (MLE) | 0.644 | Theta star (bias corrected MLE) | 0.649 |
| nu hat (MLE) | 126 | nu star (bias corrected) | 125.1 |
| Adjusted Level of Significance (β) | 0.0486 | | |
| Approximate Chi Square Value (125.12, α) | 100.3 | Adjusted Chi Square Value (125.12, β) | 100.1 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.298 | 95% Gamma Adjusted UCL (use when n<50) | 0.298 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.422 | SD (KM) | 0.502 |
| Variance (KM) | 0.252 | SE of Mean (KM) | 0.0605 |
| k hat (KM) | 0.706 | k star (KM) | 0.698 |

| | | | |
|---|---|---|---|
| nu hat (KM) | 240.2 | nu star (KM) | 237.3 |
| theta hat (KM) | 0.597 | theta star (KM) | 0.605 |
| 80% gamma percentile (KM) | 0.694 | 90% gamma percentile (KM) | 1.06 |
| 95% gamma percentile (KM) | 1.438 | 99% gamma percentile (KM) | 2.34 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (237.30, α) | 202.6 | Adjusted Chi Square Value (237.30, β) | 202.4 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.494 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.495 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.944 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.859 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.194 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.243 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.367 | Mean in Log Scale | -1.339 |
| SD in Original Scale | 0.452 | SD in Log Scale | 0.741 |
| 95% t UCL (assumes normality of ROS data) | 0.424 | 95% Percentile Bootstrap UCL | 0.427 |
| 95% BCA Bootstrap UCL | 0.44 | 95% Bootstrap t UCL | 0.448 |
| 95% H-UCL (Log ROS) | 0.386 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.167 | KM Geo Mean | 0.311 |
| KM SD (logged) | 0.651 | 95% Critical H Value (KM-Log) | 1.9 |
| KM Standard Error of Mean (logged) | 0.116 | 95% H-UCL (KM -Log) | 0.423 |
| KM SD (logged) | 0.651 | 95% Critical H Value (KM-Log) | 1.9 |
| KM Standard Error of Mean (logged) | 0.116 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.018 | Mean in Log Scale | -0.148 |
| SD in Original Scale | 0.557 | SD in Log Scale | 0.624 |
| 95% t UCL (Assumes normality) | 1.088 | 95% H-Stat UCL | 1.146 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Normal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (t) UCL | 0.522 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**VANADIUM**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 164 | Number of Distinct Observations | 124 |
| | | Number of Missing Observations | 105 |
| Number of Detects | 163 | Number of Non-Detects | 1 |
| Number of Distinct Detects | 124 | Number of Distinct Non-Detects | 1 |
| Minimum Detect | 0.66 | Minimum Non-Detect | 5.4 |
| Maximum Detect | 87.8 | Maximum Non-Detect | 5.4 |
| Variance Detects | 212 | Percent Non-Detects | 0.61% |
| Mean Detects | 16.24 | SD Detects | 14.56 |
| Median Detects | 10.9 | CV Detects | 0.897 |
| Skewness Detects | 2.023 | Kurtosis Detects | 5.438 |
| Mean of Logged Detects | 2.431 | SD of Logged Detects | 0.886 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.803 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.179 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0698 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 16.16 | KM Standard Error of Mean | 1.136 |
| KM SD | 14.51 | 95% KM (BCA) UCL | 18.03 |
| 95% KM (t) UCL | 18.04 | 95% KM (Percentile Bootstrap) UCL | 18.06 |
| 95% KM (z) UCL | 18.03 | 95% KM Bootstrap t UCL | 18.22 |
| 90% KM Chebyshev UCL | 19.57 | 95% KM Chebyshev UCL | 21.12 |
| 97.5% KM Chebyshev UCL | 23.26 | 99% KM Chebyshev UCL | 27.47 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 1.424 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.77 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.0887 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0745 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.547 | k star (bias corrected MLE) | 1.522 |
| Theta hat (MLE) | 10.5 | Theta star (bias corrected MLE) | 10.67 |
| nu hat (MLE) | 504.2 | nu star (bias corrected) | 496.3 |
| Mean (detects) | 16.24 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.66 | Mean | 16.15 |

| | | | |
|---|---|---|---|
| Maximum | 87.8 | Median | 10.85 |
| SD | 14.57 | CV | 0.902 |
| k hat (MLE) | 1.506 | k star (bias corrected MLE) | 1.483 |
| Theta hat (MLE) | 10.72 | Theta star (bias corrected MLE) | 10.89 |
| nu hat (MLE) | 494.1 | nu star (bias corrected) | 486.4 |
| Adjusted Level of Significance (β) | 0.0485 | | |
| Approximate Chi Square Value (486.37, α) | 436.2 | Adjusted Chi Square Value (486.37, β) | 435.8 |
| 95% Gamma Approximate UCL (use when n>=50) | 18 | 95% Gamma Adjusted UCL (use when n<50) | 18.02 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 16.16 | SD (KM) | 14.51 |
| Variance (KM) | 210.5 | SE of Mean (KM) | 1.136 |
| k hat (KM) | 1.241 | k star (KM) | 1.222 |
| nu hat (KM) | 407.1 | nu star (KM) | 400.9 |
| theta hat (KM) | 13.02 | theta star (KM) | 13.22 |
| 80% gamma percentile (KM) | 25.55 | 90% gamma percentile (KM) | 35.41 |
| 95% gamma percentile (KM) | 45.14 | 99% gamma percentile (KM) | 67.39 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (400.94, α) | 355.5 | Adjusted Chi Square Value (400.94, β) | 355.2 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 18.23 | 95% Gamma Adjusted KM-UCL (use when n<50) | 18.25 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.975 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.138 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0533 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0698 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 16.16 | Mean in Log Scale | 2.423 |
| SD in Original Scale | 14.55 | SD in Log Scale | 0.889 |
| 95% t UCL (assumes normality of ROS data) | 18.04 | 95% Percentile Bootstrap UCL | 18.11 |
| 95% BCA Bootstrap UCL | 18.27 | 95% Bootstrap t UCL | 18.28 |
| 95% H-UCL (Log ROS) | 19.35 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 2.422 | KM Geo Mean | 11.27 |
| KM SD (logged) | 0.889 | 95% Critical H Value (KM-Log) | 2.069 |
| KM Standard Error of Mean (logged) | 0.0697 | 95% H-UCL (KM -Log) | 19.32 |
| KM SD (logged) | 0.889 | 95% Critical H Value (KM-Log) | 2.069 |
| KM Standard Error of Mean (logged) | 0.0697 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 16.16 | Mean in Log Scale | 2.422 |
| SD in Original Scale | 14.55 | SD in Log Scale | 0.891 |
| 95% t UCL (Assumes normality) | 18.04 | 95% H-Stat UCL | 19.36 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Lognormal Distributed at 5% Significance Level

Suggested UCL to Use

| | |
|---|---|
| KM H-UCL | 19.32 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

ZINC

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 170 | Number of Distinct Observations | 159 |
| | | Number of Missing Observations | 99 |
| Number of Detects | 160 | Number of Non-Detects | 10 |
| Number of Distinct Detects | 151 | Number of Distinct Non-Detects | 8 |
| Minimum Detect | 1.4 | Minimum Non-Detect | 4.8 |
| Maximum Detect | 5270 | Maximum Non-Detect | 7 |
| Variance Detects | 595913 | Percent Non-Detects | 5.882% |
| Mean Detects | 421 | SD Detects | 772 |
| Median Detects | 177.5 | CV Detects | 1.834 |
| Skewness Detects | 3.905 | Kurtosis Detects | 17.88 |
| Mean of Logged Detects | 4.87 | SD of Logged Detects | 1.747 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.54 | Normal GOF Test on Detected Observations Only |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.293 | Lilliefors GOF Test |
| 5% Lilliefors Critical Value | 0.0704 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 396.4 | KM Standard Error of Mean | 57.93 |
| KM SD | 753 | 95% KM (BCA) UCL | 496.4 |
| 95% KM (t) UCL | 492.2 | 95% KM (Percentile Bootstrap) UCL | 496.3 |
| 95% KM (z) UCL | 491.7 | 95% KM Bootstrap t UCL | 514.3 |
| 90% KM Chebyshev UCL | 570.2 | 95% KM Chebyshev UCL | 648.9 |
| 97.5% KM Chebyshev UCL | 758.2 | 99% KM Chebyshev UCL | 972.8 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 1.718 | Anderson-Darling GOF Test |
| 5% A-D Critical Value | 0.816 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.0944 | Kolmogorov-Smirnov GOF |
| 5% K-S Critical Value | 0.078 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.536 | k star (bias corrected MLE) | 0.53 |
| Theta hat (MLE) | 785.2 | Theta star (bias corrected MLE) | 793.9 |
| nu hat (MLE) | 171.6 | nu star (bias corrected) | 169.7 |
| Mean (detects) | 421 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 396.2 |
| Maximum | 5270 | Median | 140 |
| SD | 755.3 | CV | 1.906 |
| k hat (MLE) | 0.395 | k star (bias corrected MLE) | 0.392 |
| Theta hat (MLE) | 1003 | Theta star (bias corrected MLE) | 1011 |
| nu hat (MLE) | 134.3 | nu star (bias corrected) | 133.3 |
| Adjusted Level of Significance (β) | 0.0486 | | |
| Approximate Chi Square Value (133.29, α) | 107.6 | Adjusted Chi Square Value (133.29, β) | 107.4 |
| 95% Gamma Approximate UCL (use when n>=50) | 490.7 | 95% Gamma Adjusted UCL (use when n<50) | 491.6 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 396.4 | SD (KM) | 753 |
| Variance (KM) | 567030 | SE of Mean (KM) | 57.93 |
| k hat (KM) | 0.277 | k star (KM) | 0.276 |
| nu hat (KM) | 94.2 | nu star (KM) | 93.87 |
| theta hat (KM) | 1431 | theta star (KM) | 1436 |
| 80% gamma percentile (KM) | 594.4 | 90% gamma percentile (KM) | 1180 |
| 95% gamma percentile (KM) | 1861 | 99% gamma percentile (KM) | 3652 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (93.87, α) | 72.53 | Adjusted Chi Square Value (93.87, β) | 72.37 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 513 | 95% Gamma Adjusted KM-UCL (use when n<50) | 514.1 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.961 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.00244 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0809 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0704 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 396.5 | Mean in Log Scale | 4.678 |
| SD in Original Scale | 755.2 | SD in Log Scale | 1.864 |
| 95% t UCL (assumes normality of ROS data) | 492.3 | 95% Percentile Bootstrap UCL | 497.8 |
| 95% BCA Bootstrap UCL | 511.9 | 95% Bootstrap t UCL | 519.2 |
| 95% H-UCL (Log ROS) | 943.8 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 4.641 | KM Geo Mean | 103.6 |
| KM SD (logged) | 1.926 | 95% Critical H Value (KM-Log) | 3.112 |
| KM Standard Error of Mean (logged) | 0.149 | 95% H-UCL (KM -Log) | 1050 |
| KM SD (logged) | 1.926 | 95% Critical H Value (KM-Log) | 3.112 |
| KM Standard Error of Mean (logged) | 0.149 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 396.4 | Mean in Log Scale | 4.647 |
| SD in Original Scale | 755.2 | SD in Log Scale | 1.918 |
| 95% t UCL (Assumes normality) | 492.2 | 95% H-Stat UCL | 1036 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 648.9 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**AROCLOR-1254**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 117 | Number of Distinct Observations | 75 |
| | | Number of Missing Observations | 57 |
| Number of Detects | 9 | Number of Non-Detects | 108 |
| Number of Distinct Detects | 9 | Number of Distinct Non-Detects | 67 |
| Minimum Detect | 0.021 | Minimum Non-Detect | 0.018 |
| Maximum Detect | 1.4 | Maximum Non-Detect | 0.97 |
| Variance Detects | 0.195 | Percent Non-Detects | 92.31% |
| Mean Detects | 0.376 | SD Detects | 0.442 |
| Median Detects | 0.25 | CV Detects | 1.176 |
| Skewness Detects | 1.793 | Kurtosis Detects | 3.557 |
| Mean of Logged Detects | -1.76 | SD of Logged Detects | 1.505 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.803 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.829 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.22 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.274 | Detected Data appear Normal at 5% Significance Level |

Detected Data appear Approximate Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.0486 | KM Standard Error of Mean | 0.0151 |

| | | | |
|---|---|---|---|
| KM SD | 0.151 | 95% KM (BCA) UCL | 0.0745 |
| 95% KM (t) UCL | 0.0736 | 95% KM (Percentile Bootstrap) UCL | 0.0737 |
| 95% KM (z) UCL | 0.0734 | 95% KM Bootstrap t UCL | 0.0992 |
| 90% KM Chebyshev UCL | 0.0938 | 95% KM Chebyshev UCL | 0.114 |
| 97.5% KM Chebyshev UCL | 0.143 | 99% KM Chebyshev UCL | 0.199 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.243 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.751 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.163 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.289 | Detected data appear Gamma Distributed at 5% Significance Level |

**Detected data appear Gamma Distributed at 5% Significance Level**

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.765 | k star (bias corrected MLE) | 0.584 |
| Theta hat (MLE) | 0.491 | Theta star (bias corrected MLE) | 0.643 |
| nu hat (MLE) | 13.77 | nu star (bias corrected) | 10.51 |
| Mean (detects) | 0.376 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 0.0381 |
| Maximum | 1.4 | Median | 0.01 |
| SD | 0.152 | CV | 3.98 |
| k hat (MLE) | 0.558 | k star (bias corrected MLE) | 0.549 |
| Theta hat (MLE) | 0.0683 | Theta star (bias corrected MLE) | 0.0694 |
| nu hat (MLE) | 130.6 | nu star (bias corrected) | 128.6 |
| Adjusted Level of Significance (β) | 0.0479 | | |
| Approximate Chi Square Value (128.56, α) | 103.4 | Adjusted Chi Square Value (128.56, β) | 103.1 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.0474 | 95% Gamma Adjusted UCL (use when n<50) | 0.0475 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.0486 | SD (KM) | 0.151 |
| Variance (KM) | 0.0229 | SE of Mean (KM) | 0.0151 |
| k hat (KM) | 0.103 | k star (KM) | 0.106 |
| nu hat (KM) | 24.13 | nu star (KM) | 24.85 |
| theta hat (KM) | 0.471 | theta star (KM) | 0.458 |
| 80% gamma percentile (KM) | 0.0367 | 90% gamma percentile (KM) | 0.132 |
| 95% gamma percentile (KM) | 0.281 | 99% gamma percentile (KM) | 0.749 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (24.85, α) | 14.5 | Adjusted Chi Square Value (24.85, β) | 14.4 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.0833 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.0839 |

**Lognormal GOF Test on Detected Observations Only**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.927 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.829 | Detected Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.154 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.274 | Detected Data appear Lognormal at 5% Significance Level | |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.033 | Mean in Log Scale | -5.534 |
| SD in Original Scale | 0.153 | SD in Log Scale | 1.479 |
| 95% t UCL (assumes normality of ROS data) | 0.0564 | 95% Percentile Bootstrap UCL | 0.0591 |
| 95% BCA Bootstrap UCL | 0.0738 | 95% Bootstrap t UCL | 0.0877 |
| 95% H-UCL (Log ROS) | 0.0171 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -3.761 | KM Geo Mean | 0.0233 |
| KM SD (logged) | 0.738 | 95% Critical H Value (KM-Log) | 1.999 |
| KM Standard Error of Mean (logged) | 0.0852 | 95% H-UCL (KM -Log) | 0.035 |
| KM SD (logged) | 0.738 | 95% Critical H Value (KM-Log) | 1.999 |
| KM Standard Error of Mean (logged) | 0.0852 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.0955 | Mean in Log Scale | -3.137 |
| SD in Original Scale | 0.178 | SD in Log Scale | 1.082 |
| 95% t UCL (Assumes normality) | 0.123 | 95% H-Stat UCL | 0.0983 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Normal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (t) UCL | 0.0736 |

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**AROCLOR-1260**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 117 | Number of Distinct Observations | 73 |
| | | Number of Missing Observations | 57 |
| Number of Detects | 44 | Number of Non-Detects | 73 |
| Number of Distinct Detects | 38 | Number of Distinct Non-Detects | 40 |

| | | | |
|---|---|---|---|
| Minimum Detect | 0.022 | Minimum Non-Detect | 0.018 |
| Maximum Detect | 3.1 | Maximum Non-Detect | 0.17 |
| Variance Detects | 0.615 | Percent Non-Detects | 62.39% |
| Mean Detects | 0.758 | SD Detects | 0.784 |
| Median Detects | 0.41 | CV Detects | 1.034 |
| Skewness Detects | 1.365 | Kurtosis Detects | 1.289 |
| Mean of Logged Detects | -0.972 | SD of Logged Detects | 1.391 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.833 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.944 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.192 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.132 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.3 | KM Standard Error of Mean | 0.0555 |
| KM SD | 0.594 | 95% KM (BCA) UCL | 0.399 |
| 95% KM (t) UCL | 0.392 | 95% KM (Percentile Bootstrap) UCL | 0.397 |
| 95% KM (z) UCL | 0.391 | 95% KM Bootstrap t UCL | 0.41 |
| 90% KM Chebyshev UCL | 0.466 | 95% KM Chebyshev UCL | 0.542 |
| 97.5% KM Chebyshev UCL | 0.647 | 99% KM Chebyshev UCL | 0.852 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.304 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.785 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.0689 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.138 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.848 | k star (bias corrected MLE) | 0.805 |
| Theta hat (MLE) | 0.894 | Theta star (bias corrected MLE) | 0.941 |
| nu hat (MLE) | 74.63 | nu star (bias corrected) | 70.88 |
| Mean (detects) | 0.758 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 0.291 |
| Maximum | 3.1 | Median | 0.01 |
| SD | 0.6 | CV | 2.06 |
| k hat (MLE) | 0.337 | k star (bias corrected MLE) | 0.334 |
| Theta hat (MLE) | 0.864 | Theta star (bias corrected MLE) | 0.871 |
| nu hat (MLE) | 78.94 | nu star (bias corrected) | 78.25 |
| Adjusted Level of Significance (β) | 0.0479 | | |

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (78.25, α) | 58.87 | Adjusted Chi Square Value (78.25, β) | 58.66 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.387 | 95% Gamma Adjusted UCL (use when n<50) | 0.389 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.3 | SD (KM) | 0.594 |
| Variance (KM) | 0.353 | SE of Mean (KM) | 0.0555 |
| k hat (KM) | 0.255 | k star (KM) | 0.254 |
| nu hat (KM) | 59.61 | nu star (KM) | 59.41 |
| theta hat (KM) | 1.177 | theta star (KM) | 1.18 |
| 80% gamma percentile (KM) | 0.438 | 90% gamma percentile (KM) | 0.899 |
| 95% gamma percentile (KM) | 1.444 | 99% gamma percentile (KM) | 2.893 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (59.41, α) | 42.69 | Adjusted Chi Square Value (59.41, β) | 42.51 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.417 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.419 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.93 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.944 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.11 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.132 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Approximate Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.297 | Mean in Log Scale | -3.02 |
| SD in Original Scale | 0.598 | SD in Log Scale | 1.923 |
| 95% t UCL (assumes normality of ROS data) | 0.389 | 95% Percentile Bootstrap UCL | 0.391 |
| 95% BCA Bootstrap UCL | 0.405 | 95% Bootstrap t UCL | 0.411 |
| 95% H-UCL (Log ROS) | 0.552 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -2.739 | KM Geo Mean | 0.0647 |
| KM SD (logged) | 1.626 | 95% Critical H Value (KM-Log) | 2.882 |
| KM Standard Error of Mean (logged) | 0.159 | 95% H-UCL (KM -Log) | 0.375 |
| KM SD (logged) | 1.626 | 95% Critical H Value (KM-Log) | 2.882 |
| KM Standard Error of Mean (logged) | 0.159 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.305 | Mean in Log Scale | -2.605 |
| SD in Original Scale | 0.594 | SD in Log Scale | 1.587 |
| 95% t UCL (Assumes normality) | 0.396 | 95% H-Stat UCL | 0.395 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM Approximate Gamma UCL | 0.417 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

DIELDRIN

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 91 | Number of Distinct Observations | 57 |
| | | Number of Missing Observations | 76 |
| Number of Detects | 26 | Number of Non-Detects | 65 |
| Number of Distinct Detects | 24 | Number of Distinct Non-Detects | 42 |
| Minimum Detect | 4.3000E-4 | Minimum Non-Detect | 0.0034 |
| Maximum Detect | 0.077 | Maximum Non-Detect | 0.089 |
| Variance Detects | 4.9444E-4 | Percent Non-Detects | 71.43% |
| Mean Detects | 0.0188 | SD Detects | 0.0222 |
| Median Detects | 0.00963 | CV Detects | 1.183 |
| Skewness Detects | 1.863 | Kurtosis Detects | 2.404 |
| Mean of Logged Detects | -4.539 | SD of Logged Detects | 1.13 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.692 | Shapiro Wilk GOF Test |
| 5% Shapiro Wilk Critical Value | 0.92 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.316 | Lilliefors GOF Test |
| 5% Lilliefors Critical Value | 0.17 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 0.00732 | KM Standard Error of Mean | 0.00162 |
| KM SD | 0.014 | 95% KM (BCA) UCL | 0.0103 |
| 95% KM (t) UCL | 0.01 | 95% KM (Percentile Bootstrap) UCL | 0.0102 |
| 95% KM (z) UCL | 0.00998 | 95% KM Bootstrap t UCL | 0.0111 |
| 90% KM Chebyshev UCL | 0.0122 | 95% KM Chebyshev UCL | 0.0144 |
| 97.5% KM Chebyshev UCL | 0.0174 | 99% KM Chebyshev UCL | 0.0234 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 1.061 | Anderson-Darling GOF Test |
| 5% A-D Critical Value | 0.773 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.208 | Kolmogorov-Smirnov GOF |
| 5% K-S Critical Value | 0.176 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.019 | k star (bias corrected MLE) | 0.927 |
| Theta hat (MLE) | 0.0185 | Theta star (bias corrected MLE) | 0.0203 |
| nu hat (MLE) | 52.97 | nu star (bias corrected) | 48.19 |
| Mean (detects) | 0.0188 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 4.3000E-4 | Mean | 0.0125 |
| Maximum | 0.077 | Median | 0.01 |
| SD | 0.0124 | CV | 0.989 |
| k hat (MLE) | 2.588 | k star (bias corrected MLE) | 2.51 |
| Theta hat (MLE) | 0.00484 | Theta star (bias corrected MLE) | 0.00499 |
| nu hat (MLE) | 471 | nu star (bias corrected) | 456.8 |
| Adjusted Level of Significance (β) | 0.0474 | | |
| Approximate Chi Square Value (456.82, α) | 408.3 | Adjusted Chi Square Value (456.82, β) | 407.5 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.014 | 95% Gamma Adjusted UCL (use when n<50) | 0.014 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.00732 | SD (KM) | 0.014 |
| Variance (KM) | 1.9725E-4 | SE of Mean (KM) | 0.00162 |
| k hat (KM) | 0.271 | k star (KM) | 0.27 |
| nu hat (KM) | 49.39 | nu star (KM) | 49.1 |
| theta hat (KM) | 0.027 | theta star (KM) | 0.0271 |
| 80% gamma percentile (KM) | 0.0109 | 90% gamma percentile (KM) | 0.0218 |
| 95% gamma percentile (KM) | 0.0346 | 99% gamma percentile (KM) | 0.0683 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (49.10, α) | 34.01 | Adjusted Chi Square Value (49.10, β) | 33.81 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.0106 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.0106 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.941 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.92 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.136 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.17 | Detected Data appear Lognormal at 5% Significance Level |

**Detected Data appear Lognormal at 5% Significance Level**

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.00649 | Mean in Log Scale | -6.004 |
| SD in Original Scale | 0.0141 | SD in Log Scale | 1.196 |
| 95% t UCL (assumes normality of ROS data) | 0.00895 | 95% Percentile Bootstrap UCL | 0.00908 |
| 95% BCA Bootstrap UCL | 0.00945 | 95% Bootstrap t UCL | 0.0103 |
| 95% H-UCL (Log ROS) | 0.00687 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -5.857 | KM Geo Mean | 0.00286 |
| KM SD (logged) | 1.357 | 95% Critical H Value (KM-Log) | 2.618 |
| KM Standard Error of Mean (logged) | 0.416 | 95% H-UCL (KM -Log) | 0.0104 |
| KM SD (logged) | 1.357 | 95% Critical H Value (KM-Log) | 2.618 |
| KM Standard Error of Mean (logged) | 0.416 | | |

**DL/2 Statistics**

| DL/2 Normal | | DL/2 Log-Transformed | |
|---|---|---|---|
| Mean in Original Scale | 0.00924 | Mean in Log Scale | -5.339 |
| SD in Original Scale | 0.015 | SD in Log Scale | 1.016 |
| 95% t UCL (Assumes normality) | 0.0118 | 95% H-Stat UCL | 0.0102 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 0.0104 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

BENZO(A)ANTHRACENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 156 | Number of Distinct Observations | 101 |
| | | Number of Missing Observations | 99 |
| Number of Detects | 129 | Number of Non-Detects | 27 |
| Number of Distinct Detects | 95 | Number of Distinct Non-Detects | 9 |
| Minimum Detect | 0.0077 | Minimum Non-Detect | 0.18 |
| Maximum Detect | 29 | Maximum Non-Detect | 0.49 |
| Variance Detects | 13.82 | Percent Non-Detects | 17.31% |
| Mean Detects | 2.312 | SD Detects | 3.718 |
| Median Detects | 1.135 | CV Detects | 1.608 |
| Skewness Detects | 4.111 | Kurtosis Detects | 23.09 |
| Mean of Logged Detects | -0.322 | SD of Logged Detects | 1.822 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.611 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.268 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0784 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 1.927 | KM Standard Error of Mean | 0.279 |
| KM SD | 3.471 | 95% KM (BCA) UCL | 2.425 |
| 95% KM (t) UCL | 2.389 | 95% KM (Percentile Bootstrap) UCL | 2.415 |
| 95% KM (z) UCL | 2.386 | 95% KM Bootstrap t UCL | 2.522 |
| 90% KM Chebyshev UCL | 2.764 | 95% KM Chebyshev UCL | 3.143 |
| 97.5% KM Chebyshev UCL | 3.669 | 99% KM Chebyshev UCL | 4.703 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.979 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.815 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.0868 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0864 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.541 | k star (bias corrected MLE) | 0.534 |
| Theta hat (MLE) | 4.273 | Theta star (bias corrected MLE) | 4.333 |
| nu hat (MLE) | 139.6 | nu star (bias corrected) | 137.6 |
| Mean (detects) | 2.312 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0077 | Mean | 1.913 |
| Maximum | 29 | Median | 0.64 |
| SD | 3.489 | CV | 1.824 |
| k hat (MLE) | 0.386 | k star (bias corrected MLE) | 0.383 |
| Theta hat (MLE) | 4.951 | Theta star (bias corrected MLE) | 4.991 |
| nu hat (MLE) | 120.6 | nu star (bias corrected) | 119.6 |
| Adjusted Level of Significance (β) | 0.0485 | | |
| Approximate Chi Square Value (119.59, α) | 95.34 | Adjusted Chi Square Value (119.59, β) | 95.13 |
| 95% Gamma Approximate UCL (use when n>=50) | 2.4 | 95% Gamma Adjusted UCL (use when n<50) | 2.405 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 1.927 | SD (KM) | 3.471 |
| Variance (KM) | 12.05 | SE of Mean (KM) | 0.279 |
| k hat (KM) | 0.308 | k star (KM) | 0.307 |
| nu hat (KM) | 96.16 | nu star (KM) | 95.65 |
| theta hat (KM) | 6.252 | theta star (KM) | 6.286 |
| 80% gamma percentile (KM) | 2.97 | 90% gamma percentile (KM) | 5.668 |
| 95% gamma percentile (KM) | 8.753 | 99% gamma percentile (KM) | 16.75 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (95.65, α) | 74.09 | Adjusted Chi Square Value (95.65, β) | 73.91 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 2.488 | 95% Gamma Adjusted KM-UCL (use when n<50) | 2.493 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.944 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 4.9928E-5 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.114 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0784 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 1.931 | Mean in Log Scale | -0.679 |
| SD in Original Scale | 3.48 | SD in Log Scale | 1.853 |
| 95% t UCL (assumes normality of ROS data) | 2.392 | 95% Percentile Bootstrap UCL | 2.415 |
| 95% BCA Bootstrap UCL | 2.514 | 95% Bootstrap t UCL | 2.552 |
| 95% H-UCL (Log ROS) | 4.498 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -0.737 | KM Geo Mean | 0.479 |
| KM SD (logged) | 1.917 | 95% Critical H Value (KM-Log) | 3.202 |
| KM Standard Error of Mean (logged) | 0.159 | 95% H-UCL (KM -Log) | 4.919 |
| KM SD (logged) | 1.917 | 95% Critical H Value (KM-Log) | 3.202 |
| KM Standard Error of Mean (logged) | 0.159 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.93 | Mean in Log Scale | -0.656 |
| SD in Original Scale | 3.48 | SD in Log Scale | 1.813 |
| 95% t UCL (Assumes normality) | 2.391 | 95% H-Stat UCL | 4.198 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 3.143 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**BENZO(A)PYRENE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 156 | Number of Distinct Observations | 103 |
| | | Number of Missing Observations | 99 |
| Number of Detects | 138 | Number of Non-Detects | 18 |
| Number of Distinct Detects | 97 | Number of Distinct Non-Detects | 8 |
| Minimum Detect | 0.0019 | Minimum Non-Detect | 0.004 |
| Maximum Detect | 37 | Maximum Non-Detect | 0.49 |
| Variance Detects | 19.97 | Percent Non-Detects | 11.54% |
| Mean Detects | 2.572 | SD Detects | 4.469 |
| Median Detects | 1.05 | CV Detects | 1.738 |
| Skewness Detects | 4.514 | Kurtosis Detects | 28.27 |
| Mean of Logged Detects | -0.466 | SD of Logged Detects | 2.084 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.585 | **Normal GOF Test on Detected Observations Only** |

| | | |
|---|---|---|
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.283 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0758 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 2.28 | KM Standard Error of Mean | 0.343 |
| KM SD | 4.265 | 95% KM (BCA) UCL | 2.889 |
| 95% KM (t) UCL | 2.847 | 95% KM (Percentile Bootstrap) UCL | 2.878 |
| 95% KM (z) UCL | 2.844 | 95% KM Bootstrap t UCL | 3.091 |
| 90% KM Chebyshev UCL | 3.308 | 95% KM Chebyshev UCL | 3.774 |
| 97.5% KM Chebyshev UCL | 4.421 | 99% KM Chebyshev UCL | 5.69 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 1.107 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.83 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.0989 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0847 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.457 | k star (bias corrected MLE) | 0.451 |
| Theta hat (MLE) | 5.634 | Theta star (bias corrected MLE) | 5.697 |
| nu hat (MLE) | 126 | nu star (bias corrected) | 124.6 |
| Mean (detects) | 2.572 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0019 | Mean | 2.276 |
| Maximum | 37 | Median | 0.535 |
| SD | 4.281 | CV | 1.881 |
| k hat (MLE) | 0.376 | k star (bias corrected MLE) | 0.373 |
| Theta hat (MLE) | 6.051 | Theta star (bias corrected MLE) | 6.099 |
| nu hat (MLE) | 117.4 | nu star (bias corrected) | 116.4 |
| Adjusted Level of Significance (β) | 0.0485 | | |
| Approximate Chi Square Value (116.45, α) | 92.53 | Adjusted Chi Square Value (116.45, β) | 92.34 |
| 95% Gamma Approximate UCL (use when n>=50) | 2.865 | 95% Gamma Adjusted UCL (use when n<50) | 2.871 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 2.28 | SD (KM) | 4.265 |
| Variance (KM) | 18.19 | SE of Mean (KM) | 0.343 |
| k hat (KM) | 0.286 | k star (KM) | 0.285 |
| nu hat (KM) | 89.16 | nu star (KM) | 88.78 |
| theta hat (KM) | 7.979 | theta star (KM) | 8.013 |
| 80% gamma percentile (KM) | 3.449 | 90% gamma percentile (KM) | 6.766 |

| | | | |
|---|---|---|---|
| 95% gamma percentile (KM) | 10.61 | 99% gamma percentile (KM) | 20.66 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (88.78, α) | 68.06 | Adjusted Chi Square Value (88.78, β) | 67.89 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 2.975 | 95% Gamma Adjusted KM-UCL (use when n<50) | 2.982 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.944 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 2.0905E-5 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.119 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0758 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 2.28 | Mean in Log Scale | -0.846 |
| SD in Original Scale | 4.279 | SD in Log Scale | 2.267 |
| 95% t UCL (assumes normality of ROS data) | 2.847 | 95% Percentile Bootstrap UCL | 2.869 |
| 95% BCA Bootstrap UCL | 2.986 | 95% Bootstrap t UCL | 3.051 |
| 95% H-UCL (Log ROS) | 10.86 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -0.924 | KM Geo Mean | 0.397 |
| KM SD (logged) | 2.404 | 95% Critical H Value (KM-Log) | 3.808 |
| KM Standard Error of Mean (logged) | 0.196 | 95% H-UCL (KM -Log) | 14.89 |
| KM SD (logged) | 2.404 | 95% Critical H Value (KM-Log) | 3.808 |
| KM Standard Error of Mean (logged) | 0.196 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 2.284 | Mean in Log Scale | -0.822 |
| SD in Original Scale | 4.277 | SD in Log Scale | 2.287 |
| 95% t UCL (Assumes normality) | 2.851 | 95% H-Stat UCL | 11.76 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 3.774 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**BENZO(B)FLUORANTHENE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 156 | Number of Distinct Observations | 106 |

| | | | |
|---|---|---|---|
| | | Number of Missing Observations | 99 |
| Number of Detects | 130 | Number of Non-Detects | 26 |
| Number of Distinct Detects | 100 | Number of Distinct Non-Detects | 9 |
| Minimum Detect | 0.0057 | Minimum Non-Detect | 0.18 |
| Maximum Detect | 76 | Maximum Non-Detect | 1.8 |
| Variance Detects | 58.94 | Percent Non-Detects | 16.67% |
| Mean Detects | 3.921 | SD Detects | 7.677 |
| Median Detects | 1.8 | CV Detects | 1.958 |
| Skewness Detects | 6.775 | Kurtosis Detects | 60.63 |
| Mean of Logged Detects | 0.0215 | SD of Logged Detects | 2.023 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.49 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.305 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0781 | Detected Data Not Normal at 5% Significance Level |

**Detected Data Not Normal at 5% Significance Level**

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 3.282 | KM Standard Error of Mean | 0.573 |
| KM SD | 7.126 | 95% KM (BCA) UCL | 4.412 |
| 95% KM (t) UCL | 4.229 | 95% KM (Percentile Bootstrap) UCL | 4.269 |
| 95% KM (z) UCL | 4.224 | 95% KM Bootstrap t UCL | 4.958 |
| 90% KM Chebyshev UCL | 5 | 95% KM Chebyshev UCL | 5.778 |
| 97.5% KM Chebyshev UCL | 6.859 | 99% KM Chebyshev UCL | 8.981 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.731 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.825 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.0767 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0867 | Detected data appear Gamma Distributed at 5% Significance Level |

**Detected data appear Gamma Distributed at 5% Significance Level**

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.476 | k star (bias corrected MLE) | 0.47 |
| Theta hat (MLE) | 8.237 | Theta star (bias corrected MLE) | 8.339 |
| nu hat (MLE) | 123.8 | nu star (bias corrected) | 122.2 |
| Mean (detects) | 3.921 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0057 | Mean | 3.269 |
| Maximum | 76 | Median | 0.845 |
| SD | 7.155 | CV | 2.189 |
| k hat (MLE) | 0.348 | k star (bias corrected MLE) | 0.346 |

| | | | |
|---|---|---|---|
| Theta hat (MLE) | 9.393 | Theta star (bias corrected MLE) | 9.459 |
| nu hat (MLE) | 108.6 | nu star (bias corrected) | 107.8 |
| Adjusted Level of Significance (β) | 0.0485 | | |
| Approximate Chi Square Value (107.82, α) | 84.86 | Adjusted Chi Square Value (107.82, β) | 84.67 |
| 95% Gamma Approximate UCL (use when n>=50) | 4.153 | 95% Gamma Adjusted UCL (use when n<50) | 4.163 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 3.282 | SD (KM) | 7.126 |
| Variance (KM) | 50.79 | SE of Mean (KM) | 0.573 |
| k hat (KM) | 0.212 | k star (KM) | 0.212 |
| nu hat (KM) | 66.16 | nu star (KM) | 66.22 |
| theta hat (KM) | 15.48 | theta star (KM) | 15.46 |
| 80% gamma percentile (KM) | 4.455 | 90% gamma percentile (KM) | 9.922 |
| 95% gamma percentile (KM) | 16.64 | 99% gamma percentile (KM) | 34.97 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (66.22, α) | 48.5 | Adjusted Chi Square Value (66.22, β) | 48.36 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 4.481 | 95% Gamma Adjusted KM-UCL (use when n<50) | 4.494 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.941 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 1.8955E-5 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.118 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0781 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 3.284 | Mean in Log Scale | -0.399 |
| SD in Original Scale | 7.148 | SD in Log Scale | 2.095 |
| 95% t UCL (assumes normality of ROS data) | 4.231 | 95% Percentile Bootstrap UCL | 4.293 |
| 95% BCA Bootstrap UCL | 4.803 | 95% Bootstrap t UCL | 4.889 |
| 95% H-UCL (Log ROS) | 10.71 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -0.467 | KM Geo Mean | 0.627 |
| KM SD (logged) | 2.181 | 95% Critical H Value (KM-Log) | 3.527 |
| KM Standard Error of Mean (logged) | 0.181 | 95% H-UCL (KM -Log) | 12.54 |
| KM SD (logged) | 2.181 | 95% Critical H Value (KM-Log) | 3.527 |
| KM Standard Error of Mean (logged) | 0.181 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 3.29 | Mean in Log Scale | -0.345 |
| SD in Original Scale | 7.146 | SD in Log Scale | 2.029 |
| 95% t UCL (Assumes normality) | 4.237 | 95% H-Stat UCL | 9.572 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM Approximate Gamma UCL | 4.481 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

BENZO(K)FLUORANTHENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 156 | Number of Distinct Observations | 92 |
| | | Number of Missing Observations | 99 |
| Number of Detects | 128 | Number of Non-Detects | 28 |
| Number of Distinct Detects | 88 | Number of Distinct Non-Detects | 9 |
| Minimum Detect | 0.0043 | Minimum Non-Detect | 0.18 |
| Maximum Detect | 37 | Maximum Non-Detect | 1.8 |
| Variance Detects | 26.43 | Percent Non-Detects | 17.95% |
| Mean Detects | 2.801 | SD Detects | 5.141 |
| Median Detects | 1.1 | CV Detects | 1.835 |
| Skewness Detects | 4.388 | Kurtosis Detects | 23.95 |
| Mean of Logged Detects | -0.258 | SD of Logged Detects | 1.915 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.543 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.293 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0787 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 2.314 | KM Standard Error of Mean | 0.382 |
| KM SD | 4.754 | 95% KM (BCA) UCL | 3.034 |
| 95% KM (t) UCL | 2.947 | 95% KM (Percentile Bootstrap) UCL | 2.995 |
| 95% KM (z) UCL | 2.943 | 95% KM Bootstrap t UCL | 3.206 |
| 90% KM Chebyshev UCL | 3.461 | 95% KM Chebyshev UCL | 3.98 |
| 97.5% KM Chebyshev UCL | 4.701 | 99% KM Chebyshev UCL | 6.117 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.938 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.821 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.0673 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.087 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data follow Appr. Gamma Distribution at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.494 | k star (bias corrected MLE) | 0.488 |
| Theta hat (MLE) | 5.671 | Theta star (bias corrected MLE) | 5.745 |

| | | | |
|---|---|---|---|
| nu hat (MLE) | 126.4 | nu star (bias corrected) | 124.8 |
| Mean (detects) | 2.801 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0043 | Mean | 2.3 |
| Maximum | 37 | Median | 0.595 |
| SD | 4.776 | CV | 2.076 |
| k hat (MLE) | 0.358 | k star (bias corrected MLE) | 0.355 |
| Theta hat (MLE) | 6.425 | Theta star (bias corrected MLE) | 6.472 |
| nu hat (MLE) | 111.7 | nu star (bias corrected) | 110.9 |
| Adjusted Level of Significance (β) | 0.0485 | | |
| Approximate Chi Square Value (110.88, α) | 87.57 | Adjusted Chi Square Value (110.88, β) | 87.38 |
| 95% Gamma Approximate UCL (use when n>=50) | 2.912 | 95% Gamma Adjusted UCL (use when n<50) | 2.919 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 2.314 | SD (KM) | 4.754 |
| Variance (KM) | 22.6 | SE of Mean (KM) | 0.382 |
| k hat (KM) | 0.237 | k star (KM) | 0.237 |
| nu hat (KM) | 73.92 | nu star (KM) | 73.83 |
| theta hat (KM) | 9.767 | theta star (KM) | 9.779 |
| 80% gamma percentile (KM) | 3.293 | 90% gamma percentile (KM) | 6.97 |
| 95% gamma percentile (KM) | 11.38 | 99% gamma percentile (KM) | 23.22 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (73.83, α) | 55.05 | Adjusted Chi Square Value (73.83, β) | 54.9 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 3.104 | 95% Gamma Adjusted KM-UCL (use when n<50) | 3.113 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.955 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.00152 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.113 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0787 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 2.316 | Mean in Log Scale | -0.666 |
| SD in Original Scale | 4.768 | SD in Log Scale | 1.967 |
| 95% t UCL (assumes normality of ROS data) | 2.948 | 95% Percentile Bootstrap UCL | 2.961 |
| 95% BCA Bootstrap UCL | 3.186 | 95% Bootstrap t UCL | 3.182 |
| 95% H-UCL (Log ROS) | 5.958 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -0.725 | KM Geo Mean | 0.484 |
| KM SD (logged) | 2.04 | 95% Critical H Value (KM-Log) | 3.353 |

| | | | |
|---|---|---|---|
| KM Standard Error of Mean (logged) | 0.17 | 95% H-UCL (KM -Log) | 6.716 |
| KM SD (logged) | 2.04 | 95% Critical H Value (KM-Log) | 3.353 |
| KM Standard Error of Mean (logged) | 0.17 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 2.323 | Mean in Log Scale | -0.604 |
| SD in Original Scale | 4.766 | SD in Log Scale | 1.895 |
| 95% t UCL (Assumes normality) | 2.954 | 95% H-Stat UCL | 5.341 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM Approximate Gamma UCL | 3.104 |

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

## CHRYSENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 156 | Number of Distinct Observations | 102 |
| | | Number of Missing Observations | 99 |
| Number of Detects | 136 | Number of Non-Detects | 20 |
| Number of Distinct Detects | 99 | Number of Distinct Non-Detects | 7 |
| Minimum Detect | 0.004 | Minimum Non-Detect | 0.18 |
| Maximum Detect | 45 | Maximum Non-Detect | 0.49 |
| Variance Detects | 29.18 | Percent Non-Detects | 12.82% |
| Mean Detects | 3.128 | SD Detects | 5.402 |
| Median Detects | 1.3 | CV Detects | 1.727 |
| Skewness Detects | 4.538 | Kurtosis Detects | 28.6 |
| Mean of Logged Detects | -0.211 | SD of Logged Detects | 2.023 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.584 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.282 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0763 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 2.737 | KM Standard Error of Mean | 0.412 |

| | | | |
|---|---|---|---|
| KM SD | 5.127 | 95% KM (BCA) UCL | 3.465 |
| 95% KM (t) UCL | 3.418 | 95% KM (Percentile Bootstrap) UCL | 3.437 |
| 95% KM (z) UCL | 3.414 | 95% KM Bootstrap t UCL | 3.743 |
| 90% KM Chebyshev UCL | 3.973 | 95% KM Chebyshev UCL | 4.533 |
| 97.5% KM Chebyshev UCL | 5.31 | 99% KM Chebyshev UCL | 6.836 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 1.109 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.826 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.0885 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0851 | Detected Data Not Gamma Distributed at 5% Significance Level |

**Detected Data Not Gamma Distributed at 5% Significance Level**

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.474 | k star (bias corrected MLE) | 0.468 |
| Theta hat (MLE) | 6.598 | Theta star (bias corrected MLE) | 6.676 |
| nu hat (MLE) | 128.9 | nu star (bias corrected) | 127.4 |
| Mean (detects) | 3.128 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.004 | Mean | 2.728 |
| Maximum | 45 | Median | 0.765 |
| SD | 5.148 | CV | 1.887 |
| k hat (MLE) | 0.374 | k star (bias corrected MLE) | 0.371 |
| Theta hat (MLE) | 7.291 | Theta star (bias corrected MLE) | 7.348 |
| nu hat (MLE) | 116.7 | nu star (bias corrected) | 115.8 |
| Adjusted Level of Significance (β) | 0.0485 | | |
| Approximate Chi Square Value (115.82, α) | 91.98 | Adjusted Chi Square Value (115.82, β) | 91.78 |
| 95% Gamma Approximate UCL (use when n>=50) | 3.435 | 95% Gamma Adjusted UCL (use when n<50) | 3.442 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 2.737 | SD (KM) | 5.127 |
| Variance (KM) | 26.29 | SE of Mean (KM) | 0.412 |
| k hat (KM) | 0.285 | k star (KM) | 0.284 |
| nu hat (KM) | 88.88 | nu star (KM) | 88.51 |
| theta hat (KM) | 9.606 | theta star (KM) | 9.647 |
| 80% gamma percentile (KM) | 4.136 | 90% gamma percentile (KM) | 8.123 |
| 95% gamma percentile (KM) | 12.74 | 99% gamma percentile (KM) | 24.84 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (88.51, α) | 67.82 | Adjusted Chi Square Value (88.51, β) | 67.65 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 3.572 | 95% Gamma Adjusted KM-UCL (use when n<50) | 3.58 |

**Lognormal GOF Test on Detected Observations Only**

| | | | |
|---|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.942 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk P Value | 1.4645E-5 | Detected Data Not Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.128 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.0763 | Detected Data Not Lognormal at 5% Significance Level | |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 2.739 | Mean in Log Scale | -0.512 |
| SD in Original Scale | 5.143 | SD in Log Scale | 2.06 |
| 95% t UCL (assumes normality of ROS data) | 3.42 | 95% Percentile Bootstrap UCL | 3.456 |
| 95% BCA Bootstrap UCL | 3.625 | 95% Bootstrap t UCL | 3.707 |
| 95% H-UCL (Log ROS) | 8.745 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -0.56 | KM Geo Mean | 0.571 |
| KM SD (logged) | 2.121 | 95% Critical H Value (KM-Log) | 3.453 |
| KM Standard Error of Mean (logged) | 0.174 | 95% H-UCL (KM -Log) | 9.746 |
| KM SD (logged) | 2.121 | 95% Critical H Value (KM-Log) | 3.453 |
| KM Standard Error of Mean (logged) | 0.174 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 2.74 | Mean in Log Scale | -0.474 |
| SD in Original Scale | 5.142 | SD in Log Scale | 2.011 |
| 95% t UCL (Assumes normality) | 3.421 | 95% H-Stat UCL | 8.033 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (Chebyshev) UCL | 4.533 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**DIBENZO(A,H)ANTHRACENE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 156 | Number of Distinct Observations | 95 |
| | | Number of Missing Observations | 99 |
| Number of Detects | 122 | Number of Non-Detects | 34 |
| Number of Distinct Detects | 87 | Number of Distinct Non-Detects | 15 |
| Minimum Detect | 2.4000E-4 | Minimum Non-Detect | 0.0039 |
| Maximum Detect | 4.9 | Maximum Non-Detect | 0.55 |
| Variance Detects | 0.809 | Percent Non-Detects | 21.79% |
| Mean Detects | 0.57 | SD Detects | 0.9 |

| | | | |
|---|---|---|---|
| Median Detects | 0.28 | CV Detects | 1.578 |
| Skewness Detects | 3.149 | Kurtosis Detects | 11.46 |
| Mean of Logged Detects | -1.734 | SD of Logged Detects | 1.873 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.62 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.263 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0806 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.458 | KM Standard Error of Mean | 0.0661 |
| KM SD | 0.821 | 95% KM (BCA) UCL | 0.565 |
| 95% KM (t) UCL | 0.567 | 95% KM (Percentile Bootstrap) UCL | 0.567 |
| 95% KM (z) UCL | 0.567 | 95% KM Bootstrap t UCL | 0.589 |
| 90% KM Chebyshev UCL | 0.656 | 95% KM Chebyshev UCL | 0.746 |
| 97.5% KM Chebyshev UCL | 0.871 | 99% KM Chebyshev UCL | 1.116 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.621 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.816 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.0665 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.0884 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.536 | k star (bias corrected MLE) | 0.528 |
| Theta hat (MLE) | 1.064 | Theta star (bias corrected MLE) | 1.079 |
| nu hat (MLE) | 130.8 | nu star (bias corrected) | 128.9 |
| Mean (detects) | 0.57 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 2.4000E-4 | Mean | 0.45 |
| Maximum | 4.9 | Median | 0.115 |
| SD | 0.827 | CV | 1.838 |
| k hat (MLE) | 0.432 | k star (bias corrected MLE) | 0.428 |
| Theta hat (MLE) | 1.041 | Theta star (bias corrected MLE) | 1.051 |
| nu hat (MLE) | 134.9 | nu star (bias corrected) | 133.6 |
| Adjusted Level of Significance (β) | 0.0485 | | |
| Approximate Chi Square Value (133.61, α) | 107.9 | Adjusted Chi Square Value (133.61, β) | 107.7 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.557 | 95% Gamma Adjusted UCL (use when n<50) | 0.558 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.458 | SD (KM) | 0.821 |
| Variance (KM) | 0.674 | SE of Mean (KM) | 0.0661 |
| k hat (KM) | 0.311 | k star (KM) | 0.309 |
| nu hat (KM) | 97.08 | nu star (KM) | 96.54 |
| theta hat (KM) | 1.472 | theta star (KM) | 1.48 |
| 80% gamma percentile (KM) | 0.708 | 90% gamma percentile (KM) | 1.346 |
| 95% gamma percentile (KM) | 2.074 | 99% gamma percentile (KM) | 3.961 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (96.54, α) | 74.88 | Adjusted Chi Square Value (96.54, β) | 74.7 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.591 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.592 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.953 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.00152 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.114 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0806 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.454 | Mean in Log Scale | -2.2 |
| SD in Original Scale | 0.825 | SD in Log Scale | 1.96 |
| 95% t UCL (assumes normality of ROS data) | 0.563 | 95% Percentile Bootstrap UCL | 0.562 |
| 95% BCA Bootstrap UCL | 0.584 | 95% Bootstrap t UCL | 0.593 |
| 95% H-UCL (Log ROS) | 1.262 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -2.302 | KM Geo Mean | 0.1 |
| KM SD (logged) | 2.205 | 95% Critical H Value (KM-Log) | 3.557 |
| KM Standard Error of Mean (logged) | 0.194 | 95% H-UCL (KM -Log) | 2.136 |
| KM SD (logged) | 2.205 | 95% Critical H Value (KM-Log) | 3.557 |
| KM Standard Error of Mean (logged) | 0.194 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.469 | Mean in Log Scale | -1.997 |
| SD in Original Scale | 0.818 | SD in Log Scale | 1.904 |
| 95% t UCL (Assumes normality) | 0.578 | 95% H-Stat UCL | 1.352 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM Approximate Gamma UCL | 0.591 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

INDENO(1,2,3-CD)PYRENE

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 155 | Number of Distinct Observations | 102 |
| | | Number of Missing Observations | 100 |
| Number of Detects | 122 | Number of Non-Detects | 33 |
| Number of Distinct Detects | 96 | Number of Distinct Non-Detects | 12 |
| Minimum Detect | 0.009 | Minimum Non-Detect | 0.18 |
| Maximum Detect | 20 | Maximum Non-Detect | 1.8 |
| Variance Detects | 9.286 | Percent Non-Detects | 21.29% |
| Mean Detects | 1.81 | SD Detects | 3.047 |
| Median Detects | 0.785 | CV Detects | 1.683 |
| Skewness Detects | 3.552 | Kurtosis Detects | 15.56 |
| Mean of Logged Detects | -0.554 | SD of Logged Detects | 1.707 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.6 | Normal GOF Test on Detected Observations Only |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.277 | Lilliefors GOF Test |
| 5% Lilliefors Critical Value | 0.0806 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 1.445 | KM Standard Error of Mean | 0.224 |
| KM SD | 2.783 | 95% KM (BCA) UCL | 1.838 |
| 95% KM (t) UCL | 1.817 | 95% KM (Percentile Bootstrap) UCL | 1.84 |
| 95% KM (z) UCL | 1.814 | 95% KM Bootstrap t UCL | 1.911 |
| 90% KM Chebyshev UCL | 2.119 | 95% KM Chebyshev UCL | 2.424 |
| 97.5% KM Chebyshev UCL | 2.847 | 99% KM Chebyshev UCL | 3.679 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 1.351 | Anderson-Darling GOF Test |
| 5% A-D Critical Value | 0.815 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.08 | Kolmogorov-Smirnov GOF |
| 5% K-S Critical Value | 0.0883 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics on Detected Data Only

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.546 | k star (bias corrected MLE) | 0.538 |
| Theta hat (MLE) | 3.315 | Theta star (bias corrected MLE) | 3.364 |
| nu hat (MLE) | 133.3 | nu star (bias corrected) | 131.3 |
| Mean (detects) | 1.81 | | |

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.009 | Mean | 1.427 |
| Maximum | 20 | Median | 0.34 |
| SD | 2.8 | CV | 1.962 |
| k hat (MLE) | 0.375 | k star (bias corrected MLE) | 0.372 |
| Theta hat (MLE) | 3.803 | Theta star (bias corrected MLE) | 3.833 |
| nu hat (MLE) | 116.3 | nu star (bias corrected) | 115.4 |
| Adjusted Level of Significance (β) | 0.0485 | | |
| Approximate Chi Square Value (115.40, α) | 91.6 | Adjusted Chi Square Value (115.40, β) | 91.4 |
| 95% Gamma Approximate UCL (use when n>=50) | 1.798 | 95% Gamma Adjusted UCL (use when n<50) | 1.802 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 1.445 | SD (KM) | 2.783 |
| Variance (KM) | 7.745 | SE of Mean (KM) | 0.224 |
| k hat (KM) | 0.27 | k star (KM) | 0.269 |
| nu hat (KM) | 83.59 | nu star (KM) | 83.3 |
| theta hat (KM) | 5.36 | theta star (KM) | 5.378 |
| 80% gamma percentile (KM) | 2.15 | 90% gamma percentile (KM) | 4.312 |
| 95% gamma percentile (KM) | 6.844 | 99% gamma percentile (KM) | 13.52 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (83.30, α) | 63.27 | Adjusted Chi Square Value (83.30, β) | 63.1 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1.903 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1.908 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.962 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0.0158 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.0825 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.0806 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 1.448 | Mean in Log Scale | -0.949 |
| SD in Original Scale | 2.79 | SD in Log Scale | 1.723 |
| 95% t UCL (assumes normality of ROS data) | 1.819 | 95% Percentile Bootstrap UCL | 1.827 |
| 95% BCA Bootstrap UCL | 1.894 | 95% Bootstrap t UCL | 1.923 |
| 95% H-UCL (Log ROS) | 2.579 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.002 | KM Geo Mean | 0.367 |
| KM SD (logged) | 1.772 | 95% Critical H Value (KM-Log) | 3.028 |
| KM Standard Error of Mean (logged) | 0.147 | 95% H-UCL (KM -Log) | 2.717 |
| KM SD (logged) | 1.772 | 95% Critical H Value (KM-Log) | 3.028 |
| KM Standard Error of Mean (logged) | 0.147 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.454 | Mean in Log Scale | -0.898 |

| | | | |
|---|---|---|---|
| SD in Original Scale | 2.788 | SD in Log Scale | 1.664 |
| 95% t UCL (Assumes normality) | 1.824 | 95% H-Stat UCL | 2.4 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM Approximate Gamma UCL | 1.903 |

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PENTACHLOROPHENOL

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 140 | Number of Distinct Observations | 90 |
| | | Number of Missing Observations | 125 |
| Number of Detects | 51 | Number of Non-Detects | 89 |
| Number of Distinct Detects | 42 | Number of Distinct Non-Detects | 54 |
| Minimum Detect | 0.014 | Minimum Non-Detect | 0.34 |
| Maximum Detect | 8.7 | Maximum Non-Detect | 100 |
| Variance Detects | 1.853 | Percent Non-Detects | 63.57% |
| Mean Detects | 0.747 | SD Detects | 1.361 |
| Median Detects | 0.3 | CV Detects | 1.822 |
| Skewness Detects | 4.487 | Kurtosis Detects | 23.97 |
| Mean of Logged Detects | -1.127 | SD of Logged Detects | 1.315 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.51 | **Normal GOF Test on Detected Observations Only** |
| 5% Shapiro Wilk P Value | 0 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.295 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.123 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.442 | KM Standard Error of Mean | 0.0835 |
| KM SD | 0.906 | 95% KM (BCA) UCL | 0.609 |
| 95% KM (t) UCL | 0.58 | 95% KM (Percentile Bootstrap) UCL | 0.587 |
| 95% KM (z) UCL | 0.579 | 95% KM Bootstrap t UCL | 0.686 |
| 90% KM Chebyshev UCL | 0.692 | 95% KM Chebyshev UCL | 0.805 |
| 97.5% KM Chebyshev UCL | 0.963 | 99% KM Chebyshev UCL | 1.272 |

**Gamma GOF Tests on Detected Observations Only**

| | | | |
|---|---|---|---|
| A-D Test Statistic | 1.408 | **Anderson-Darling GOF Test** | |
| 5% A-D Critical Value | 0.796 | Detected Data Not Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.166 | **Kolmogorov-Smirnov GOF** | |
| 5% K-S Critical Value | 0.13 | Detected Data Not Gamma Distributed at 5% Significance Level | |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.72 | k star (bias corrected MLE) | 0.691 |
| Theta hat (MLE) | 1.037 | Theta star (bias corrected MLE) | 1.081 |
| nu hat (MLE) | 73.48 | nu star (bias corrected) | 70.49 |
| Mean (detects) | 0.747 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 0.325 |
| Maximum | 8.7 | Median | 0.046 |
| SD | 0.884 | CV | 2.721 |
| k hat (MLE) | 0.42 | k star (bias corrected MLE) | 0.416 |
| Theta hat (MLE) | 0.773 | Theta star (bias corrected MLE) | 0.78 |
| nu hat (MLE) | 117.7 | nu star (bias corrected) | 116.5 |
| Adjusted Level of Significance (β) | 0.0483 | | |
| Approximate Chi Square Value (116.54, α) | 92.61 | Adjusted Chi Square Value (116.54, β) | 92.39 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.409 | 95% Gamma Adjusted UCL (use when n<50) | 0.41 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.442 | SD (KM) | 0.906 |
| Variance (KM) | 0.821 | SE of Mean (KM) | 0.0835 |
| k hat (KM) | 0.237 | k star (KM) | 0.237 |
| nu hat (KM) | 66.44 | nu star (KM) | 66.35 |
| theta hat (KM) | 1.861 | theta star (KM) | 1.863 |
| 80% gamma percentile (KM) | 0.629 | 90% gamma percentile (KM) | 1.33 |
| 95% gamma percentile (KM) | 2.171 | 99% gamma percentile (KM) | 4.428 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (66.35, α) | 48.61 | Adjusted Chi Square Value (66.35, β) | 48.45 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.603 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.605 |

**Lognormal GOF Test on Detected Observations Only**

| | | | |
|---|---|---|---|
| Shapiro Wilk Approximate Test Statistic | 0.983 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk P Value | 0.838 | Detected Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.107 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.123 | Detected Data appear Lognormal at 5% Significance Level | |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.393 | Mean in Log Scale | -1.533 |
| SD in Original Scale | 0.862 | SD in Log Scale | 0.929 |
| 95% t UCL (assumes normality of ROS data) | 0.513 | 95% Percentile Bootstrap UCL | 0.513 |
| 95% BCA Bootstrap UCL | 0.584 | 95% Bootstrap t UCL | 0.64 |
| 95% H-UCL (Log ROS) | 0.393 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -1.543 | KM Geo Mean | 0.214 |
| KM SD (logged) | 1.162 | 95% Critical H Value (KM-Log) | 2.35 |
| KM Standard Error of Mean (logged) | 0.153 | 95% H-UCL (KM -Log) | 0.529 |
| KM SD (logged) | 1.162 | 95% Critical H Value (KM-Log) | 2.35 |
| KM Standard Error of Mean (logged) | 0.153 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 2.203 | Mean in Log Scale | -0.675 |
| SD in Original Scale | 6.958 | SD in Log Scale | 1.449 |
| 95% t UCL (Assumes normality) | 3.176 | 95% H-Stat UCL | 2.013 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Lognormal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| KM H-UCL | 0.529 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

| Analyte | Valid Obs | Rec. UCL | Method | Max | UCL>Max |
|---|---|---|---|---|---|
| 1,1-BIPHENYL, 2,3,4,4,5,5-HEXACHLORO(TIC) | 6 | 2.143 | 95% Student's-t UCL | 2.9 | |
| BENZO[J]FLUORANTHENE(TIC) | 9 | 3.162 | 95% Adjusted Gamma UCL | 4.4 | |

ProUCL-output-NFA-06.06.17.xlsx
Soil 0-2 ft

## UCL Statistics for Data Sets with Non-Detects

| User Selected Options | |
|---|---|
| Date/Time of Computation | ProUCL 5.16/6/17 11:34:22 |
| From File | ProUCL_FMPHHRA_TIC_06.05.17_a.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

### 1,1-BIPHENYL, 2,3,4,4,5,5-HEXACHLORO(TIC)

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 6 | Number of Distinct Observations | 5 |
| | | Number of Missing Observations | 13 |
| Minimum | 0.26 | Mean | 1.207 |
| Maximum | 2.9 | Median | 0.72 |
| SD | 1.138 | Std. Error of Mean | 0.464 |
| Coefficient of Variation | 0.943 | Skewness | 0.817 |

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.827 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.788 | Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.277 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.325 | Data appear Normal at 5% Significance Level |

Data appear Normal at 5% Significance Level

**Assuming Normal Distribution**

| 95% Normal UCL | | 95% UCLs (Adjusted for Skewness) | |
|---|---|---|---|
| 95% Student's-t UCL | 2.143 | 95% Adjusted-CLT UCL (Chen-1995) | 2.136 |
| | | 95% Modified-t UCL (Johnson-1978) | 2.168 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 0.522 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.711 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.307 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.339 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

### Gamma Statistics

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.278 | k star (bias corrected MLE) | 0.75 |
| Theta hat (MLE) | 0.944 | Theta star (bias corrected MLE) | 1.609 |
| nu hat (MLE) | 15.33 | nu star (bias corrected) | 9 |
| MLE Mean (bias corrected) | 1.207 | MLE Sd (bias corrected) | 1.393 |
| | | Approximate Chi Square Value (0.05) | 3.327 |
| Adjusted Level of Significance | 0.0122 | Adjusted Chi Square Value | 2.21 |

### Assuming Gamma Distribution

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 3.264 | 95% Adjusted Gamma UCL (use when n<50) | 4.914 |

### Lognormal GOF Test

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.857 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.788 | Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.283 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.325 | Data appear Lognormal at 5% Significance Level |

Data appear Lognormal at 5% Significance Level

### Lognormal Statistics

| | | | |
|---|---|---|---|
| Minimum of Logged Data | -1.347 | Mean of logged Data | -0.252 |
| Maximum of Logged Data | 1.065 | SD of logged Data | 1.058 |

### Assuming Lognormal Distribution

| | | | |
|---|---|---|---|
| 95% H-UCL | 10.56 | 90% Chebyshev (MVUE) UCL | 2.737 |
| 95% Chebyshev (MVUE) UCL | 3.431 | 97.5% Chebyshev (MVUE) UCL | 4.393 |
| 99% Chebyshev (MVUE) UCL | 6.284 | | |

### Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

### Nonparametric Distribution Free UCLs

| | | | |
|---|---|---|---|
| 95% CLT UCL | 1.971 | 95% Jackknife UCL | 2.143 |
| 95% Standard Bootstrap UCL | 1.907 | 95% Bootstrap-t UCL | 2.972 |
| 95% Hall's Bootstrap UCL | 2.744 | 95% Percentile Bootstrap UCL | 1.96 |
| 95% BCA Bootstrap UCL | 2.073 | | |
| 90% Chebyshev(Mean, Sd) UCL | 2.6 | 95% Chebyshev(Mean, Sd) UCL | 3.231 |
| 97.5% Chebyshev(Mean, Sd) UCL | 4.107 | 99% Chebyshev(Mean, Sd) UCL | 5.828 |

### Suggested UCL to Use

| | |
|---|---|
| 95% Student's-t UCL | 2.143 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

BENZO[J]FLUORANTHENE(TIC)

### General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 9 | Number of Distinct Observations | 9 |
| | | Number of Missing Observations | 17 |
| Minimum | 0.071 | Mean | 1.08 |
| Maximum | 4.4 | Median | 0.49 |
| SD | 1.445 | Std. Error of Mean | 0.482 |
| Coefficient of Variation | 1.338 | Skewness | 1.94 |

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

### Normal GOF Test

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.709 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.829 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.33 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.274 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

### Assuming Normal Distribution

| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
|---|---|---|---|
| 95% Student's-t UCL | 1.976 | 95% Adjusted-CLT UCL (Chen-1995) | 2.205 |
| | | 95% Modified-t UCL (Johnson-1978) | 2.028 |

### Gamma GOF Test

| | | |
|---|---|---|
| A-D Test Statistic | 0.446 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.749 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.25 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.289 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

### Gamma Statistics

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.811 | k star (bias corrected MLE) | 0.615 |
| Theta hat (MLE) | 1.331 | Theta star (bias corrected MLE) | 1.756 |
| nu hat (MLE) | 14.6 | nu star (bias corrected) | 11.07 |
| MLE Mean (bias corrected) | 1.08 | MLE Sd (bias corrected) | 1.377 |
| | | Approximate Chi Square Value (0.05) | 4.621 |
| Adjusted Level of Significance | 0.0231 | Adjusted Chi Square Value | 3.782 |

### Assuming Gamma Distribution

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50) | 2.588 | 95% Adjusted Gamma UCL (use when n<50) | 3.162 |

### Lognormal GOF Test

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.964 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.829 | Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.173 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.274 | Data appear Lognormal at 5% Significance Level |

Data appear Lognormal at 5% Significance Level

### Lognormal Statistics

| | | | |
|---|---|---|---|
| Minimum of Logged Data | -2.645 | Mean of logged Data | -0.653 |
| Maximum of Logged Data | 1.482 | SD of logged Data | 1.309 |

### Assuming Lognormal Distribution

| | | | |
|---|---|---|---|
| 95% H-UCL | 7.684 | 90% Chebyshev (MVUE) UCL | 2.502 |
| 95% Chebyshev (MVUE) UCL | 3.155 | 97.5% Chebyshev (MVUE) UCL | 4.062 |
| 99% Chebyshev (MVUE) UCL | 5.842 | | |

### Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

### Nonparametric Distribution Free UCLs

| | | | |
|---|---|---|---|
| 95% CLT UCL | 1.872 | 95% Jackknife UCL | 1.976 |
| 95% Standard Bootstrap UCL | 1.847 | 95% Bootstrap-t UCL | 5.016 |
| 95% Hall's Bootstrap UCL | 6.203 | 95% Percentile Bootstrap UCL | 1.868 |
| 95% BCA Bootstrap UCL | 2.201 | | |
| 90% Chebyshev(Mean, Sd) UCL | 2.525 | 95% Chebyshev(Mean, Sd) UCL | 3.179 |
| 97.5% Chebyshev(Mean, Sd) UCL | 4.088 | 99% Chebyshev(Mean, Sd) UCL | 5.872 |

### Suggested UCL to Use

| | |
|---|---|
| 95% Adjusted Gamma UCL | 3.162 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

| Analyte | Group | Matrix | Valid Obs | Rec. UCL | Method | Max | UCL>Max |
|---|---|---|---|---|---|---|---|
| BENZO[J]FLUORANTHENE | NA | NA | 2 | NA | NA | 0.7 | |

0-2ft soil TICsSFA.xlsx

## UCL Statistics for Data Sets with Non-Detects

**0-2ft soil TICsSFA.xlsx**

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.11/9/2017 2:57:44 PM |
| From File | ProUCL_FMPHHRA_TIC_01.09.17_d.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

### BENZO[J]FLUORANTHENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 2 | Number of Distinct Observations | 2 |
| | | Number of Missing Observations | 3 |
| Minimum | 0.26 | Mean | 0.48 |
| Maximum | 0.7 | Median | 0.48 |

Warning: This data set only has 2 observations!

Data set is too small to compute reliable and meaningful statistics and estimates!

The data set for variable BENZO[J]FLUORANTHENE was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!

If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

| Analyte | Group | Matrix | Valid Obs | Rec. UCL | Method | Max | UCL>Max |
|---|---|---|---|---|---|---|---|
| LEAD | NA | NA | 94 | 414.90072 | 95% Approximate Gamma UCL | 3050 | |

0-0.5soil_UNDV_Lead.xlsx

## UCL Statistics for Data Sets with Non-Detects

**0-0.5soil_UNDV_Lead.xlsx**

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.11/6/2017 2:24:18 PM |
| From File | ProUCL_FMPHHRA_01.06.17 input_b.xls |
| Full Precision | ON |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

### LEAD

#### General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 94.00 | Number of Distinct Observations | 91.00 |
| | | Number of Missing Observations | 0 |
| Minimum | 2.550 | Mean | 339.4 |
| Maximum | 3050 | Median | 205.5 |
| SD | 496.6 | Std. Error of Mean | 51.22 |
| Coefficient of Variation | 1.463 | Skewness | 3.864 |

#### Normal GOF Test

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.5880 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk P Value | 0 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.2488 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.09160 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

#### Assuming Normal Distribution

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 424.5 | 95% Adjusted-CLT UCL (Chen-1995) | 445.4 |
| | | 95% Modified-t UCL (Johnson-1978) | 427.9 |

#### Gamma GOF Test

| | | |
|---|---|---|
| A-D Test Statistic | 0.7424 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.7911 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.07093 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.09569 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

#### Gamma Statistics

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.8173 | k star (bias corrected MLE) | 0.7984 |
| Theta hat (MLE) | 415.2 | Theta star (bias corrected MLE) | 425.1 |
| nu hat (MLE) | 153.7 | nu star (bias corrected) | 150.1 |
| MLE Mean (bias corrected) | 339.4 | MLE Sd (bias corrected) | 379.8 |
| | | Approximate Chi Square Value (0.05) | 122.8 |
| Adjusted Level of Significance | 0.04745 | Adjusted Chi Square Value | 122.4 |

#### Assuming Gamma Distribution

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50) | 414.9 | 95% Adjusted Gamma UCL (use when n<50) | 416.2 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.9719 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk P Value | 0.2053 | Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.09165 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.09160 | Data Not Lognormal at 5% Significance Level |

Data appear Approximate Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | 0.9361 | Mean of logged Data | 5.103 |
| Maximum of Logged Data | 8.023 | SD of logged Data | 1.323 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 562.7 | 90% Chebyshev (MVUE) UCL | 596.9 |
| 95% Chebyshev (MVUE) UCL | 691.5 | 97.5% Chebyshev (MVUE) UCL | 822.8 |
| 99% Chebyshev (MVUE) UCL | 1081 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 423.6 | 95% Jackknife UCL | 424.5 |
| 95% Standard Bootstrap UCL | 422.2 | 95% Bootstrap-t UCL | 465.3 |
| 95% Hall's Bootstrap UCL | 497.6 | 95% Percentile Bootstrap UCL | 428.4 |
| 95% BCA Bootstrap UCL | 449.7 | | |
| 90% Chebyshev(Mean, Sd) UCL | 493.0 | 95% Chebyshev(Mean, Sd) UCL | 562.6 |
| 97.5% Chebyshev(Mean, Sd) UCL | 659.2 | 99% Chebyshev(Mean, Sd) UCL | 849.0 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% Approximate Gamma UCL | 414.9 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

| Analyte | Group | Matrix | Valid Obs | Rec. UCL | Method | Max | UCL>Max |
|---|---|---|---|---|---|---|---|
| ALUMINUM | NA | NA | 13 | 3339 | 95% Adjusted Gamma UCL | 8210 | |
| ANTIMONY | NA | NA | 13 | 16.86 | 95% KM (t) UCL | 41.9 | |
| ARSENIC | NA | NA | 12 | 1700 | 99% Chebyshev (Mean, Sd) UCL | 1720 | |
| BARIUM | NA | NA | 15 | 2382 | 975% KM (Chebyshev) UCL | 4030 | |
| CHROMIUM | NA | NA | 14 | 1826 | 99% Chebyshev (Mean, Sd) UCL | 2070 | |
| COBALT | NA | NA | 13 | 5.421 | 95% KM Adjusted Gamma UCL | 11.8 | |
| COPPER | NA | NA | 13 | 164 | 95% Adjusted Gamma UCL | 330 | |
| CYANIDE | NA | NA | 8 | 3252 | 95% KM Bootstrap t UCL | **651** | Y |
| IRON | NA | NA | 13 | 7329 | 95% Student's-t UCL | 13500 | |
| LEAD | NA | NA | 15 | 10269 | 99% Chebyshev (Mean, Sd) UCL | 10900 | |
| THALLIUM | NA | NA | 13 | 2.422 | 95% KM (t) UCL | 5.5 | |
| AROCLOR-1254 | NA | NA | 12 | 0.255 | 95% KM Adjusted Gamma UCL | 0.48 | |
| AROCLOR-1260 | NA | NA | 12 | 0.151 | 95% KM (t) UCL | 0.34 | |
| BENZO(A)ANTHRACENE | NA | NA | 15 | 6.121 | 95% Student's-t UCL | 15 | |
| BENZO(A)PYRENE | NA | NA | 15 | 6.162 | 95% KM (t) UCL | 14.5 | |
| BENZO(B)FLUORANTHENE | NA | NA | 15 | 5.985 | 95% Student's-t UCL | 14.5 | |
| BENZO(K)FLUORANTHENE | NA | NA | 15 | 8.317 | 95% Adjusted Gamma UCL | 19 | |
| CHRYSENE | NA | NA | 15 | 9.864 | 95% Adjusted Gamma UCL | 18.5 | |
| DIBENZO(A,H)ANTHRACENE | NA | NA | 15 | 1.22 | 95% KM (t) UCL | 2.95 | |
| INDENO(1,2,3-CD)PYRENE | NA | NA | 15 | 4.212 | Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1) | 8.05 | |

SD_UHC.xlsx

**UCL Statistics for Data Sets with Non-Detects**

**SD_UHC.xlsx**

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.11/18/2017 9:24:38 AM |
| From File | ProUCL_FMPHHRA_01.18.17 input.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

**ALUMINUM**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 13 | Number of Distinct Observations | 12 |
| | | Number of Missing Observations | 0 |
| Minimum | 523 | Mean | 2176 |
| Maximum | 8210 | Median | 1460 |
| SD | 1950 | Std. Error of Mean | 540.9 |
| Coefficient of Variation | 0.896 | Skewness | 2.809 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.654 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.866 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.27 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.234 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

**Assuming Normal Distribution**

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 3140 | 95% Adjusted-CLT UCL (Chen-1995) | 3516 |
| | | 95% Modified-t UCL (Johnson-1978) | 3211 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 0.705 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.742 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.186 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.239 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 2.315 | k star (bias corrected MLE) | 1.832 |
| Theta hat (MLE) | 940.3 | Theta star (bias corrected MLE) | 1188 |
| nu hat (MLE) | 60.18 | nu star (bias corrected) | 47.62 |
| MLE Mean (bias corrected) | 2176 | MLE Sd (bias corrected) | 1608 |
| | | Approximate Chi Square Value (0.05) | 32.79 |
| Adjusted Level of Significance | 0.0301 | Adjusted Chi Square Value | 31.04 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50) | 3161 | 95% Adjusted Gamma UCL (use when n<50) | 3339 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.939 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.866 | Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.152 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.234 | Data appear Lognormal at 5% Significance Level |

Data appear Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | 6.26 | Mean of logged Data | 7.454 |
| Maximum of Logged Data | 9.013 | SD of logged Data | 0.658 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 3325 | 90% Chebyshev (MVUE) UCL | 3301 |
| 95% Chebyshev (MVUE) UCL | 3844 | 97.5% Chebyshev (MVUE) UCL | 4598 |
| 99% Chebyshev (MVUE) UCL | 6078 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 3066 | 95% Jackknife UCL | 3140 |
| 95% Standard Bootstrap UCL | 3028 | 95% Bootstrap-t UCL | 4521 |
| 95% Hall's Bootstrap UCL | 6778 | 95% Percentile Bootstrap UCL | 3130 |
| 95% BCA Bootstrap UCL | 3553 | | |
| 90% Chebyshev(Mean, Sd) UCL | 3799 | 95% Chebyshev(Mean, Sd) UCL | 4534 |
| 97.5% Chebyshev(Mean, Sd) UCL | 5554 | 99% Chebyshev(Mean, Sd) UCL | 7558 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% Adjusted Gamma UCL | 3339 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**ANTIMONY**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 13 | Number of Distinct Observations | 12 |
| Number of Detects | 7 | Number of Non-Detects | 6 |
| Number of Distinct Detects | 7 | Number of Distinct Non-Detects | 5 |
| Minimum Detect | 4 | Minimum Non-Detect | 1.5 |
| Maximum Detect | 41.9 | Maximum Non-Detect | 5.7 |
| Variance Detects | 214 | Percent Non-Detects | 46.15% |

| | | | |
|---|---|---|---|
| Mean Detects | 17.35 | SD Detects | 14.63 |
| Median Detects | 13.5 | CV Detects | 0.843 |
| Skewness Detects | 0.975 | Kurtosis Detects | -0.468 |
| Mean of Logged Detects | 2.521 | SD of Logged Detects | 0.905 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.868 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.803 | Detected Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.224 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.304 | Detected Data appear Normal at 5% Significance Level |

Detected Data appear Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 10.1 | KM Standard Error of Mean | 3.795 |
| KM SD | 12.66 | 95% KM (BCA) UCL | 16.65 |
| 95% KM (t) UCL | 16.86 | 95% KM (Percentile Bootstrap) UCL | 16.25 |
| 95% KM (z) UCL | 16.34 | 95% KM Bootstrap t UCL | 22.83 |
| 90% KM Chebyshev UCL | 21.48 | 95% KM Chebyshev UCL | 26.64 |
| 97.5% KM Chebyshev UCL | 33.8 | 99% KM Chebyshev UCL | 47.86 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.289 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.719 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.181 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.316 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.649 | k star (bias corrected MLE) | 1.038 |
| Theta hat (MLE) | 10.52 | Theta star (bias corrected MLE) | 16.72 |
| nu hat (MLE) | 23.09 | nu star (bias corrected) | 14.53 |
| Mean (detects) | 17.35 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 9.347 |
| Maximum | 41.9 | Median | 4 |
| SD | 13.71 | CV | 1.467 |
| k hat (MLE) | 0.238 | k star (bias corrected MLE) | 0.235 |
| Theta hat (MLE) | 39.22 | Theta star (bias corrected MLE) | 39.84 |
| nu hat (MLE) | 6.197 | nu star (bias corrected) | 6.1 |
| Adjusted Level of Significance (β) | 0.0301 | | |
| Approximate Chi Square Value (6.10, α) | 1.691 | Adjusted Chi Square Value (6.10, β) | 1.383 |
| 95% Gamma Approximate UCL (use when n>=50) | 33.71 | 95% Gamma Adjusted UCL (use when n<50) | 41.23 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 10.1 | SD (KM) | 12.66 |
| Variance (KM) | 160.3 | SE of Mean (KM) | 3.795 |
| k hat (KM) | 0.636 | k star (KM) | 0.541 |
| nu hat (KM) | 16.55 | nu star (KM) | 14.06 |
| theta hat (KM) | 15.87 | theta star (KM) | 18.68 |
| 80% gamma percentile (KM) | 16.63 | 90% gamma percentile (KM) | 26.88 |
| 95% gamma percentile (KM) | 37.73 | 99% gamma percentile (KM) | 64.21 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (14.06, α) | 6.613 | Adjusted Chi Square Value (14.06, β) | 5.899 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 21.48 | 95% Gamma Adjusted KM-UCL (use when n<50) | 24.07 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.942 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.803 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.145 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.304 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 9.915 | Mean in Log Scale | 1.437 |
| SD in Original Scale | 13.3 | SD in Log Scale | 1.392 |
| 95% t UCL (assumes normality of ROS data) | 16.49 | 95% Percentile Bootstrap UCL | 16.05 |
| 95% BCA Bootstrap UCL | 17.63 | 95% Bootstrap t UCL | 23.27 |
| 95% H-UCL (Log ROS) | 46.63 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 1.568 | KM Geo Mean | 4.799 |
| KM SD (logged) | 1.209 | 95% Critical H Value (KM-Log) | 3.223 |
| KM Standard Error of Mean (logged) | 0.365 | 95% H-UCL (KM -Log) | 30.7 |
| KM SD (logged) | 1.209 | 95% Critical H Value (KM-Log) | 3.223 |
| KM Standard Error of Mean (logged) | 0.365 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 9.9 | Mean in Log Scale | 1.386 |
| SD in Original Scale | 13.32 | SD in Log Scale | 1.463 |
| 95% t UCL (Assumes normality) | 16.48 | 95% H-Stat UCL | 55.84 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Normal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (t) UCL | 16.86 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

ARSENIC

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 12 | Number of Distinct Observations | 12 |
| | | Number of Missing Observations | 1 |
| Minimum | 1.3 | Mean | 225.2 |
| Maximum | 1720 | Median | 18.2 |
| SD | 513.3 | Std. Error of Mean | 148.2 |
| Coefficient of Variation | 2.28 | Skewness | 2.725 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.512 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.859 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.401 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.243 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

**Assuming Normal Distribution**

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 491.3 | 95% Adjusted-CLT UCL (Chen-1995) | 593.5 |
| | | 95% Modified-t UCL (Johnson-1978) | 510.7 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 1.242 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.822 | Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.319 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.265 | Data Not Gamma Distributed at 5% Significance Level |

Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.311 | k star (bias corrected MLE) | 0.289 |
| Theta hat (MLE) | 723.7 | Theta star (bias corrected MLE) | 779.4 |
| nu hat (MLE) | 7.467 | nu star (bias corrected) | 6.933 |
| MLE Mean (bias corrected) | 225.2 | MLE Sd (bias corrected) | 418.9 |
| | | Approximate Chi Square Value (0.05) | 2.134 |
| Adjusted Level of Significance | 0.029 | Adjusted Chi Square Value | 1.752 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 731.5 | 95% Adjusted Gamma UCL (use when n<50) | 891.1 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.924 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.859 | Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.201 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.243 | Data appear Lognormal at 5% Significance Level |

Data appear Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | 0.262 | Mean of logged Data | 3.213 |
| Maximum of Logged Data | 7.45 | SD of logged Data | 2.145 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 7548 | 90% Chebyshev (MVUE) UCL | 475.5 |
| 95% Chebyshev (MVUE) UCL | 618.9 | 97.5% Chebyshev (MVUE) UCL | 817.9 |
| 99% Chebyshev (MVUE) UCL | 1209 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 468.9 | 95% Jackknife UCL | 491.3 |
| 95% Standard Bootstrap UCL | 461.8 | 95% Bootstrap-t UCL | 3011 |
| 95% Hall's Bootstrap UCL | 3241 | 95% Percentile Bootstrap UCL | 499.3 |
| 95% BCA Bootstrap UCL | 649.5 | | |
| 90% Chebyshev(Mean, Sd) UCL | 669.7 | 95% Chebyshev(Mean, Sd) UCL | 871.1 |
| 97.5% Chebyshev(Mean, Sd) UCL | 1151 | 99% Chebyshev(Mean, Sd) UCL | 1700 |

**Suggested UCL to Use**

| | |
|---|---|
| 99% Chebyshev (Mean, Sd) UCL | 1700 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**BARIUM**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 15 | Number of Distinct Observations | 15 |
| Number of Detects | 14 | Number of Non-Detects | 1 |
| Number of Distinct Detects | 14 | Number of Distinct Non-Detects | 1 |
| Minimum Detect | 20.5 | Minimum Non-Detect | 19 |
| Maximum Detect | 4030 | Maximum Non-Detect | 19 |
| Variance Detects | 1365377 | Percent Non-Detects | 6.667% |

| | | | |
|---|---|---|---|
| Mean Detects | 583.9 | SD Detects | 1168 |
| Median Detects | 73.93 | CV Detects | 2.001 |
| Skewness Detects | 2.448 | Kurtosis Detects | 5.879 |
| Mean of Logged Detects | 4.785 | SD of Logged Detects | 1.709 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.559 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.874 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.418 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.226 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 546.3 | KM Standard Error of Mean | 293.9 |
| KM SD | 1097 | 95% KM (BCA) UCL | 1154 |
| 95% KM (t) UCL | 1064 | 95% KM (Percentile Bootstrap) UCL | 1044 |
| 95% KM (z) UCL | 1030 | 95% KM Bootstrap t UCL | 2013 |
| 90% KM Chebyshev UCL | 1428 | 95% KM Chebyshev UCL | 1827 |
| 97.5% KM Chebyshev UCL | 2382 | 99% KM Chebyshev UCL | 3471 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 1.754 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.81 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.348 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.244 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.413 | k star (bias corrected MLE) | 0.372 |
| Theta hat (MLE) | 1414 | Theta star (bias corrected MLE) | 1569 |
| nu hat (MLE) | 11.56 | nu star (bias corrected) | 10.42 |
| Mean (detects) | 583.9 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 545 |
| Maximum | 4030 | Median | 72.9 |
| SD | 1136 | CV | 2.085 |
| k hat (MLE) | 0.319 | k star (bias corrected MLE) | 0.299 |
| Theta hat (MLE) | 1710 | Theta star (bias corrected MLE) | 1820 |
| nu hat (MLE) | 9.562 | nu star (bias corrected) | 8.983 |
| Adjusted Level of Significance (β) | 0.0324 | | |

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (8.98, α) | 3.317 | Adjusted Chi Square Value (8.98, β) | 2.906 |
| 95% Gamma Approximate UCL (use when n>=50) | 1476 | 95% Gamma Adjusted UCL (use when n<50) | 1685 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 546.3 | SD (KM) | 1097 |
| Variance (KM) | 1203184 | SE of Mean (KM) | 293.9 |
| k hat (KM) | 0.248 | k star (KM) | 0.243 |
| nu hat (KM) | 7.44 | nu star (KM) | 7.285 |
| theta hat (KM) | 2203 | theta star (KM) | 2249 |
| 80% gamma percentile (KM) | 785 | 90% gamma percentile (KM) | 1643 |
| 95% gamma percentile (KM) | 2667 | 99% gamma percentile (KM) | 5404 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (7.29, α) | 2.329 | Adjusted Chi Square Value (7.29, β) | 1.999 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1709 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1991 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.836 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.874 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.261 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.226 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 545.1 | Mean in Log Scale | 4.52 |
| SD in Original Scale | 1136 | SD in Log Scale | 1.941 |
| 95% t UCL (assumes normality of ROS data) | 1062 | 95% Percentile Bootstrap UCL | 1046 |
| 95% BCA Bootstrap UCL | 1269 | 95% Bootstrap t UCL | 2034 |
| 95% H-UCL (Log ROS) | 6063 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 4.662 | KM Geo Mean | 105.8 |
| KM SD (logged) | 1.656 | 95% Critical H Value (KM-Log) | 3.903 |
| KM Standard Error of Mean (logged) | 0.444 | 95% H-UCL (KM -Log) | 2347 |
| KM SD (logged) | 1.656 | 95% Critical H Value (KM-Log) | 3.903 |
| KM Standard Error of Mean (logged) | 0.444 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 545.6 | Mean in Log Scale | 4.616 |
| SD in Original Scale | 1136 | SD in Log Scale | 1.772 |
| 95% t UCL (Assumes normality) | 1062 | 95% H-Stat UCL | 3426 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

975% KM (Chebyshev) UCL 2382

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

## CHROMIUM

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 14 | Number of Distinct Observations | 14 |
| | | Number of Missing Observations | 1 |
| Minimum | 4.2 | Mean | 277.7 |
| Maximum | 2070 | Median | 14.95 |
| SD | 582.4 | Std. Error of Mean | 155.6 |
| Coefficient of Variation | 2.097 | Skewness | 2.673 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.553 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.874 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.386 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.226 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

**Assuming Normal Distribution**

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 553.3 | 95% Adjusted-CLT UCL (Chen-1995) | 652.5 |
| | | 95% Modified-t UCL (Johnson-1978) | 571.9 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 1.763 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.827 | Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.392 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.247 | Data Not Gamma Distributed at 5% Significance Level |

Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.328 | k star (bias corrected MLE) | 0.305 |
| Theta hat (MLE) | 846.5 | Theta star (bias corrected MLE) | 909.3 |
| nu hat (MLE) | 9.185 | nu star (bias corrected) | 8.55 |
| MLE Mean (bias corrected) | 277.7 | MLE Sd (bias corrected) | 502.5 |
| | | Approximate Chi Square Value (0.05) | 3.058 |
| Adjusted Level of Significance | 0.0312 | Adjusted Chi Square Value | 2.638 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 776.5 | 95% Adjusted Gamma UCL (use when n<50) | 900 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.81 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.874 | Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.326 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.226 | Data Not Lognormal at 5% Significance Level |

Data Not Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | 1.435 | Mean of logged Data | 3.555 |
| Maximum of Logged Data | 7.635 | SD of logged Data | 2.069 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 4712 | 90% Chebyshev (MVUE) UCL | 597.1 |
| 95% Chebyshev (MVUE) UCL | 773.3 | 97.5% Chebyshev (MVUE) UCL | 1018 |
| 99% Chebyshev (MVUE) UCL | 1498 | | |

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution (0.05)

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 533.7 | 95% Jackknife UCL | 553.3 |
| 95% Standard Bootstrap UCL | 528.1 | 95% Bootstrap-t UCL | 1199 |
| 95% Hall's Bootstrap UCL | 1480 | 95% Percentile Bootstrap UCL | 547.7 |
| 95% BCA Bootstrap UCL | 635.2 | | |
| 90% Chebyshev(Mean, Sd) UCL | 744.6 | 95% Chebyshev(Mean, Sd) UCL | 956.1 |
| 97.5% Chebyshev(Mean, Sd) UCL | 1250 | 99% Chebyshev(Mean, Sd) UCL | 1826 |

**Suggested UCL to Use**

| | |
|---|---|
| 99% Chebyshev (Mean, Sd) UCL | 1826 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**COBALT**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 13 | Number of Distinct Observations | 10 |
| Number of Detects | 12 | Number of Non-Detects | 1 |
| Number of Distinct Detects | 9 | Number of Distinct Non-Detects | 1 |
| Minimum Detect | 0.52 | Minimum Non-Detect | 0.74 |
| Maximum Detect | 11.8 | Maximum Non-Detect | 0.74 |

| | | | |
|---|---|---|---|
| Variance Detects | 9.081 | Percent Non-Detects | 7.692% |
| Mean Detects | 2.634 | SD Detects | 3.014 |
| Median Detects | 1.6 | CV Detects | 1.144 |
| Skewness Detects | 2.99 | Kurtosis Detects | 9.527 |
| Mean of Logged Detects | 0.637 | SD of Logged Detects | 0.765 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.583 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.859 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.338 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.243 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 2.472 | KM Standard Error of Mean | 0.819 |
| KM SD | 2.829 | 95% KM (BCA) UCL | 4.052 |
| 95% KM (t) UCL | 3.932 | 95% KM (Percentile Bootstrap) UCL | 3.949 |
| 95% KM (z) UCL | 3.819 | 95% KM Bootstrap t UCL | 7.21 |
| 90% KM Chebyshev UCL | 4.93 | 95% KM Chebyshev UCL | 6.043 |
| 97.5% KM Chebyshev UCL | 7.589 | 99% KM Chebyshev UCL | 10.62 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.941 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.744 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.236 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.249 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data follow Appr. Gamma Distribution at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.655 | k star (bias corrected MLE) | 1.297 |
| Theta hat (MLE) | 1.591 | Theta star (bias corrected MLE) | 2.031 |
| nu hat (MLE) | 39.73 | nu star (bias corrected) | 31.13 |
| Mean (detects) | 2.634 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 2.432 |
| Maximum | 11.8 | Median | 1.6 |
| SD | 2.976 | CV | 1.223 |
| k hat (MLE) | 0.893 | k star (bias corrected MLE) | 0.738 |
| Theta hat (MLE) | 2.723 | Theta star (bias corrected MLE) | 3.294 |
| nu hat (MLE) | 23.23 | nu star (bias corrected) | 19.2 |
| Adjusted Level of Significance (β) | 0.0301 | | |

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (19.20, α) | 10.26 | Adjusted Chi Square Value (19.20, β) | 9.345 |
| 95% Gamma Approximate UCL (use when n>=50) | 4.55 | 95% Gamma Adjusted UCL (use when n<50) | 4.998 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 2.472 | SD (KM) | 2.829 |
| Variance (KM) | 8.002 | SE of Mean (KM) | 0.819 |
| k hat (KM) | 0.763 | k star (KM) | 0.639 |
| nu hat (KM) | 19.85 | nu star (KM) | 16.6 |
| theta hat (KM) | 3.237 | theta star (KM) | 3.871 |
| 80% gamma percentile (KM) | 4.072 | 90% gamma percentile (KM) | 6.338 |
| 95% gamma percentile (KM) | 8.696 | 99% gamma percentile (KM) | 14.37 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (16.60, α) | 8.388 | Adjusted Chi Square Value (16.60, β) | 7.57 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 4.892 | 95% Gamma Adjusted KM-UCL (use when n<50) | 5.421 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.914 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.859 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.181 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.243 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 2.469 | Mean in Log Scale | 0.533 |
| SD in Original Scale | 2.946 | SD in Log Scale | 0.822 |
| 95% t UCL (assumes normality of ROS data) | 3.925 | 95% Percentile Bootstrap UCL | 3.923 |
| 95% BCA Bootstrap UCL | 4.779 | 95% Bootstrap t UCL | 7.077 |
| 95% H-UCL (Log ROS) | 4.385 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 0.538 | KM Geo Mean | 1.712 |
| KM SD (logged) | 0.783 | 95% Critical H Value (KM-Log) | 2.494 |
| KM Standard Error of Mean (logged) | 0.227 | 95% H-UCL (KM -Log) | 4.091 |
| KM SD (logged) | 0.783 | 95% Critical H Value (KM-Log) | 2.494 |
| KM Standard Error of Mean (logged) | 0.227 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 2.46 | Mean in Log Scale | 0.512 |
| SD in Original Scale | 2.953 | SD in Log Scale | 0.861 |
| 95% t UCL (Assumes normality) | 3.92 | 95% H-Stat UCL | 4.629 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | | | |
|---|---|---|---|
| 95% KM Adjusted Gamma UCL | 5.421 | 95% GROS Adjusted Gamma UCL | 4.998 |

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

COPPER

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 13 | Number of Distinct Observations | 13 |
| | | Number of Missing Observations | 0 |
| Minimum | 0.85 | Mean | 64.33 |
| Maximum | 330 | Median | 23.1 |
| SD | 106.8 | Std. Error of Mean | 29.61 |
| Coefficient of Variation | 1.659 | Skewness | 2.132 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.599 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.866 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.367 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.234 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

**Assuming Normal Distribution**

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 117.1 | 95% Adjusted-CLT UCL (Chen-1995) | 131.7 |
| | | 95% Modified-t UCL (Johnson-1978) | 120 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 0.656 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.786 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.22 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.249 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.556 | k star (bias corrected MLE) | 0.479 |
| Theta hat (MLE) | 115.7 | Theta star (bias corrected MLE) | 134.3 |
| nu hat (MLE) | 14.46 | nu star (bias corrected) | 12.46 |
| MLE Mean (bias corrected) | 64.33 | MLE Sd (bias corrected) | 92.94 |
| | | Approximate Chi Square Value (0.05) | 5.53 |
| Adjusted Level of Significance | 0.0301 | Adjusted Chi Square Value | 4.888 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50) | 144.9 | 95% Adjusted Gamma UCL (use when n<50) | 164 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.963 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.866 | Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.138 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.234 | Data appear Lognormal at 5% Significance Level |

Data appear Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | -0.163 | Mean of logged Data | 3.041 |
| Maximum of Logged Data | 5.799 | SD of logged Data | 1.661 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 586.8 | 90% Chebyshev (MVUE) UCL | 172.5 |
| 95% Chebyshev (MVUE) UCL | 219.9 | 97.5% Chebyshev (MVUE) UCL | 285.7 |
| 99% Chebyshev (MVUE) UCL | 414.9 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 113 | 95% Jackknife UCL | 117.1 |
| 95% Standard Bootstrap UCL | 111.1 | 95% Bootstrap-t UCL | 347.6 |
| 95% Hall's Bootstrap UCL | 404.9 | 95% Percentile Bootstrap UCL | 113.4 |
| 95% BCA Bootstrap UCL | 129.1 | | |
| 90% Chebyshev(Mean, Sd) UCL | 153.2 | 95% Chebyshev(Mean, Sd) UCL | 193.4 |
| 97.5% Chebyshev(Mean, Sd) UCL | 249.2 | 99% Chebyshev(Mean, Sd) UCL | 358.9 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% Adjusted Gamma UCL | 164 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**CYANIDE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 8 | Number of Distinct Observations | 8 |
| | | Number of Missing Observations | 4 |
| Number of Detects | 7 | Number of Non-Detects | 1 |
| Number of Distinct Detects | 7 | Number of Distinct Non-Detects | 1 |
| Minimum Detect | 0.17 | Minimum Non-Detect | 0.56 |
| Maximum Detect | 651 | Maximum Non-Detect | 0.56 |
| Variance Detects | 61402 | Percent Non-Detects | 12.5% |

| | | | |
|---|---|---|---|
| Mean Detects | 142.8 | SD Detects | 247.8 |
| Median Detects | 13.6 | CV Detects | 1.735 |
| Skewness Detects | 1.887 | Kurtosis Detects | 3.111 |
| Mean of Logged Detects | 2.898 | SD of Logged Detects | 2.713 |

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.666 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.803 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.396 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.304 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 125 | KM Standard Error of Mean | 83.91 |
| KM SD | 219.7 | 95% KM (BCA) UCL | 251.6 |
| 95% KM (t) UCL | 284 | 95% KM (Percentile Bootstrap) UCL | 253.4 |
| 95% KM (z) UCL | 263 | 95% KM Bootstrap t UCL | 3334 |
| 90% KM Chebyshev UCL | 376.7 | 95% KM Chebyshev UCL | 490.7 |
| 97.5% KM Chebyshev UCL | 649 | 99% KM Chebyshev UCL | 959.9 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.437 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.779 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.279 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.334 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.329 | k star (bias corrected MLE) | 0.283 |
| Theta hat (MLE) | 433.8 | Theta star (bias corrected MLE) | 504 |
| nu hat (MLE) | 4.609 | nu star (bias corrected) | 3.967 |
| Mean (detects) | 142.8 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 125 |
| Maximum | 651 | Median | 11.1 |
| SD | 234.9 | CV | 1.88 |
| k hat (MLE) | 0.248 | k star (bias corrected MLE) | 0.238 |
| Theta hat (MLE) | 503.9 | Theta star (bias corrected MLE) | 524.3 |

| | | | |
|---|---|---|---|
| nu hat (MLE) | 3.968 | nu star (bias corrected) | 3.813 |
| Adjusted Level of Significance (β) | 0.0195 | | |
| Approximate Chi Square Value (3.81, α) | 0.649 | Adjusted Chi Square Value (3.81, β) | 0.392 |
| 95% Gamma Approximate UCL (use when n>=50) | 733.9 | 95% Gamma Adjusted UCL (use when n<50) | 1215 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 125 | SD (KM) | 219.7 |
| Variance (KM) | 48278 | SE of Mean (KM) | 83.91 |
| k hat (KM) | 0.324 | k star (KM) | 0.286 |
| nu hat (KM) | 5.178 | nu star (KM) | 4.569 |
| theta hat (KM) | 386.2 | theta star (KM) | 437.7 |
| 80% gamma percentile (KM) | 189.3 | 90% gamma percentile (KM) | 370.7 |
| 95% gamma percentile (KM) | 580.8 | 99% gamma percentile (KM) | 1130 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (4.57, α) | 0.959 | Adjusted Chi Square Value (4.57, β) | 0.611 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 595.7 | 95% Gamma Adjusted KM-UCL (use when n<50) | 934.2 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.941 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.803 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.212 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.304 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 125 | Mean in Log Scale | 2.348 |
| SD in Original Scale | 234.9 | SD in Log Scale | 2.956 |
| 95% t UCL (assumes normality of ROS data) | 282.3 | 95% Percentile Bootstrap UCL | 254.2 |
| 95% BCA Bootstrap UCL | 328.1 | 95% Bootstrap t UCL | 3276 |
| 95% H-UCL (Log ROS) | 16805068 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 2.315 | KM Geo Mean | 10.12 |
| KM SD (logged) | 2.812 | 95% Critical H Value (KM-Log) | 8.462 |
| KM Standard Error of Mean (logged) | 1.074 | 95% H-UCL (KM -Log) | 4248362 |
| KM SD (logged) | 2.812 | 95% Critical H Value (KM-Log) | 8.462 |
| KM Standard Error of Mean (logged) | 1.074 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 125 | Mean in Log Scale | 2.377 |
| SD in Original Scale | 234.9 | SD in Log Scale | 2.913 |
| 95% t UCL (Assumes normality) | 282.3 | 95% H-Stat UCL | 11502800 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | | | |
|---|---|---|---|
| 95% KM Bootstrap t UCL | 3252 | 95% Hall's Bootstrap | 4248362 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

IRON

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 13 | Number of Distinct Observations | 13 |
| | | Number of Missing Observations | 0 |
| Minimum | 2300 | Mean | 5781 |
| Maximum | 13500 | Median | 5370 |
| SD | 3132 | Std. Error of Mean | 868.6 |
| Coefficient of Variation | 0.542 | Skewness | 1.392 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.874 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.866 | Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.24 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.234 | Data Not Normal at 5% Significance Level |

Data appear Approximate Normal at 5% Significance Level

**Assuming Normal Distribution**

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 7329 | 95% Adjusted-CLT UCL (Chen-1995) | 7568 |
| | | 95% Modified-t UCL (Johnson-1978) | 7385 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 0.31 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.737 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.173 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.238 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 4.247 | k star (bias corrected MLE) | 3.318 |
| Theta hat (MLE) | 1361 | Theta star (bias corrected MLE) | 1742 |
| nu hat (MLE) | 110.4 | nu star (bias corrected) | 86.27 |
| MLE Mean (bias corrected) | 5781 | MLE Sd (bias corrected) | 3173 |
| | | Approximate Chi Square Value (0.05) | 65.86 |
| Adjusted Level of Significance | 0.0301 | Adjusted Chi Square Value | 63.33 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 7572 | 95% Adjusted Gamma UCL (use when n<50) | 7876 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.965 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.866 | Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.146 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.234 | Data appear Lognormal at 5% Significance Level |

Data appear Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | 7.741 | Mean of logged Data | 8.54 |
| Maximum of Logged Data | 9.51 | SD of logged Data | 0.511 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 7979 | 90% Chebyshev (MVUE) UCL | 8286 |
| 95% Chebyshev (MVUE) UCL | 9427 | 97.5% Chebyshev (MVUE) UCL | 11012 |
| 99% Chebyshev (MVUE) UCL | 14124 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 7209 | 95% Jackknife UCL | 7329 |
| 95% Standard Bootstrap UCL | 7127 | 95% Bootstrap-t UCL | 8144 |
| 95% Hall's Bootstrap UCL | 9830 | 95% Percentile Bootstrap UCL | 7243 |
| 95% BCA Bootstrap UCL | 7453 | | |
| 90% Chebyshev(Mean, Sd) UCL | 8386 | 95% Chebyshev(Mean, Sd) UCL | 9567 |
| 97.5% Chebyshev(Mean, Sd) UCL | 11205 | 99% Chebyshev(Mean, Sd) UCL | 14423 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% Student's-t UCL | 7329 |

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**LEAD**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 15 | Number of Distinct Observations | 15 |
| | | Number of Missing Observations | 0 |
| Minimum | 15.5 | Mean | 1788 |
| Maximum | 10900 | Median | 136.5 |
| SD | 3301 | Std. Error of Mean | 852.4 |
| Coefficient of Variation | 1.847 | Skewness | 2.048 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.618 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.881 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.4 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.22 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

**Assuming Normal Distribution**

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 3289 | 95% Adjusted-CLT UCL (Chen-1995) | 3672 |
| | | 95% Modified-t UCL (Johnson-1978) | 3364 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 1.216 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.829 | Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.282 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.239 | Data Not Gamma Distributed at 5% Significance Level |

Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.33 | k star (bias corrected MLE) | 0.308 |
| Theta hat (MLE) | 5424 | Theta star (bias corrected MLE) | 5802 |
| nu hat (MLE) | 9.889 | nu star (bias corrected) | 9.245 |
| MLE Mean (bias corrected) | 1788 | MLE Sd (bias corrected) | 3221 |
| | | Approximate Chi Square Value (0.05) | 3.475 |
| Adjusted Level of Significance | 0.0324 | Adjusted Chi Square Value | 3.053 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 4756 | 95% Adjusted Gamma UCL (use when n<50) | 5414 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.898 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.881 | Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.171 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.22 | Data appear Lognormal at 5% Significance Level |

Data appear Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | 2.741 | Mean of logged Data | 5.429 |
| Maximum of Logged Data | 9.297 | SD of logged Data | 2.237 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 56167 | 90% Chebyshev (MVUE) UCL | 5405 |
| 95% Chebyshev (MVUE) UCL | 7030 | 97.5% Chebyshev (MVUE) UCL | 9285 |
| 99% Chebyshev (MVUE) UCL | 13716 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 3190 | 95% Jackknife UCL | 3289 |
| 95% Standard Bootstrap UCL | 3140 | 95% Bootstrap-t UCL | 4879 |
| 95% Hall's Bootstrap UCL | 4135 | 95% Percentile Bootstrap UCL | 3239 |
| 95% BCA Bootstrap UCL | 3619 | | |
| 90% Chebyshev(Mean, Sd) UCL | 4345 | 95% Chebyshev(Mean, Sd) UCL | 5503 |
| 97.5% Chebyshev(Mean, Sd) UCL | 7111 | 99% Chebyshev(Mean, Sd) UCL | 10269 |

**Suggested UCL to Use**

| | |
|---|---|
| 99% Chebyshev (Mean, Sd) UCL | 10269 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**THALLIUM**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 13 | Number of Distinct Observations | 12 |
| Number of Detects | 3 | Number of Non-Detects | 10 |
| Number of Distinct Detects | 3 | Number of Distinct Non-Detects | 9 |
| Minimum Detect | 0.88 | Minimum Non-Detect | 0.99 |
| Maximum Detect | 5.5 | Maximum Non-Detect | 2.4 |
| Variance Detects | 5.908 | Percent Non-Detects | 76.92% |
| Mean Detects | 3.627 | SD Detects | 2.431 |
| Median Detects | 4.5 | CV Detects | 0.67 |
| Skewness Detects | -1.408 | Kurtosis Detects | N/A |
| Mean of Logged Detects | 1.027 | SD of Logged Detects | 1.005 |

Warning: Data set has only 3 Detected Values.
This is not enough to compute meaningful or reliable statistics and estimates.

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.903 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.767 | Detected Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.307 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.425 | Detected Data appear Normal at 5% Significance Level |

Detected Data appear Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 1.514 | KM Standard Error of Mean | 0.509 |
| KM SD | 1.499 | 95% KM (BCA) UCL | N/A |
| 95% KM (t) UCL | 2.422 | 95% KM (Percentile Bootstrap) UCL | N/A |
| 95% KM (z) UCL | 2.352 | 95% KM Bootstrap t UCL | N/A |
| 90% KM Chebyshev UCL | 3.042 | 95% KM Chebyshev UCL | 3.734 |
| 97.5% KM Chebyshev UCL | 4.695 | 99% KM Chebyshev UCL | 6.581 |

**Gamma GOF Tests on Detected Observations Only**

Not Enough Data to Perform GOF Test

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 2.065 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 1.757 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 12.39 | nu star (bias corrected) | N/A |
| Mean (detects) | 3.627 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.342 | Mean | 1.545 |
| Maximum | 5.5 | Median | 0.913 |
| SD | 1.567 | CV | 1.014 |
| k hat (MLE) | 1.802 | k star (bias corrected MLE) | 1.437 |
| Theta hat (MLE) | 0.857 | Theta star (bias corrected MLE) | 1.075 |
| nu hat (MLE) | 46.85 | nu star (bias corrected) | 37.37 |
| Adjusted Level of Significance (β) | 0.0301 | | |
| Approximate Chi Square Value (37.37, α) | 24.38 | Adjusted Chi Square Value (37.37, β) | 22.89 |
| 95% Gamma Approximate UCL (use when n>=50) | 2.369 | 95% Gamma Adjusted UCL (use when n<50) | N/A |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 1.514 | SD (KM) | 1.499 |
| Variance (KM) | 2.248 | SE of Mean (KM) | 0.509 |
| k hat (KM) | 1.019 | k star (KM) | 0.835 |
| nu hat (KM) | 26.5 | nu star (KM) | 21.72 |
| theta hat (KM) | 1.485 | theta star (KM) | 1.812 |
| 80% gamma percentile (KM) | 2.468 | 90% gamma percentile (KM) | 3.643 |
| 95% gamma percentile (KM) | 4.835 | 99% gamma percentile (KM) | 7.641 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (21.72, α) | 12.13 | Adjusted Chi Square Value (21.72, β) | 11.12 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 2.711 | 95% Gamma Adjusted KM-UCL (use when n<50) | 2.957 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.831 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.767 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.349 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.425 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 1.535 | Mean in Log Scale | 0.152 |
| SD in Original Scale | 1.558 | SD in Log Scale | 0.665 |
| 95% t UCL (assumes normality of ROS data) | 2.305 | 95% Percentile Bootstrap UCL | 2.266 |

| | | | |
|---|---|---|---|
| 95% BCA Bootstrap UCL | 2.543 | 95% Bootstrap t UCL | 8.408 |
| 95% H-UCL (Log ROS) | 2.266 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 0.139 | KM Geo Mean | 1.149 |
| KM SD (logged) | 0.626 | 95% Critical H Value (KM-Log) | 2.269 |
| KM Standard Error of Mean (logged) | 0.213 | 95% H-UCL (KM -Log) | 2.106 |
| KM SD (logged) | 0.626 | 95% Critical H Value (KM-Log) | 2.269 |
| KM Standard Error of Mean (logged) | 0.213 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 1.442 | Mean in Log Scale | 0.0255 |
| SD in Original Scale | 1.604 | SD in Log Scale | 0.744 |
| 95% t UCL (Assumes normality) | 2.235 | 95% H-Stat UCL | 2.281 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Normal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (t) UCL | 2.422 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

AROCLOR-1254

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 12 | Number of Distinct Observations | 11 |
| Number of Detects | 6 | Number of Non-Detects | 6 |
| Number of Distinct Detects | 6 | Number of Distinct Non-Detects | 5 |
| Minimum Detect | 0.1 | Minimum Non-Detect | 0.037 |
| Maximum Detect | 0.48 | Maximum Non-Detect | 0.052 |
| Variance Detects | 0.0183 | Percent Non-Detects | 50% |
| Mean Detects | 0.212 | SD Detects | 0.135 |
| Median Detects | 0.175 | CV Detects | 0.639 |
| Skewness Detects | 2.131 | Kurtosis Detects | 4.955 |
| Mean of Logged Detects | -1.68 | SD of Logged Detects | 0.518 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.719 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.788 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.397 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.325 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.124 | KM Standard Error of Mean | 0.0391 |
| KM SD | 0.123 | 95% KM (BCA) UCL | 0.192 |
| 95% KM (t) UCL | 0.194 | 95% KM (Percentile Bootstrap) UCL | 0.185 |
| 95% KM (z) UCL | 0.189 | 95% KM Bootstrap t UCL | 0.216 |
| 90% KM Chebyshev UCL | 0.241 | 95% KM Chebyshev UCL | 0.295 |
| 97.5% KM Chebyshev UCL | 0.368 | 99% KM Chebyshev UCL | 0.513 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.651 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.7 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.352 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.333 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected data follow Appr. Gamma Distribution at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 4.082 | k star (bias corrected MLE) | 2.152 |
| Theta hat (MLE) | 0.0518 | Theta star (bias corrected MLE) | 0.0983 |
| nu hat (MLE) | 48.99 | nu star (bias corrected) | 25.83 |
| Mean (detects) | 0.212 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 0.111 |
| Maximum | 0.48 | Median | 0.055 |
| SD | 0.139 | CV | 1.257 |
| k hat (MLE) | 0.648 | k star (bias corrected MLE) | 0.542 |
| Theta hat (MLE) | 0.171 | Theta star (bias corrected MLE) | 0.205 |
| nu hat (MLE) | 15.55 | nu star (bias corrected) | 13 |
| Adjusted Level of Significance (β) | 0.029 | | |
| Approximate Chi Square Value (13.00, α) | 5.89 | Adjusted Chi Square Value (13.00, β) | 5.178 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.245 | 95% Gamma Adjusted UCL (use when n<50) | 0.278 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.124 | SD (KM) | 0.123 |
| Variance (KM) | 0.0153 | SE of Mean (KM) | 0.0391 |
| k hat (KM) | 1.014 | k star (KM) | 0.816 |
| nu hat (KM) | 24.33 | nu star (KM) | 19.58 |
| theta hat (KM) | 0.123 | theta star (KM) | 0.152 |
| 80% gamma percentile (KM) | 0.203 | 90% gamma percentile (KM) | 0.301 |
| 95% gamma percentile (KM) | 0.401 | 99% gamma percentile (KM) | 0.635 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (19.58, α) | 10.54 | Adjusted Chi Square Value (19.58, β) | 9.544 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.231 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.255 |

**Lognormal GOF Test on Detected Observations Only**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.871 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.788 | Detected Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.318 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.325 | Detected Data appear Lognormal at 5% Significance Level | |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.128 | Mean in Log Scale | -2.402 |
| SD in Original Scale | 0.126 | SD in Log Scale | 0.839 |
| 95% t UCL (assumes normality of ROS data) | 0.194 | 95% Percentile Bootstrap UCL | 0.191 |
| 95% BCA Bootstrap UCL | 0.213 | 95% Bootstrap t UCL | 0.242 |
| 95% H-UCL (Log ROS) | 0.251 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -2.489 | KM Geo Mean | 0.083 |
| KM SD (logged) | 0.875 | 95% Critical H Value (KM-Log) | 2.694 |
| KM Standard Error of Mean (logged) | 0.277 | 95% H-UCL (KM -Log) | 0.248 |
| KM SD (logged) | 0.875 | 95% Critical H Value (KM-Log) | 2.694 |
| KM Standard Error of Mean (logged) | 0.277 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.116 | Mean in Log Scale | -2.774 |
| SD in Original Scale | 0.135 | SD in Log Scale | 1.199 |
| 95% t UCL (Assumes normality) | 0.186 | 95% H-Stat UCL | 0.421 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | | | |
|---|---|---|---|
| 95% KM Adjusted Gamma UCL | 0.255 | 95% GROS Adjusted Gamma UCL | 0.278 |

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**AROCLOR-1260**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 12 | Number of Distinct Observations | 11 |
| Number of Detects | 8 | Number of Non-Detects | 4 |
| Number of Distinct Detects | 7 | Number of Distinct Non-Detects | 4 |

| | | | |
|---|---|---|---|
| Minimum Detect | 0.021 | Minimum Non-Detect | 0.038 |
| Maximum Detect | 0.34 | Maximum Non-Detect | 0.052 |
| Variance Detects | 0.0124 | Percent Non-Detects | 33.33% |
| Mean Detects | 0.131 | SD Detects | 0.111 |
| Median Detects | 0.105 | CV Detects | 0.848 |
| Skewness Detects | 1.21 | Kurtosis Detects | 0.504 |
| Mean of Logged Detects | -2.37 | SD of Logged Detects | 0.927 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.847 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.818 | Detected Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.326 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.283 | Detected Data Not Normal at 5% Significance Level |

Detected Data appear Approximate Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.0968 | KM Standard Error of Mean | 0.0303 |
| KM SD | 0.098 | 95% KM (BCA) UCL | 0.15 |
| 95% KM (t) UCL | 0.151 | 95% KM (Percentile Bootstrap) UCL | 0.146 |
| 95% KM (z) UCL | 0.147 | 95% KM Bootstrap t UCL | 0.216 |
| 90% KM Chebyshev UCL | 0.188 | 95% KM Chebyshev UCL | 0.229 |
| 97.5% KM Chebyshev UCL | 0.286 | 99% KM Chebyshev UCL | 0.399 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.304 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.727 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.23 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.299 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.619 | k star (bias corrected MLE) | 1.095 |
| Theta hat (MLE) | 0.0811 | Theta star (bias corrected MLE) | 0.12 |
| nu hat (MLE) | 25.9 | nu star (bias corrected) | 17.52 |
| Mean (detects) | 0.131 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 0.0908 |
| Maximum | 0.34 | Median | 0.0545 |
| SD | 0.107 | CV | 1.178 |
| k hat (MLE) | 0.825 | k star (bias corrected MLE) | 0.674 |
| Theta hat (MLE) | 0.11 | Theta star (bias corrected MLE) | 0.135 |
| nu hat (MLE) | 19.8 | nu star (bias corrected) | 16.18 |
| Adjusted Level of Significance (β) | 0.029 | | |

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (16.18, α) | 8.091 | Adjusted Chi Square Value (16.18, β) | 7.234 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.182 | 95% Gamma Adjusted UCL (use when n<50) | 0.203 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.0968 | SD (KM) | 0.098 |
| Variance (KM) | 0.00961 | SE of Mean (KM) | 0.0303 |
| k hat (KM) | 0.975 | k star (KM) | 0.787 |
| nu hat (KM) | 23.41 | nu star (KM) | 18.89 |
| theta hat (KM) | 0.0993 | theta star (KM) | 0.123 |
| 80% gamma percentile (KM) | 0.158 | 90% gamma percentile (KM) | 0.236 |
| 95% gamma percentile (KM) | 0.316 | 99% gamma percentile (KM) | 0.504 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (18.89, α) | 10.04 | Adjusted Chi Square Value (18.89, β) | 9.068 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.182 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.202 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.952 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.818 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.18 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.283 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.0967 | Mean in Log Scale | -2.777 |
| SD in Original Scale | 0.102 | SD in Log Scale | 0.953 |
| 95% t UCL (assumes normality of ROS data) | 0.15 | 95% Percentile Bootstrap UCL | 0.149 |
| 95% BCA Bootstrap UCL | 0.164 | 95% Bootstrap t UCL | 0.216 |
| 95% H-UCL (Log ROS) | 0.221 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -2.783 | KM Geo Mean | 0.0619 |
| KM SD (logged) | 0.929 | 95% Critical H Value (KM-Log) | 2.789 |
| KM Standard Error of Mean (logged) | 0.297 | 95% H-UCL (KM -Log) | 0.208 |
| KM SD (logged) | 0.929 | 95% Critical H Value (KM-Log) | 2.789 |
| KM Standard Error of Mean (logged) | 0.297 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.0949 | Mean in Log Scale | -2.852 |
| SD in Original Scale | 0.104 | SD in Log Scale | 1.03 |
| 95% t UCL (Assumes normality) | 0.149 | 95% H-Stat UCL | 0.247 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Normal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (t) UCL | 0.151 |

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

BENZO(A)ANTHRACENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 15 | Number of Distinct Observations | 15 |
| | | Number of Missing Observations | 0 |
| Minimum | 0.028 | Mean | 4.107 |
| Maximum | 15 | Median | 2.7 |
| SD | 4.429 | Std. Error of Mean | 1.144 |
| Coefficient of Variation | 1.079 | Skewness | 1.491 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.815 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.881 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.196 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.22 | Data appear Normal at 5% Significance Level |

Data appear Approximate Normal at 5% Significance Level

**Assuming Normal Distribution**

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 6.121 | 95% Adjusted-CLT UCL (Chen-1995) | 6.458 |
| | | 95% Modified-t UCL (Johnson-1978) | 6.194 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 0.251 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.772 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.134 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.23 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.819 | k star (bias corrected MLE) | 0.699 |
| Theta hat (MLE) | 5.017 | Theta star (bias corrected MLE) | 5.873 |
| nu hat (MLE) | 24.56 | nu star (bias corrected) | 20.98 |
| MLE Mean (bias corrected) | 4.107 | MLE Sd (bias corrected) | 4.911 |
| | | Approximate Chi Square Value (0.05) | 11.58 |
| Adjusted Level of Significance | 0.0324 | Adjusted Chi Square Value | 10.72 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 7.442 | 95% Adjusted Gamma UCL (use when n<50) | 8.034 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.891 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.881 | Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.154 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.22 | Data appear Lognormal at 5% Significance Level |

Data appear Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | -3.576 | Mean of logged Data | 0.69 |
| Maximum of Logged Data | 2.708 | SD of logged Data | 1.557 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 31.47 | 90% Chebyshev (MVUE) UCL | 13.73 |
| 95% Chebyshev (MVUE) UCL | 17.33 | 97.5% Chebyshev (MVUE) UCL | 22.34 |
| 99% Chebyshev (MVUE) UCL | 32.17 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 5.988 | 95% Jackknife UCL | 6.121 |
| 95% Standard Bootstrap UCL | 5.937 | 95% Bootstrap-t UCL | 7.384 |
| 95% Hall's Bootstrap UCL | 7.927 | 95% Percentile Bootstrap UCL | 5.924 |
| 95% BCA Bootstrap UCL | 6.378 | | |
| 90% Chebyshev(Mean, Sd) UCL | 7.538 | 95% Chebyshev(Mean, Sd) UCL | 9.092 |
| 97.5% Chebyshev(Mean, Sd) UCL | 11.25 | 99% Chebyshev(Mean, Sd) UCL | 15.49 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% Student's-t UCL | 6.121 |

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**BENZO(A)PYRENE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 15 | Number of Distinct Observations | 15 |
| Number of Detects | 14 | Number of Non-Detects | 1 |
| Number of Distinct Detects | 14 | Number of Distinct Non-Detects | 1 |
| Minimum Detect | 0.62 | Minimum Non-Detect | 0.39 |
| Maximum Detect | 14.5 | Maximum Non-Detect | 0.39 |

| | | | |
|---|---|---|---|
| Variance Detects | 19.49 | Percent Non-Detects | 6.667% |
| Mean Detects | 4.434 | SD Detects | 4.415 |
| Median Detects | 2.55 | CV Detects | 0.996 |
| Skewness Detects | 1.349 | Kurtosis Detects | 0.878 |
| Mean of Logged Detects | 1.025 | SD of Logged Detects | 1.02 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.817 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.874 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.224 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.226 | Detected Data appear Normal at 5% Significance Level |

Detected Data appear Approximate Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 4.165 | KM Standard Error of Mean | 1.134 |
| KM SD | 4.232 | 95% KM (BCA) UCL | 6.02 |
| 95% KM (t) UCL | 6.162 | 95% KM (Percentile Bootstrap) UCL | 6.166 |
| 95% KM (z) UCL | 6.03 | 95% KM Bootstrap t UCL | 7.431 |
| 90% KM Chebyshev UCL | 7.567 | 95% KM Chebyshev UCL | 9.108 |
| 97.5% KM Chebyshev UCL | 11.25 | 99% KM Chebyshev UCL | 15.45 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.376 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.756 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.151 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.234 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.217 | k star (bias corrected MLE) | 1.003 |
| Theta hat (MLE) | 3.645 | Theta star (bias corrected MLE) | 4.419 |
| nu hat (MLE) | 34.06 | nu star (bias corrected) | 28.1 |
| Mean (detects) | 4.434 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 4.139 |
| Maximum | 14.5 | Median | 2.4 |
| SD | 4.405 | CV | 1.064 |
| k hat (MLE) | 0.773 | k star (bias corrected MLE) | 0.663 |
| Theta hat (MLE) | 5.352 | Theta star (bias corrected MLE) | 6.242 |
| nu hat (MLE) | 23.2 | nu star (bias corrected) | 19.9 |
| Adjusted Level of Significance (β) | 0.0324 | | |
| Approximate Chi Square Value (19.90, α) | 10.77 | Adjusted Chi Square Value (19.90, β) | 9.956 |
| 95% Gamma Approximate UCL (use when n>=50) | 7.644 | 95% Gamma Adjusted UCL (use when n<50) | 8.272 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 4.165 | SD (KM) | 4.232 |
| Variance (KM) | 17.91 | SE of Mean (KM) | 1.134 |
| k hat (KM) | 0.968 | k star (KM) | 0.819 |
| nu hat (KM) | 29.05 | nu star (KM) | 24.57 |
| theta hat (KM) | 4.301 | theta star (KM) | 5.085 |
| 80% gamma percentile (KM) | 6.797 | 90% gamma percentile (KM) | 10.07 |
| 95% gamma percentile (KM) | 13.4 | 99% gamma percentile (KM) | 21.24 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (24.57, α) | 14.28 | Adjusted Chi Square Value (24.57, β) | 13.32 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 7.164 | 95% Gamma Adjusted KM-UCL (use when n<50) | 7.68 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.958 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.874 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.115 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.226 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 4.154 | Mean in Log Scale | 0.857 |
| SD in Original Scale | 4.391 | SD in Log Scale | 1.18 |
| 95% t UCL (assumes normality of ROS data) | 6.151 | 95% Percentile Bootstrap UCL | 6.019 |
| 95% BCA Bootstrap UCL | 6.417 | 95% Bootstrap t UCL | 7.101 |
| 95% H-UCL (Log ROS) | 12.31 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 0.894 | KM Geo Mean | 2.445 |
| KM SD (logged) | 1.069 | 95% Critical H Value (KM-Log) | 2.854 |
| KM Standard Error of Mean (logged) | 0.286 | 95% H-UCL (KM -Log) | 9.778 |
| KM SD (logged) | 1.069 | 95% Critical H Value (KM-Log) | 2.854 |
| KM Standard Error of Mean (logged) | 0.286 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 4.152 | Mean in Log Scale | 0.848 |
| SD in Original Scale | 4.393 | SD in Log Scale | 1.199 |
| 95% t UCL (Assumes normality) | 6.15 | 95% H-Stat UCL | 12.82 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Normal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (t) UCL | 6.162 |

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

BENZO(B)FLUORANTHENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 15 | Number of Distinct Observations | 15 |
| | | Number of Missing Observations | 0 |
| Minimum | 0.024 | Mean | 4.131 |
| Maximum | 14.5 | Median | 2.95 |
| SD | 4.077 | Std. Error of Mean | 1.053 |
| Coefficient of Variation | 0.987 | Skewness | 1.476 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.837 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.881 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.207 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.22 | Data appear Normal at 5% Significance Level |

Data appear Approximate Normal at 5% Significance Level

**Assuming Normal Distribution**

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 5.985 | 95% Adjusted-CLT UCL (Chen-1995) | 6.291 |
| | | 95% Modified-t UCL (Johnson-1978) | 6.052 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 0.252 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.766 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.116 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.229 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.93 | k star (bias corrected MLE) | 0.789 |
| Theta hat (MLE) | 4.44 | Theta star (bias corrected MLE) | 5.237 |
| nu hat (MLE) | 27.91 | nu star (bias corrected) | 23.66 |
| MLE Mean (bias corrected) | 4.131 | MLE Sd (bias corrected) | 4.651 |
| | | Approximate Chi Square Value (0.05) | 13.59 |
| Adjusted Level of Significance | 0.0324 | Adjusted Chi Square Value | 12.66 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 7.191 | 95% Adjusted Gamma UCL (use when n<50) | 7.721 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.837 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.881 | Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.19 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.22 | Data appear Lognormal at 5% Significance Level |

Data appear Approximate Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | -3.73 | Mean of logged Data | 0.793 |
| Maximum of Logged Data | 2.674 | SD of logged Data | 1.524 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 31.27 | 90% Chebyshev (MVUE) UCL | 14.39 |
| 95% Chebyshev (MVUE) UCL | 18.13 | 97.5% Chebyshev (MVUE) UCL | 23.33 |
| 99% Chebyshev (MVUE) UCL | 33.53 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 5.862 | 95% Jackknife UCL | 5.985 |
| 95% Standard Bootstrap UCL | 5.842 | 95% Bootstrap-t UCL | 6.75 |
| 95% Hall's Bootstrap UCL | 6.547 | 95% Percentile Bootstrap UCL | 5.93 |
| 95% BCA Bootstrap UCL | 6.313 | | |
| 90% Chebyshev(Mean, Sd) UCL | 7.289 | 95% Chebyshev(Mean, Sd) UCL | 8.72 |
| 97.5% Chebyshev(Mean, Sd) UCL | 10.71 | 99% Chebyshev(Mean, Sd) UCL | 14.61 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% Student's-t UCL | 5.985 |

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**BENZO(K)FLUORANTHENE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 15 | Number of Distinct Observations | 14 |
| | | Number of Missing Observations | 0 |
| Minimum | 0.025 | Mean | 4.215 |
| Maximum | 19 | Median | 1.8 |
| SD | 5.04 | Std. Error of Mean | 1.301 |
| Coefficient of Variation | 1.196 | Skewness | 2.058 |

**Normal GOF Test**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.751 | **Shapiro Wilk GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.881 | Data Not Normal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.239 | **Lilliefors GOF Test** | |
| 5% Lilliefors Critical Value | 0.22 | Data Not Normal at 5% Significance Level | |

Data Not Normal at 5% Significance Level

**Assuming Normal Distribution**

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 6.507 | 95% Adjusted-CLT UCL (Chen-1995) | 7.095 |
| | | 95% Modified-t UCL (Johnson-1978) | 6.622 |

**Gamma GOF Test**

| | | | |
|---|---|---|---|
| A-D Test Statistic | 0.355 | **Anderson-Darling Gamma GOF Test** | |
| 5% A-D Critical Value | 0.773 | Detected data appear Gamma Distributed at 5% Significance Level | |
| K-S Test Statistic | 0.152 | **Kolmogorov-Smirnov Gamma GOF Test** | |
| 5% K-S Critical Value | 0.23 | Detected data appear Gamma Distributed at 5% Significance Level | |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.8 | k star (bias corrected MLE) | 0.684 |
| Theta hat (MLE) | 5.27 | Theta star (bias corrected MLE) | 6.159 |
| nu hat (MLE) | 24 | nu star (bias corrected) | 20.53 |
| MLE Mean (bias corrected) | 4.215 | MLE Sd (bias corrected) | 5.095 |
| | | Approximate Chi Square Value (0.05) | 11.24 |
| Adjusted Level of Significance | 0.0324 | Adjusted Chi Square Value | 10.4 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50) | 7.697 | 95% Adjusted Gamma UCL (use when n<50) | 8.317 |

**Lognormal GOF Test**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.877 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.881 | Data Not Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.205 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.22 | Data appear Lognormal at 5% Significance Level | |

Data appear Approximate Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | -3.689 | Mean of logged Data | 0.697 |
| Maximum of Logged Data | 2.944 | SD of logged Data | 1.558 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 31.8 | 90% Chebyshev (MVUE) UCL | 13.85 |
| 95% Chebyshev (MVUE) UCL | 17.49 | 97.5% Chebyshev (MVUE) UCL | 22.54 |
| 99% Chebyshev (MVUE) UCL | 32.45 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 6.356 | 95% Jackknife UCL | 6.507 |
| 95% Standard Bootstrap UCL | 6.253 | 95% Bootstrap-t UCL | 8.118 |
| 95% Hall's Bootstrap UCL | 9.854 | 95% Percentile Bootstrap UCL | 6.398 |
| 95% BCA Bootstrap UCL | 7.084 | | |
| 90% Chebyshev(Mean, Sd) UCL | 8.119 | 95% Chebyshev(Mean, Sd) UCL | 9.888 |
| 97.5% Chebyshev(Mean, Sd) UCL | 12.34 | 99% Chebyshev(Mean, Sd) UCL | 17.16 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% Adjusted Gamma UCL | 8.317 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

CHRYSENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 15 | Number of Distinct Observations | 15 |
| | | Number of Missing Observations | 0 |
| Minimum | 0.03 | Mean | 5.081 |
| Maximum | 18.5 | Median | 2.8 |
| SD | 5.32 | Std. Error of Mean | 1.374 |
| Coefficient of Variation | 1.047 | Skewness | 1.425 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.833 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.881 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.224 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.22 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

**Assuming Normal Distribution**

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 7.5 | 95% Adjusted-CLT UCL (Chen-1995) | 7.88 |
| | | 95% Modified-t UCL (Johnson-1978) | 7.584 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 0.221 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.771 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.121 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.229 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.836 | k star (bias corrected MLE) | 0.713 |
| Theta hat (MLE) | 6.078 | Theta star (bias corrected MLE) | 7.124 |

| | | | |
|---|---|---|---|
| nu hat (MLE) | 25.08 | nu star (bias corrected) | 21.39 |
| MLE Mean (bias corrected) | 5.081 | MLE Sd (bias corrected) | 6.016 |
| | | Approximate Chi Square Value (0.05) | 11.89 |
| Adjusted Level of Significance | 0.0324 | Adjusted Chi Square Value | 11.02 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50) | 9.146 | 95% Adjusted Gamma UCL (use when n<50) | 9.864 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.877 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.881 | Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.172 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.22 | Data appear Lognormal at 5% Significance Level |

Data appear Approximate Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | -3.507 | Mean of logged Data | 0.919 |
| Maximum of Logged Data | 2.918 | SD of logged Data | 1.571 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 41.43 | 90% Chebyshev (MVUE) UCL | 17.67 |
| 95% Chebyshev (MVUE) UCL | 22.33 | 97.5% Chebyshev (MVUE) UCL | 28.8 |
| 99% Chebyshev (MVUE) UCL | 41.5 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 7.34 | 95% Jackknife UCL | 7.5 |
| 95% Standard Bootstrap UCL | 7.22 | 95% Bootstrap-t UCL | 8.598 |
| 95% Hall's Bootstrap UCL | 8.326 | 95% Percentile Bootstrap UCL | 7.367 |
| 95% BCA Bootstrap UCL | 7.841 | | |
| 90% Chebyshev(Mean, Sd) UCL | 9.202 | 95% Chebyshev(Mean, Sd) UCL | 11.07 |
| 97.5% Chebyshev(Mean, Sd) UCL | 13.66 | 99% Chebyshev(Mean, Sd) UCL | 18.75 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% Adjusted Gamma UCL | 9.864 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**DIBENZO(A,H)ANTHRACENE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 15 | Number of Distinct Observations | 15 |
| Number of Detects | 13 | Number of Non-Detects | 2 |
| Number of Distinct Detects | 13 | Number of Distinct Non-Detects | 2 |

| | | | |
|---|---|---|---|
| Minimum Detect | 0.11 | Minimum Non-Detect | 0.39 |
| Maximum Detect | 2.95 | Maximum Non-Detect | 0.49 |
| Variance Detects | 0.868 | Percent Non-Detects | 13.33% |
| Mean Detects | 0.899 | SD Detects | 0.932 |
| Median Detects | 0.46 | CV Detects | 1.036 |
| Skewness Detects | 1.376 | Kurtosis Detects | 0.839 |
| Mean of Logged Detects | -0.603 | SD of Logged Detects | 1.055 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.8 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.866 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.22 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.234 | Detected Data appear Normal at 5% Significance Level |

Detected Data appear Approximate Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.812 | KM Standard Error of Mean | 0.232 |
| KM SD | 0.863 | 95% KM (BCA) UCL | 1.268 |
| 95% KM (t) UCL | 1.22 | 95% KM (Percentile Bootstrap) UCL | 1.213 |
| 95% KM (z) UCL | 1.193 | 95% KM Bootstrap t UCL | 1.533 |
| 90% KM Chebyshev UCL | 1.508 | 95% KM Chebyshev UCL | 1.824 |
| 97.5% KM Chebyshev UCL | 2.261 | 99% KM Chebyshev UCL | 3.122 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.422 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.755 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.183 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.242 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.145 | k star (bias corrected MLE) | 0.932 |
| Theta hat (MLE) | 0.785 | Theta star (bias corrected MLE) | 0.965 |
| nu hat (MLE) | 29.76 | nu star (bias corrected) | 24.23 |
| Mean (detects) | 0.899 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.11 | Mean | 0.8 |
| Maximum | 2.95 | Median | 0.33 |
| SD | 0.901 | CV | 1.126 |
| k hat (MLE) | 1.048 | k star (bias corrected MLE) | 0.883 |
| Theta hat (MLE) | 0.763 | Theta star (bias corrected MLE) | 0.906 |
| nu hat (MLE) | 31.45 | nu star (bias corrected) | 26.49 |
| Adjusted Level of Significance (β) | 0.0324 | | |

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (26.49, α) | 15.76 | Adjusted Chi Square Value (26.49, β) | 14.74 |
| 95% Gamma Approximate UCL (use when n>=50) | 1.345 | 95% Gamma Adjusted UCL (use when n<50) | 1.438 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.812 | SD (KM) | 0.863 |
| Variance (KM) | 0.745 | SE of Mean (KM) | 0.232 |
| k hat (KM) | 0.884 | k star (KM) | 0.752 |
| nu hat (KM) | 26.53 | nu star (KM) | 22.56 |
| theta hat (KM) | 0.918 | theta star (KM) | 1.079 |
| 80% gamma percentile (KM) | 1.33 | 90% gamma percentile (KM) | 2.003 |
| 95% gamma percentile (KM) | 2.692 | 99% gamma percentile (KM) | 4.328 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (22.56, α) | 12.76 | Adjusted Chi Square Value (22.56, β) | 11.86 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 1.435 | 95% Gamma Adjusted KM-UCL (use when n<50) | 1.544 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.957 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.866 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.146 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.234 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.812 | Mean in Log Scale | -0.709 |
| SD in Original Scale | 0.892 | SD in Log Scale | 1.016 |
| 95% t UCL (assumes normality of ROS data) | 1.218 | 95% Percentile Bootstrap UCL | 1.228 |
| 95% BCA Bootstrap UCL | 1.297 | 95% Bootstrap t UCL | 1.497 |
| 95% H-UCL (Log ROS) | 1.748 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -0.721 | KM Geo Mean | 0.486 |
| KM SD (logged) | 1.001 | 95% Critical H Value (KM-Log) | 2.746 |
| KM Standard Error of Mean (logged) | 0.273 | 95% H-UCL (KM -Log) | 1.674 |
| KM SD (logged) | 1.001 | 95% Critical H Value (KM-Log) | 2.746 |
| KM Standard Error of Mean (logged) | 0.273 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.808 | Mean in Log Scale | -0.726 |
| SD in Original Scale | 0.895 | SD in Log Scale | 1.029 |
| 95% t UCL (Assumes normality) | 1.215 | 95% H-Stat UCL | 1.771 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Normal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (t) UCL | 1.22 |

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

INDENO(1,2,3-CD)PYRENE

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 15 | Number of Distinct Observations | 14 |
| Number of Detects | 14 | Number of Non-Detects | 1 |
| Number of Distinct Detects | 13 | Number of Distinct Non-Detects | 1 |
| Minimum Detect | 0.28 | Minimum Non-Detect | 0.39 |
| Maximum Detect | 8.05 | Maximum Non-Detect | 0.39 |
| Variance Detects | 6.312 | Percent Non-Detects | 6.667% |
| Mean Detects | 2.257 | SD Detects | 2.512 |
| Median Detects | 1.2 | CV Detects | 1.113 |
| Skewness Detects | 1.476 | Kurtosis Detects | 0.955 |
| Mean of Logged Detects | 0.285 | SD of Logged Detects | 1.054 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.752 | Shapiro Wilk GOF Test |
| 5% Shapiro Wilk Critical Value | 0.874 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.304 | Lilliefors GOF Test |
| 5% Lilliefors Critical Value | 0.226 | Detected Data Not Normal at 5% Significance Level |

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 2.125 | KM Standard Error of Mean | 0.64 |
| KM SD | 2.39 | 95% KM (BCA) UCL | 3.367 |
| 95% KM (t) UCL | 3.253 | 95% KM (Percentile Bootstrap) UCL | 3.158 |
| 95% KM (z) UCL | 3.179 | 95% KM Bootstrap t UCL | 3.743 |
| 90% KM Chebyshev UCL | 4.047 | 95% KM Chebyshev UCL | 4.917 |
| 97.5% KM Chebyshev UCL | 6.125 | 99% KM Chebyshev UCL | 8.498 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 0.7 | Anderson-Darling GOF Test |
| 5% A-D Critical Value | 0.758 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.242 | Kolmogorov-Smirnov GOF |
| 5% K-S Critical Value | 0.235 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics on Detected Data Only

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.082 | k star (bias corrected MLE) | 0.898 |
| Theta hat (MLE) | 2.086 | Theta star (bias corrected MLE) | 2.514 |
| nu hat (MLE) | 30.3 | nu star (bias corrected) | 25.14 |

| | |
|---|---|
| Mean (detects) | 2.257 |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.01 | Mean | 2.107 |
| Maximum | 8.05 | Median | 1.2 |
| SD | 2.49 | CV | 1.181 |
| k hat (MLE) | 0.76 | k star (bias corrected MLE) | 0.653 |
| Theta hat (MLE) | 2.772 | Theta star (bias corrected MLE) | 3.229 |
| nu hat (MLE) | 22.81 | nu star (bias corrected) | 19.58 |
| Adjusted Level of Significance (β) | 0.0324 | | |
| Approximate Chi Square Value (19.58, α) | 10.54 | Adjusted Chi Square Value (19.58, β) | 9.732 |
| 95% Gamma Approximate UCL (use when n>=50) | 3.914 | 95% Gamma Adjusted UCL (use when n<50) | 4.239 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 2.125 | SD (KM) | 2.39 |
| Variance (KM) | 5.714 | SE of Mean (KM) | 0.64 |
| k hat (KM) | 0.791 | k star (KM) | 0.677 |
| nu hat (KM) | 23.72 | nu star (KM) | 20.31 |
| theta hat (KM) | 2.688 | theta star (KM) | 3.14 |
| 80% gamma percentile (KM) | 3.497 | 90% gamma percentile (KM) | 5.377 |
| 95% gamma percentile (KM) | 7.322 | 99% gamma percentile (KM) | 11.98 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (20.31, α) | 11.08 | Adjusted Chi Square Value (20.31, β) | 10.25 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 3.896 | 95% Gamma Adjusted KM-UCL (use when n<50) | 4.212 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.941 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.874 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.179 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.226 | Detected Data appear Lognormal at 5% Significance Level |

**Detected Data appear Lognormal at 5% Significance Level**

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 2.119 | Mean in Log Scale | 0.154 |
| SD in Original Scale | 2.479 | SD in Log Scale | 1.136 |
| 95% t UCL (assumes normality of ROS data) | 3.247 | 95% Percentile Bootstrap UCL | 3.266 |
| 95% BCA Bootstrap UCL | 3.299 | 95% Bootstrap t UCL | 3.746 |
| 95% H-UCL (Log ROS) | 5.477 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | 0.182 | KM Geo Mean | 1.199 |
| KM SD (logged) | 1.055 | 95% Critical H Value (KM-Log) | 2.833 |
| KM Standard Error of Mean (logged) | 0.283 | 95% H-UCL (KM -Log) | 4.652 |

| | | | |
|---|---|---|---|
| KM SD (logged) | 1.055 | 95% Critical H Value (KM-Log) | 2.833 |
| KM Standard Error of Mean (logged) | 0.283 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 2.12 | Mean in Log Scale | 0.157 |
| SD in Original Scale | 2.479 | SD in Log Scale | 1.13 |
| 95% t UCL (Assumes normality) | 3.247 | 95% H-Stat UCL | 5.413 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Gamma Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 b | 4.212 |

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

| Analyte | Group | Matrix | Valid Obs | Rec. UCL | Method | Max | UCL>Max |
|---|---|---|---|---|---|---|---|
| BENZO[J]FLUORANTHENE | NA | NA | 2 | NA | NA | NA | |

Sed TICs.xlsx

## UCL Statistics for Data Sets with Non-Detects

**Sed TICs.xlsx**

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.11/9/2017 2:58:50 PM |
| From File | ProUCL_FMPHHRA_TIC_01.09.17_f.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

### BENZO[J]FLUORANTHENE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 2 | Number of Distinct Observations | 2 |
| | | Number of Missing Observations | 0 |
| Minimum | 0.45 | Mean | 1.21 |
| Maximum | 1.97 | Median | 1.21 |

Warning: This data set only has 2 observations!

Data set is too small to compute reliable and meaningful statistics and estimates!

The data set for variable BENZO[J]FLUORANTHENE was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!

If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

| Analyte | Group | Matrix | Valid Obs | Rec. UCL | Method | Max | UCL>Max |
|---|---|---|---|---|---|---|---|
| ANTIMONY | NA | NA | 14 | NA | NA | NA | |
| ARSENIC | NA | NA | 14 | 0.057 | 95% H-UCL | 0.098 | |
| BARIUM | NA | NA | 17 | 0.28 | 95% H-UCL | 0.39 | |
| CHROMIUM | NA | NA | 17 | 0.0038 | 95% KM (t) UCL | 0.012 | |
| CYANIDE | NA | NA | 13 | 0.0097 | 95% KM (t) UCL | 0.019 | |
| IRON | NA | NA | 14 | 6.2 | 95% Adjusted Gamma UCL | 18 | |
| LEAD | NA | NA | 17 | 0.018 | 95% KM (t) UCL | 0.066 | |
| MANGANESE | NA | NA | 14 | 0.29 | 95% H-UCL | 0.43 | |
| THALLIUM | NA | NA | 14 | 0.0036 | 95% KM (t) UCL | 0.0072 | |
| VANADIUM | NA | NA | 14 | 0.0028 | 95% KM (t) UCL | 0.0089 | |
| BENZO(A)PYRENE | NA | NA | 17 | NA | NA | NA | |
| BENZO(B)FLUORANTHENE | NA | NA | 17 | NA | NA | NA | |
| INDENO(1,2,3-CD)PYRENE | NA | NA | 17 | NA | NA | NA | |
| NAPHTHALENE | NA | NA | 17 | 0.00054 | 95% KM (t) UCL | 0.00050 | Y |
| 1,4-DICHLOROBENZENE | NA | NA | 10 | NA | NA | NA | |
| BENZENE | NA | NA | 17 | 0.0053 | 95% KM (t) UCL | 0.0060 | |
| DICHLOROMETHANE | NA | NA | 17 | 0.0071 | 95% KM (t) UCL | 0.019 | |
| VINYL CHLORIDE | NA | NA | 17 | NA | NA | NA | |

SW_UHC.xlsx

UCL Statistics for Data Sets with Non-Detects

SW_UHC.xlsx

| | |
|---|---|
| User Selected Options | |
| Date/Time of Computation | ProUCL 5.11/6/2017 5:48:29 PM |
| From File | ProUCL_FMPHHRA_01.06.17 input_I.xls |
| Full Precision | OFF |
| Confidence Coefficient | 95% |
| Number of Bootstrap Operations | 2000 |

## ANTIMONY

### General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 14 | Number of Distinct Observations | 5 |
| | | Number of Missing Observations | 3 |
| Number of Detects | 1 | Number of Non-Detects | 13 |
| Number of Distinct Detects | 1 | Number of Distinct Non-Detects | 4 |

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!

It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable ANTIMONY was not processed!

## ARSENIC

### General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 14 | Number of Distinct Observations | 14 |
| | | Number of Missing Observations | 3 |
| Minimum | 0.0066 | Mean | 0.0323 |
| Maximum | 0.0982 | Median | 0.0214 |
| SD | 0.0304 | Std. Error of Mean | 0.00812 |
| Coefficient of Variation | 0.941 | Skewness | 1.528 |

### Normal GOF Test

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.72 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.874 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.347 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.226 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

### Assuming Normal Distribution

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 0.0467 | 95% Adjusted-CLT UCL (Chen-1995) | 0.0492 |
| | | 95% Modified-t UCL (Johnson-1978) | 0.0472 |

### Gamma GOF Test

| | | |
|---|---|---|
| A-D Test Statistic | 1.01 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.749 | Data Not Gamma Distributed at 5% Significance Level |

| | | | |
|---|---|---|---|
| K-S Test Statistic | 0.278 | **Kolmogorov-Smirnov Gamma GOF Test** | |
| 5% K-S Critical Value | 0.232 | Data Not Gamma Distributed at 5% Significance Level | |

Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.631 | k star (bias corrected MLE) | 1.329 |
| Theta hat (MLE) | 0.0198 | Theta star (bias corrected MLE) | 0.0243 |
| nu hat (MLE) | 45.68 | nu star (bias corrected) | 37.23 |
| MLE Mean (bias corrected) | 0.0323 | MLE Sd (bias corrected) | 0.028 |
| | | Approximate Chi Square Value (0.05) | 24.26 |
| Adjusted Level of Significance | 0.0312 | Adjusted Chi Square Value | 22.87 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 0.0496 | 95% Adjusted Gamma UCL (use when n<50) | 0.0526 |

**Lognormal GOF Test**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.906 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.874 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.224 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.226 | Data appear Lognormal at 5% Significance Level | |

Data appear Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | -5.021 | Mean of logged Data | -3.77 |
| Maximum of Logged Data | -2.321 | SD of logged Data | 0.821 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 0.0572 | 90% Chebyshev (MVUE) UCL | 0.0533 |
| 95% Chebyshev (MVUE) UCL | 0.0632 | 97.5% Chebyshev (MVUE) UCL | 0.077 |
| 99% Chebyshev (MVUE) UCL | 0.104 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 0.0456 | 95% Jackknife UCL | 0.0467 |
| 95% Standard Bootstrap UCL | 0.0448 | 95% Bootstrap-t UCL | 0.0529 |
| 95% Hall's Bootstrap UCL | 0.045 | 95% Percentile Bootstrap UCL | 0.0457 |
| 95% BCA Bootstrap UCL | 0.0484 | | |
| 90% Chebyshev(Mean, Sd) UCL | 0.0567 | 95% Chebyshev(Mean, Sd) UCL | 0.0677 |
| 97.5% Chebyshev(Mean, Sd) UCL | 0.083 | 99% Chebyshev(Mean, Sd) UCL | 0.113 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% H-UCL | 0.0572 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.

H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.

It is therefore recommended to avoid the use of H-statistic based 95% UCLs.

Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

BARIUM

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 17 | Number of Distinct Observations | 17 |
| | | Number of Missing Observations | 0 |
| Minimum | 0.042 | Mean | 0.183 |
| Maximum | 0.389 | Median | 0.137 |
| SD | 0.131 | Std. Error of Mean | 0.0317 |
| Coefficient of Variation | 0.714 | Skewness | 0.79 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.795 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.892 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.305 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.207 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

**Assuming Normal Distribution**

| | | | |
|---|---|---|---|
| **95% Normal UCL** | | **95% UCLs (Adjusted for Skewness)** | |
| 95% Student's-t UCL | 0.238 | 95% Adjusted-CLT UCL (Chen-1995) | 0.242 |
| | | 95% Modified-t UCL (Johnson-1978) | 0.239 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 0.877 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.749 | Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.227 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.211 | Data Not Gamma Distributed at 5% Significance Level |

Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 2.189 | k star (bias corrected MLE) | 1.842 |
| Theta hat (MLE) | 0.0836 | Theta star (bias corrected MLE) | 0.0993 |
| nu hat (MLE) | 74.42 | nu star (bias corrected) | 62.62 |
| MLE Mean (bias corrected) | 0.183 | MLE Sd (bias corrected) | 0.135 |
| | | Approximate Chi Square Value (0.05) | 45.42 |
| Adjusted Level of Significance | 0.0346 | Adjusted Chi Square Value | 43.89 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 0.252 | 95% Adjusted Gamma UCL (use when n<50) | 0.261 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.91 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.892 | Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.18 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.207 | Data appear Lognormal at 5% Significance Level |

Data appear Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | -3.17 | Mean of logged Data | -1.944 |
| Maximum of Logged Data | -0.944 | SD of logged Data | 0.731 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 0.284 | 90% Chebyshev (MVUE) UCL | 0.287 |
| 95% Chebyshev (MVUE) UCL | 0.334 | 97.5% Chebyshev (MVUE) UCL | 0.4 |
| 99% Chebyshev (MVUE) UCL | 0.528 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 0.235 | 95% Jackknife UCL | 0.238 |
| 95% Standard Bootstrap UCL | 0.233 | 95% Bootstrap-t UCL | 0.249 |
| 95% Hall's Bootstrap UCL | 0.234 | 95% Percentile Bootstrap UCL | 0.236 |
| 95% BCA Bootstrap UCL | 0.239 | | |
| 90% Chebyshev(Mean, Sd) UCL | 0.278 | 95% Chebyshev(Mean, Sd) UCL | 0.321 |
| 97.5% Chebyshev(Mean, Sd) UCL | 0.381 | 99% Chebyshev(Mean, Sd) UCL | 0.498 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% H-UCL | 0.284 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

**CHROMIUM**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 17 | Number of Distinct Observations | 7 |
| Number of Detects | 3 | Number of Non-Detects | 14 |
| Number of Distinct Detects | 3 | Number of Distinct Non-Detects | 4 |
| Minimum Detect | 0.0016 | Minimum Non-Detect | 8.0000E-4 |
| Maximum Detect | 0.0117 | Maximum Non-Detect | 0.0039 |
| Variance Detects | 2.9943E-5 | Percent Non-Detects | 82.35% |

| | | | |
|---|---|---|---|
| Mean Detects | 0.00787 | SD Detects | 0.00547 |
| Median Detects | 0.0103 | CV Detects | 0.696 |
| Skewness Detects | -1.605 | Kurtosis Detects | N/A |
| Mean of Logged Detects | -5.154 | SD of Logged Detects | 1.114 |

Warning: Data set has only 3 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.852 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.767 | Detected Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.338 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.425 | Detected Data appear Normal at 5% Significance Level |

Detected Data appear Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.00212 | KM Standard Error of Mean | 9.7498E-4 |
| KM SD | 0.00326 | 95% KM (BCA) UCL | N/A |
| 95% KM (t) UCL | 0.00382 | 95% KM (Percentile Bootstrap) UCL | N/A |
| 95% KM (z) UCL | 0.00372 | 95% KM Bootstrap t UCL | N/A |
| 90% KM Chebyshev UCL | 0.00504 | 95% KM Chebyshev UCL | 0.00637 |
| 97.5% KM Chebyshev UCL | 0.00821 | 99% KM Chebyshev UCL | 0.0118 |

**Gamma GOF Tests on Detected Observations Only**

Not Enough Data to Perform GOF Test

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.768 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 0.00445 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 10.61 | nu star (bias corrected) | N/A |
| Mean (detects) | 0.00787 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0016 | Mean | 0.00962 |
| Maximum | 0.0117 | Median | 0.01 |
| SD | 0.00211 | CV | 0.219 |
| k hat (MLE) | 8.718 | k star (bias corrected MLE) | 7.218 |
| Theta hat (MLE) | 0.0011 | Theta star (bias corrected MLE) | 0.00133 |
| nu hat (MLE) | 296.4 | nu star (bias corrected) | 245.4 |
| Adjusted Level of Significance (β) | 0.0346 | | |
| Approximate Chi Square Value (245.42, α) | 210.2 | Adjusted Chi Square Value (245.42, β) | 206.7 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.0112 | 95% Gamma Adjusted UCL (use when n<50) | N/A |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.00212 | SD (KM) | 0.00326 |
| Variance (KM) | 1.0656E-5 | SE of Mean (KM) | 9.7498E-4 |
| k hat (KM) | 0.421 | k star (KM) | 0.386 |
| nu hat (KM) | 14.31 | nu star (KM) | 13.12 |
| theta hat (KM) | 0.00503 | theta star (KM) | 0.00549 |
| 80% gamma percentile (KM) | 0.0034 | 90% gamma percentile (KM) | 0.00602 |
| 95% gamma percentile (KM) | 0.00891 | 99% gamma percentile (KM) | 0.0162 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (13.12, α) | 5.972 | Adjusted Chi Square Value (13.12, β) | 5.473 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.00465 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.00508 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.798 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.767 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.365 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.425 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.0016 | Mean in Log Scale | -8.247 |
| SD in Original Scale | 0.00357 | SD in Log Scale | 1.913 |
| 95% t UCL (assumes normality of ROS data) | 0.00311 | 95% Percentile Bootstrap UCL | 0.00301 |
| 95% BCA Bootstrap UCL | 0.00361 | 95% Bootstrap t UCL | 0.0124 |
| 95% H-UCL (Log ROS) | 0.0123 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -6.721 | KM Geo Mean | 0.00121 |
| KM SD (logged) | 0.843 | 95% Critical H Value (KM-Log) | 2.419 |
| KM Standard Error of Mean (logged) | 0.265 | 95% H-UCL (KM -Log) | 0.00286 |
| KM SD (logged) | 0.843 | 95% Critical H Value (KM-Log) | 2.419 |
| KM Standard Error of Mean (logged) | 0.265 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.00214 | Mean in Log Scale | -6.782 |
| SD in Original Scale | 0.00337 | SD in Log Scale | 1.009 |
| 95% t UCL (Assumes normality) | 0.00357 | 95% H-Stat UCL | 0.00371 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Normal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (t) UCL | 0.00382 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

CYANIDE

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 13 | Number of Distinct Observations | 7 |
| | | Number of Missing Observations | 3 |
| Number of Detects | 5 | Number of Non-Detects | 8 |
| Number of Distinct Detects | 4 | Number of Distinct Non-Detects | 3 |
| Minimum Detect | 1.2000E-8 | Minimum Non-Detect | 1.0000E-5 |
| Maximum Detect | 0.0187 | Maximum Non-Detect | 0.0011 |
| Variance Detects | 6.3687E-5 | Percent Non-Detects | 61.54% |
| Mean Detects | 0.0137 | SD Detects | 0.00798 |
| Median Detects | 0.0178 | CV Detects | 0.583 |
| Skewness Detects | -1.834 | Kurtosis Detects | 3.274 |
| Mean of Logged Detects | -6.911 | SD of Logged Detects | 6.334 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.743 | Shapiro Wilk GOF Test |
| 5% Shapiro Wilk Critical Value | 0.762 | Detected Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.297 | Lilliefors GOF Test |
| 5% Lilliefors Critical Value | 0.343 | Detected Data appear Normal at 5% Significance Level |

Detected Data appear Approximate Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 0.00526 | KM Standard Error of Mean | 0.00248 |
| KM SD | 0.00799 | 95% KM (BCA) UCL | N/A |
| 95% KM (t) UCL | 0.00968 | 95% KM (Percentile Bootstrap) UCL | N/A |
| 95% KM (z) UCL | 0.00934 | 95% KM Bootstrap t UCL | N/A |
| 90% KM Chebyshev UCL | 0.0127 | 95% KM Chebyshev UCL | 0.0161 |
| 97.5% KM Chebyshev UCL | 0.0207 | 99% KM Chebyshev UCL | 0.0299 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 1.624 | Anderson-Darling GOF Test |
| 5% A-D Critical Value | 0.751 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.532 | Kolmogorov-Smirnov GOF |
| 5% K-S Critical Value | 0.383 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.268 | k star (bias corrected MLE) | 0.241 |
| Theta hat (MLE) | 0.051 | Theta star (bias corrected MLE) | 0.0569 |
| nu hat (MLE) | 2.682 | nu star (bias corrected) | 2.406 |
| Mean (detects) | 0.0137 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 1.2000E-8 | Mean | 0.0114 |
| Maximum | 0.0187 | Median | 0.01 |
| SD | 0.00497 | CV | 0.435 |
| k hat (MLE) | 0.605 | k star (bias corrected MLE) | 0.517 |
| Theta hat (MLE) | 0.0189 | Theta star (bias corrected MLE) | 0.0221 |
| nu hat (MLE) | 15.74 | nu star (bias corrected) | 13.44 |
| Adjusted Level of Significance (β) | 0.0301 | | |
| Approximate Chi Square Value (13.44, α) | 6.192 | Adjusted Chi Square Value (13.44, β) | 5.506 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.0248 | 95% Gamma Adjusted UCL (use when n<50) | 0.0279 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.00526 | SD (KM) | 0.00799 |
| Variance (KM) | 6.3890E-5 | SE of Mean (KM) | 0.00248 |
| k hat (KM) | 0.433 | k star (KM) | 0.385 |
| nu hat (KM) | 11.27 | nu star (KM) | 9.999 |
| theta hat (KM) | 0.0121 | theta star (KM) | 0.0137 |
| 80% gamma percentile (KM) | 0.00845 | 90% gamma percentile (KM) | 0.015 |
| 95% gamma percentile (KM) | 0.0222 | 99% gamma percentile (KM) | 0.0403 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (10.00, α) | 3.941 | Adjusted Chi Square Value (10.00, β) | 3.417 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.0133 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.0154 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.57 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.762 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.458 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.343 | Detected Data Not Lognormal at 5% Significance Level |

**Detected Data Not Lognormal at 5% Significance Level**

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.00526 | Mean in Log Scale | -12.78 |
| SD in Original Scale | 0.00832 | SD in Log Scale | 6.622 |
| 95% t UCL (assumes normality of ROS data) | 0.00937 | 95% Percentile Bootstrap UCL | 0.00944 |
| 95% BCA Bootstrap UCL | 0.00951 | 95% Bootstrap t UCL | 0.0114 |
| 95% H-UCL (Log ROS) | 2.510E+16 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -13.88 | KM Geo Mean | 9.3612E-7 |
| KM SD (logged) | 6.536 | 95% Critical H Value (KM-Log) | 14.77 |
| KM Standard Error of Mean (logged) | 2.027 | 95% H-UCL (KM -Log) | 2.255E+15 |
| KM SD (logged) | 6.536 | 95% Critical H Value (KM-Log) | 14.77 |
| KM Standard Error of Mean (logged) | 2.027 | | |

**DL/2 Statistics**

| DL/2 Normal | | DL/2 Log-Transformed | |
|---|---|---|---|
| Mean in Original Scale | 0.00547 | Mean in Log Scale | -8.095 |
| SD in Original Scale | 0.00818 | SD in Log Scale | 4.105 |
| 95% t UCL (Assumes normality) | 0.00951 | 95% H-Stat UCL | 92778 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Approximate Normal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (t) UCL | 0.00968 |

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

IRON

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 14 | Number of Distinct Observations | 14 |
| | | Number of Missing Observations | 3 |
| Minimum | 1.01 | Mean | 3.873 |
| Maximum | 17.9 | Median | 2.585 |
| SD | 4.296 | Std. Error of Mean | 1.148 |
| Coefficient of Variation | 1.109 | Skewness | 3.048 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.598 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.874 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.293 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.226 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

**Assuming Normal Distribution**

| 95% Normal UCL | | 95% UCLs (Adjusted for Skewness) | |
|---|---|---|---|
| 95% Student's-t UCL | 5.906 | 95% Adjusted-CLT UCL (Chen-1995) | 6.76 |
| | | 95% Modified-t UCL (Johnson-1978) | 6.062 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 0.82 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.749 | Data Not Gamma Distributed at 5% Significance Level |

| | | | |
|---|---|---|---|
| K-S Test Statistic | 0.223 | **Kolmogorov-Smirnov Gamma GOF Test** | |
| 5% K-S Critical Value | 0.232 | Detected data appear Gamma Distributed at 5% Significance Level | |

Detected data follow Appr. Gamma Distribution at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.724 | k star (bias corrected MLE) | 1.402 |
| Theta hat (MLE) | 2.246 | Theta star (bias corrected MLE) | 2.762 |
| nu hat (MLE) | 48.28 | nu star (bias corrected) | 39.27 |
| MLE Mean (bias corrected) | 3.873 | MLE Sd (bias corrected) | 3.27 |
| | | Approximate Chi Square Value (0.05) | 25.91 |
| Adjusted Level of Significance | 0.0312 | Adjusted Chi Square Value | 24.48 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50) | 5.869 | 95% Adjusted Gamma UCL (use when n<50) | 6.212 |

**Lognormal GOF Test**

| | | | |
|---|---|---|---|
| Shapiro Wilk Test Statistic | 0.929 | **Shapiro Wilk Lognormal GOF Test** | |
| 5% Shapiro Wilk Critical Value | 0.874 | Data appear Lognormal at 5% Significance Level | |
| Lilliefors Test Statistic | 0.164 | **Lilliefors Lognormal GOF Test** | |
| 5% Lilliefors Critical Value | 0.226 | Data appear Lognormal at 5% Significance Level | |

Data appear Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | 0.00995 | Mean of logged Data | 1.037 |
| Maximum of Logged Data | 2.885 | SD of logged Data | 0.743 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 6.088 | 90% Chebyshev (MVUE) UCL | 5.909 |
| 95% Chebyshev (MVUE) UCL | 6.943 | 97.5% Chebyshev (MVUE) UCL | 8.377 |
| 99% Chebyshev (MVUE) UCL | 11.19 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 5.761 | 95% Jackknife UCL | 5.906 |
| 95% Standard Bootstrap UCL | 5.678 | 95% Bootstrap-t UCL | 9.279 |
| 95% Hall's Bootstrap UCL | 12.62 | 95% Percentile Bootstrap UCL | 5.929 |
| 95% BCA Bootstrap UCL | 6.636 | | |
| 90% Chebyshev(Mean, Sd) UCL | 7.317 | 95% Chebyshev(Mean, Sd) UCL | 8.877 |
| 97.5% Chebyshev(Mean, Sd) UCL | 11.04 | 99% Chebyshev(Mean, Sd) UCL | 15.3 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% Adjusted Gamma UCL | 6.212 |

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

LEAD

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 17 | Number of Distinct Observations | 10 |
| Number of Detects | 7 | Number of Non-Detects | 10 |
| Number of Distinct Detects | 7 | Number of Distinct Non-Detects | 3 |
| Minimum Detect | 0.0011 | Minimum Non-Detect | 9.0000E-4 |
| Maximum Detect | 0.0655 | Maximum Non-Detect | 0.0024 |
| Variance Detects | 6.0973E-4 | Percent Non-Detects | 58.82% |
| Mean Detects | 0.0224 | SD Detects | 0.0247 |
| Median Detects | 0.0162 | CV Detects | 1.102 |
| Skewness Detects | 1.075 | Kurtosis Detects | -0.06 |
| Mean of Logged Detects | -4.587 | SD of Logged Detects | 1.543 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.852 | Shapiro Wilk GOF Test |
| 5% Shapiro Wilk Critical Value | 0.803 | Detected Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.229 | Lilliefors GOF Test |
| 5% Lilliefors Critical Value | 0.304 | Detected Data appear Normal at 5% Significance Level |

Detected Data appear Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 0.00981 | KM Standard Error of Mean | 0.00473 |
| KM SD | 0.0181 | 95% KM (BCA) UCL | 0.0175 |
| 95% KM (t) UCL | 0.0181 | 95% KM (Percentile Bootstrap) UCL | 0.0174 |
| 95% KM (z) UCL | 0.0176 | 95% KM Bootstrap t UCL | 0.0293 |
| 90% KM Chebyshev UCL | 0.024 | 95% KM Chebyshev UCL | 0.0304 |
| 97.5% KM Chebyshev UCL | 0.0394 | 99% KM Chebyshev UCL | 0.0569 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 0.29 | Anderson-Darling GOF Test |
| 5% A-D Critical Value | 0.736 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.224 | Kolmogorov-Smirnov GOF |
| 5% K-S Critical Value | 0.323 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.758 | k star (bias corrected MLE) | 0.529 |
| Theta hat (MLE) | 0.0295 | Theta star (bias corrected MLE) | 0.0424 |
| nu hat (MLE) | 10.62 | nu star (bias corrected) | 7.4 |
| Mean (detects) | 0.0224 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.0011 | Mean | 0.0151 |
| Maximum | 0.0655 | Median | 0.01 |
| SD | 0.0164 | CV | 1.084 |
| k hat (MLE) | 1.377 | k star (bias corrected MLE) | 1.174 |
| Theta hat (MLE) | 0.011 | Theta star (bias corrected MLE) | 0.0129 |
| nu hat (MLE) | 46.83 | nu star (bias corrected) | 39.9 |
| Adjusted Level of Significance (β) | 0.0346 | | |
| Approximate Chi Square Value (39.90, α) | 26.43 | Adjusted Chi Square Value (39.90, β) | 25.28 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.0228 | 95% Gamma Adjusted UCL (use when n<50) | 0.0238 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.00981 | SD (KM) | 0.0181 |
| Variance (KM) | 3.2623E-4 | SE of Mean (KM) | 0.00473 |
| k hat (KM) | 0.295 | k star (KM) | 0.282 |
| nu hat (KM) | 10.02 | nu star (KM) | 9.586 |
| theta hat (KM) | 0.0333 | theta star (KM) | 0.0348 |
| 80% gamma percentile (KM) | 0.0148 | 90% gamma percentile (KM) | 0.0291 |
| 95% gamma percentile (KM) | 0.0457 | 99% gamma percentile (KM) | 0.0893 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (9.59, α) | 3.685 | Adjusted Chi Square Value (9.59, β) | 3.31 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.0255 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.0284 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.933 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.803 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.19 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.304 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.00947 | Mean in Log Scale | -6.845 |
| SD in Original Scale | 0.0188 | SD in Log Scale | 2.377 |
| 95% t UCL (assumes normality of ROS data) | 0.0174 | 95% Percentile Bootstrap UCL | 0.0176 |
| 95% BCA Bootstrap UCL | 0.0198 | 95% Bootstrap t UCL | 0.0298 |
| 95% H-UCL (Log ROS) | 0.37 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -5.961 | KM Geo Mean | 0.00258 |
| KM SD (logged) | 1.472 | 95% Critical H Value (KM-Log) | 3.437 |
| KM Standard Error of Mean (logged) | 0.388 | 95% H-UCL (KM -Log) | 0.027 |
| KM SD (logged) | 1.472 | 95% Critical H Value (KM-Log) | 3.437 |
| KM Standard Error of Mean (logged) | 0.388 | | |

**DL/2 Statistics**

| DL/2 Normal | | DL/2 Log-Transformed | |
|---|---|---|---|
| Mean in Original Scale | 0.00981 | Mean in Log Scale | -5.97 |
| SD in Original Scale | 0.0186 | SD in Log Scale | 1.539 |
| 95% t UCL (Assumes normality) | 0.0177 | 95% H-Stat UCL | 0.0327 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Normal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (t) UCL | 0.0181 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

MANGANESE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 14 | Number of Distinct Observations | 14 |
| | | Number of Missing Observations | 3 |
| Minimum | 0.0553 | Mean | 0.184 |
| Maximum | 0.427 | Median | 0.104 |
| SD | 0.129 | Std. Error of Mean | 0.0344 |
| Coefficient of Variation | 0.7 | Skewness | 0.874 |

**Normal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.811 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.874 | Data Not Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.301 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.226 | Data Not Normal at 5% Significance Level |

Data Not Normal at 5% Significance Level

**Assuming Normal Distribution**

| 95% Normal UCL | | 95% UCLs (Adjusted for Skewness) | |
|---|---|---|---|
| 95% Student's-t UCL | 0.244 | 95% Adjusted-CLT UCL (Chen-1995) | 0.249 |
| | | 95% Modified-t UCL (Johnson-1978) | 0.246 |

**Gamma GOF Test**

| | | |
|---|---|---|
| A-D Test Statistic | 0.975 | **Anderson-Darling Gamma GOF Test** |
| 5% A-D Critical Value | 0.744 | Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.289 | **Kolmogorov-Smirnov Gamma GOF Test** |
| 5% K-S Critical Value | 0.231 | Data Not Gamma Distributed at 5% Significance Level |

Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics**

| | | | |
|---|---|---|---|
| k hat (MLE) | 2.437 | k star (bias corrected MLE) | 1.962 |
| Theta hat (MLE) | 0.0753 | Theta star (bias corrected MLE) | 0.0936 |
| nu hat (MLE) | 68.23 | nu star (bias corrected) | 54.94 |
| MLE Mean (bias corrected) | 0.184 | MLE Sd (bias corrected) | 0.131 |
| | | Approximate Chi Square Value (0.05) | 38.91 |
| Adjusted Level of Significance | 0.0312 | Adjusted Chi Square Value | 37.13 |

**Assuming Gamma Distribution**

| | | | |
|---|---|---|---|
| 95% Approximate Gamma UCL (use when n>=50)) | 0.259 | 95% Adjusted Gamma UCL (use when n<50) | 0.272 |

**Lognormal GOF Test**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.885 | **Shapiro Wilk Lognormal GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.874 | Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.263 | **Lilliefors Lognormal GOF Test** |
| 5% Lilliefors Critical Value | 0.226 | Data Not Lognormal at 5% Significance Level |

Data appear Approximate Lognormal at 5% Significance Level

**Lognormal Statistics**

| | | | |
|---|---|---|---|
| Minimum of Logged Data | -2.895 | Mean of logged Data | -1.914 |
| Maximum of Logged Data | -0.851 | SD of logged Data | 0.678 |

**Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| 95% H-UCL | 0.287 | 90% Chebyshev (MVUE) UCL | 0.286 |
| 95% Chebyshev (MVUE) UCL | 0.333 | 97.5% Chebyshev (MVUE) UCL | 0.398 |
| 99% Chebyshev (MVUE) UCL | 0.526 | | |

**Nonparametric Distribution Free UCL Statistics**

Data appear to follow a Discernible Distribution at 5% Significance Level

**Nonparametric Distribution Free UCLs**

| | | | |
|---|---|---|---|
| 95% CLT UCL | 0.24 | 95% Jackknife UCL | 0.244 |
| 95% Standard Bootstrap UCL | 0.239 | 95% Bootstrap-t UCL | 0.252 |
| 95% Hall's Bootstrap UCL | 0.235 | 95% Percentile Bootstrap UCL | 0.238 |
| 95% BCA Bootstrap UCL | 0.248 | | |
| 90% Chebyshev(Mean, Sd) UCL | 0.287 | 95% Chebyshev(Mean, Sd) UCL | 0.333 |
| 97.5% Chebyshev(Mean, Sd) UCL | 0.398 | 99% Chebyshev(Mean, Sd) UCL | 0.525 |

**Suggested UCL to Use**

| | |
|---|---|
| 95% H-UCL | 0.287 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**ProUCL computes and outputs H-statistic based UCLs for historical reasons only.**
**H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.**
**It is therefore recommended to avoid the use of H-statistic based 95% UCLs.**

Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

THALLIUM

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 14 | Number of Distinct Observations | 4 |
| | | Number of Missing Observations | 3 |
| Number of Detects | 2 | Number of Non-Detects | 12 |
| Number of Distinct Detects | 2 | Number of Distinct Non-Detects | 3 |
| Minimum Detect | 0.0044 | Minimum Non-Detect | 0.0017 |
| Maximum Detect | 0.0072 | Maximum Non-Detect | 0.0046 |
| Variance Detects | 3.9200E-6 | Percent Non-Detects | 85.71% |
| Mean Detects | 0.0058 | SD Detects | 0.00198 |
| Median Detects | 0.0058 | CV Detects | 0.341 |
| Skewness Detects | N/A | Kurtosis Detects | N/A |
| Mean of Logged Detects | -5.18 | SD of Logged Detects | 0.348 |

Warning: Data set has only 2 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only

Not Enough Data to Perform GOF Test

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 0.00241 | KM Standard Error of Mean | 6.5146E-4 |
| KM SD | 0.00158 | 95% KM (BCA) UCL | N/A |
| 95% KM (t) UCL | 0.00356 | 95% KM (Percentile Bootstrap) UCL | N/A |
| 95% KM (z) UCL | 0.00348 | 95% KM Bootstrap t UCL | N/A |
| 90% KM Chebyshev UCL | 0.00436 | 95% KM Chebyshev UCL | 0.00525 |
| 97.5% KM Chebyshev UCL | 0.00647 | 99% KM Chebyshev UCL | 0.00889 |

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

| | | | |
|---|---|---|---|
| k hat (MLE) | 16.82 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 3.4476E-4 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 67.29 | nu star (bias corrected) | N/A |
| Mean (detects) | 0.0058 | | |

Estimates of Gamma Parameters using KM Estimates

| | | | |
|---|---|---|---|
| Mean (KM) | 0.00241 | SD (KM) | 0.00158 |
| Variance (KM) | 2.5081E-6 | SE of Mean (KM) | 6.5146E-4 |
| k hat (KM) | 2.309 | k star (KM) | 1.861 |
| nu hat (KM) | 64.64 | nu star (KM) | 52.12 |
| theta hat (KM) | 0.00104 | theta star (KM) | 0.00129 |
| 80% gamma percentile (KM) | 0.00363 | 90% gamma percentile (KM) | 0.00476 |
| 95% gamma percentile (KM) | 0.00584 | 99% gamma percentile (KM) | 0.00824 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| | | Adjusted Level of Significance (β) | 0.0312 |
| Approximate Chi Square Value (52.12, α) | 36.54 | Adjusted Chi Square Value (52.12, β) | 34.81 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.00343 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.0036 |

**Lognormal GOF Test on Detected Observations Only**

Not Enough Data to Perform GOF Test

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.00237 | Mean in Log Scale | -6.225 |
| SD in Original Scale | 0.0017 | SD in Log Scale | 0.594 |
| 95% t UCL (assumes normality of ROS data) | 0.00318 | 95% Percentile Bootstrap UCL | 0.00315 |
| 95% BCA Bootstrap UCL | 0.00338 | 95% Bootstrap t UCL | 0.00383 |
| 95% H-UCL (Log ROS) | 0.00339 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -6.164 | KM Geo Mean | 0.0021 |
| KM SD (logged) | 0.456 | 95% Critical H Value (KM-Log) | 2.006 |
| KM Standard Error of Mean (logged) | 0.195 | 95% H-UCL (KM -Log) | 0.00301 |
| KM SD (logged) | 0.456 | 95% Critical H Value (KM-Log) | 2.006 |
| KM Standard Error of Mean (logged) | 0.195 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.00246 | Mean in Log Scale | -6.173 |
| SD in Original Scale | 0.00163 | SD in Log Scale | 0.593 |
| 95% t UCL (Assumes normality) | 0.00323 | 95% H-Stat UCL | 0.00356 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | | | |
|---|---|---|---|
| 95% KM (t) UCL | 0.00356 | KM H-UCL | 0.00301 |
| 95% KM (BCA) UCL | N/A | | |

Warning: One or more Recommended UCL(s) not available!

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**VANADIUM**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 14 | Number of Distinct Observations | 7 |
| | | Number of Missing Observations | 3 |
| Number of Detects | 5 | Number of Non-Detects | 9 |

| | | | |
|---|---|---|---|
| Number of Distinct Detects | 5 | Number of Distinct Non-Detects | 3 |
| Minimum Detect | 5.4000E-4 | Minimum Non-Detect | 5.0000E-4 |
| Maximum Detect | 0.0089 | Maximum Non-Detect | 0.0031 |
| Variance Detects | 1.3438E-5 | Percent Non-Detects | 64.29% |
| Mean Detects | 0.00327 | SD Detects | 0.00367 |
| Median Detects | 0.0012 | CV Detects | 1.12 |
| Skewness Detects | 1.153 | Kurtosis Detects | -0.135 |
| Mean of Logged Detects | -6.324 | SD of Logged Detects | 1.26 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.819 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.762 | Detected Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.314 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.343 | Detected Data appear Normal at 5% Significance Level |

Detected Data appear Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.00151 | KM Standard Error of Mean | 7.0574E-4 |
| KM SD | 0.00236 | 95% KM (BCA) UCL | 0.00271 |
| 95% KM (t) UCL | 0.00276 | 95% KM (Percentile Bootstrap) UCL | 0.0027 |
| 95% KM (z) UCL | 0.00267 | 95% KM Bootstrap t UCL | 0.00921 |
| 90% KM Chebyshev UCL | 0.00363 | 95% KM Chebyshev UCL | 0.00459 |
| 97.5% KM Chebyshev UCL | 0.00592 | 99% KM Chebyshev UCL | 0.00853 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.445 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.692 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.285 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.365 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 0.963 | k star (bias corrected MLE) | 0.519 |
| Theta hat (MLE) | 0.0034 | Theta star (bias corrected MLE) | 0.00631 |
| nu hat (MLE) | 9.629 | nu star (bias corrected) | 5.185 |
| Mean (detects) | 0.00327 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 5.4000E-4 | Mean | 0.0076 |
| Maximum | 0.01 | Median | 0.01 |
| SD | 0.00391 | CV | 0.515 |
| k hat (MLE) | 1.621 | k star (bias corrected MLE) | 1.321 |
| Theta hat (MLE) | 0.00469 | Theta star (bias corrected MLE) | 0.00575 |
| nu hat (MLE) | 45.39 | nu star (bias corrected) | 37 |

| | | | |
|---|---|---|---|
| Adjusted Level of Significance (β) | 0.0312 | | |
| Approximate Chi Square Value (37.00, α) | 24.07 | Adjusted Chi Square Value (37.00, β) | 22.7 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.0117 | 95% Gamma Adjusted UCL (use when n<50) | 0.0124 |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.00151 | SD (KM) | 0.00236 |
| Variance (KM) | 5.5732E-6 | SE of Mean (KM) | 7.0574E-4 |
| k hat (KM) | 0.409 | k star (KM) | 0.369 |
| nu hat (KM) | 11.45 | nu star (KM) | 10.33 |
| theta hat (KM) | 0.00369 | theta star (KM) | 0.00409 |
| 80% gamma percentile (KM) | 0.00241 | 90% gamma percentile (KM) | 0.00432 |
| 95% gamma percentile (KM) | 0.00645 | 99% gamma percentile (KM) | 0.0118 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (10.33, α) | 4.149 | Adjusted Chi Square Value (10.33, β) | 3.643 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.00376 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.00428 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.882 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.762 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.225 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.343 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.00129 | Mean in Log Scale | -8.093 |
| SD in Original Scale | 0.00255 | SD in Log Scale | 1.745 |
| 95% t UCL (assumes normality of ROS data) | 0.00249 | 95% Percentile Bootstrap UCL | 0.00242 |
| 95% BCA Bootstrap UCL | 0.00316 | 95% Bootstrap t UCL | 0.00843 |
| 95% H-UCL (Log ROS) | 0.0105 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -7.113 | KM Geo Mean | 8.1434E-4 |
| KM SD (logged) | 0.899 | 95% Critical H Value (KM-Log) | 2.63 |
| KM Standard Error of Mean (logged) | 0.271 | 95% H-UCL (KM -Log) | 0.00235 |
| KM SD (logged) | 0.899 | 95% Critical H Value (KM-Log) | 2.63 |
| KM Standard Error of Mean (logged) | 0.271 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.00155 | Mean in Log Scale | -7.147 |
| SD in Original Scale | 0.00245 | SD in Log Scale | 1.057 |
| 95% t UCL (Assumes normality) | 0.00271 | 95% H-Stat UCL | 0.00321 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Normal Distributed at 5% Significance Level

Suggested UCL to Use

| | |
|---|---|
| 95% KM (t) UCL | 0.00276 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

BENZO(A)PYRENE

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 17 | Number of Distinct Observations | 4 |
| Number of Detects | 1 | Number of Non-Detects | 16 |
| Number of Distinct Detects | 1 | Number of Distinct Non-Detects | 3 |

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable BENZO(A)PYRENE was not processed!

BENZO(B)FLUORANTHENE

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 17 | Number of Distinct Observations | 4 |
| Number of Detects | 1 | Number of Non-Detects | 16 |
| Number of Distinct Detects | 1 | Number of Distinct Non-Detects | 3 |

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable BENZO(B)FLUORANTHENE was not processed!

INDENO(1,2,3-CD)PYRENE

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 17 | Number of Distinct Observations | 4 |
| Number of Detects | 1 | Number of Non-Detects | 16 |
| Number of Distinct Detects | 1 | Number of Distinct Non-Detects | 3 |

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable INDENO(1,2,3-CD)PYRENE was not processed!

NAPHTHALENE

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 17 | Number of Distinct Observations | 5 |
| Number of Detects | 2 | Number of Non-Detects | 15 |
| Number of Distinct Detects | 2 | Number of Distinct Non-Detects | 3 |
| Minimum Detect | 4.0000E-4 | Minimum Non-Detect | 0.01 |
| Maximum Detect | 5.0000E-4 | Maximum Non-Detect | 0.012 |
| Variance Detects | 5.0000E-9 | Percent Non-Detects | 88.24% |
| Mean Detects | 4.5000E-4 | SD Detects | 7.0711E-5 |
| Median Detects | 4.5000E-4 | CV Detects | 0.157 |
| Skewness Detects | N/A | Kurtosis Detects | N/A |
| Mean of Logged Detects | -7.712 | SD of Logged Detects | 0.158 |

Warning: Data set has only 2 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only

Not Enough Data to Perform GOF Test

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 4.5000E-4 | KM Standard Error of Mean | 5.0000E-5 |
| KM SD | 5.0000E-5 | 95% KM (BCA) UCL | N/A |
| 95% KM (t) UCL | 5.3729E-4 | 95% KM (Percentile Bootstrap) UCL | N/A |
| 95% KM (z) UCL | 5.3224E-4 | 95% KM Bootstrap t UCL | N/A |
| 90% KM Chebyshev UCL | 6.0000E-4 | 95% KM Chebyshev UCL | 6.6794E-4 |
| 97.5% KM Chebyshev UCL | 7.6225E-4 | 99% KM Chebyshev UCL | 9.4749E-4 |

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

| | | | |
|---|---|---|---|
| k hat (MLE) | 80.67 | k star (bias corrected MLE) | N/A |
| Theta hat (MLE) | 5.5786E-6 | Theta star (bias corrected MLE) | N/A |
| nu hat (MLE) | 322.7 | nu star (bias corrected) | N/A |
| Mean (detects) | 4.5000E-4 | | |

Estimates of Gamma Parameters using KM Estimates

| | | | |
|---|---|---|---|
| Mean (KM) | 4.5000E-4 | SD (KM) | 5.0000E-5 |
| Variance (KM) | 2.5000E-9 | SE of Mean (KM) | 5.0000E-5 |
| k hat (KM) | 81 | k star (KM) | 66.75 |
| nu hat (KM) | 2754 | nu star (KM) | 2269 |
| theta hat (KM) | 5.5556E-6 | theta star (KM) | 6.7421E-6 |
| 80% gamma percentile (KM) | 4.9558E-4 | 90% gamma percentile (KM) | 5.2188E-4 |
| 95% gamma percentile (KM) | 5.4427E-4 | 99% gamma percentile (KM) | 5.8796E-4 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| | | Adjusted Level of Significance (β) | 0.0346 |
| Approximate Chi Square Value (N/A, α) | 2160 | Adjusted Chi Square Value (N/A, β) | 2148 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 4.7285E-4 | 95% Gamma Adjusted KM-UCL (use when n<50) | 4.7532E-4 |

**Lognormal GOF Test on Detected Observations Only**

Not Enough Data to Perform GOF Test

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 4.5444E-4 | Mean in Log Scale | -7.712 |
| SD in Original Scale | 8.4073E-5 | SD in Log Scale | 0.185 |
| 95% t UCL (assumes normality of ROS data) | 4.9004E-4 | 95% Percentile Bootstrap UCL | 4.8825E-4 |
| 95% BCA Bootstrap UCL | 4.8826E-4 | 95% Bootstrap t UCL | 4.9482E-4 |
| 95% H-UCL (Log ROS) | 4.9395E-4 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -7.712 | KM Geo Mean | 4.4721E-4 |
| KM SD (logged) | 0.112 | 95% Critical H Value (KM-Log) | 1.744 |
| KM Standard Error of Mean (logged) | 0.112 | 95% H-UCL (KM -Log) | 4.7243E-4 |
| KM SD (logged) | 0.112 | 95% Critical H Value (KM-Log) | 1.744 |
| KM Standard Error of Mean (logged) | 0.112 | | |

**DL/2 Statistics**

| DL/2 Normal | | DL/2 Log-Transformed | |
|---|---|---|---|
| Mean in Original Scale | 0.00464 | Mean in Log Scale | -5.549 |
| SD in Original Scale | 0.00161 | SD in Log Scale | 0.817 |
| 95% t UCL (Assumes normality) | 0.00532 | 95% H-Stat UCL | 0.00883 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Data do not follow a Discernible Distribution at 5% Significance Level

**Suggested UCL to Use**

| | | | |
|---|---|---|---|
| 95% KM (t) UCL | 5.3729E-4 | KM H-UCL | 4.7243E-4 |
| 95% KM (BCA) UCL | N/A | | |

Warning: One or more Recommended UCL(s) not available!

Warning: Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**1,4-DICHLOROBENZENE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 10 | Number of Distinct Observations | 2 |
| Number of Detects | 1 | Number of Non-Detects | 9 |
| Number of Distinct Detects | 1 | Number of Distinct Non-Detects | 1 |

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!

It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable 1,4-DICHLOROBENZENE was not processed!

BENZENE

General Statistics

| | | | |
|---|---|---|---|
| Total Number of Observations | 17 | Number of Distinct Observations | 5 |
| Number of Detects | 4 | Number of Non-Detects | 13 |
| Number of Distinct Detects | 3 | Number of Distinct Non-Detects | 2 |
| Minimum Detect | 0.002 | Minimum Non-Detect | 0.005 |
| Maximum Detect | 0.006 | Maximum Non-Detect | 0.01 |
| Variance Detects | 3.6667E-6 | Percent Non-Detects | 76.47% |
| Mean Detects | 0.0045 | SD Detects | 0.00191 |
| Median Detects | 0.005 | CV Detects | 0.426 |
| Skewness Detects | -0.855 | Kurtosis Detects | -1.289 |
| Mean of Logged Detects | -5.492 | SD of Logged Detects | 0.518 |

Normal GOF Test on Detects Only

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.865 | Shapiro Wilk GOF Test |
| 5% Shapiro Wilk Critical Value | 0.748 | Detected Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.283 | Lilliefors GOF Test |
| 5% Lilliefors Critical Value | 0.375 | Detected Data appear Normal at 5% Significance Level |

Detected Data appear Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

| | | | |
|---|---|---|---|
| KM Mean | 0.00386 | KM Standard Error of Mean | 8.3066E-4 |
| KM SD | 0.0016 | 95% KM (BCA) UCL | N/A |
| 95% KM (t) UCL | 0.00531 | 95% KM (Percentile Bootstrap) UCL | N/A |
| 95% KM (z) UCL | 0.00522 | 95% KM Bootstrap t UCL | N/A |
| 90% KM Chebyshev UCL | 0.00635 | 95% KM Chebyshev UCL | 0.00748 |
| 97.5% KM Chebyshev UCL | 0.00904 | 99% KM Chebyshev UCL | 0.0121 |

Gamma GOF Tests on Detected Observations Only

| | | |
|---|---|---|
| A-D Test Statistic | 0.449 | Anderson-Darling GOF Test |
| 5% A-D Critical Value | 0.659 | Detected data appear Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.306 | Kolmogorov-Smirnov GOF |
| 5% K-S Critical Value | 0.396 | Detected data appear Gamma Distributed at 5% Significance Level |

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

| | | | |
|---|---|---|---|
| k hat (MLE) | 5.822 | k star (bias corrected MLE) | 1.622 |
| Theta hat (MLE) | 7.7297E-4 | Theta star (bias corrected MLE) | 0.00277 |
| nu hat (MLE) | 46.57 | nu star (bias corrected) | 12.98 |
| Mean (detects) | 0.0045 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.002 | Mean | 0.00871 |
| Maximum | 0.01 | Median | 0.01 |
| SD | 0.00254 | CV | 0.292 |
| k hat (MLE) | 7.297 | k star (bias corrected MLE) | 6.049 |
| Theta hat (MLE) | 0.00119 | Theta star (bias corrected MLE) | 0.00144 |
| nu hat (MLE) | 248.1 | nu star (bias corrected) | 205.6 |
| Adjusted Level of Significance (β) | 0.0346 | | |
| Approximate Chi Square Value (205.65, α) | 173.5 | Adjusted Chi Square Value (205.65, β) | 170.4 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.0103 | 95% Gamma Adjusted UCL (use when n<50) | N/A |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.00386 | SD (KM) | 0.0016 |
| Variance (KM) | 2.5510E-6 | SE of Mean (KM) | 8.3066E-4 |
| k hat (KM) | 5.832 | k star (KM) | 4.842 |
| nu hat (KM) | 198.3 | nu star (KM) | 164.6 |
| theta hat (KM) | 6.6138E-4 | theta star (KM) | 7.9659E-4 |
| 80% gamma percentile (KM) | 0.0052 | 90% gamma percentile (KM) | 0.0062 |
| 95% gamma percentile (KM) | 0.00712 | 99% gamma percentile (KM) | 0.00905 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (164.63, α) | 136 | Adjusted Chi Square Value (164.63, β) | 133.2 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.00467 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.00477 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.841 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.748 | Detected Data appear Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.266 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.375 | Detected Data appear Lognormal at 5% Significance Level |

Detected Data appear Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.00375 | Mean in Log Scale | -5.675 |
| SD in Original Scale | 0.00161 | SD in Log Scale | 0.435 |
| 95% t UCL (assumes normality of ROS data) | 0.00443 | 95% Percentile Bootstrap UCL | 0.00436 |
| 95% BCA Bootstrap UCL | 0.00446 | 95% Bootstrap t UCL | 0.00453 |
| 95% H-UCL (Log ROS) | 0.00467 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -5.653 | KM Geo Mean | 0.00351 |
| KM SD (logged) | 0.449 | 95% Critical H Value (KM-Log) | 1.986 |
| KM Standard Error of Mean (logged) | 0.251 | 95% H-UCL (KM -Log) | 0.00484 |
| KM SD (logged) | 0.449 | 95% Critical H Value (KM-Log) | 1.986 |
| KM Standard Error of Mean (logged) | 0.251 | | |

**DL/2 Statistics**

| DL/2 Normal | | DL/2 Log-Transformed | |
|---|---|---|---|
| Mean in Original Scale | 0.00444 | Mean in Log Scale | -5.466 |
| SD in Original Scale | 0.00126 | SD in Log Scale | 0.346 |
| 95% t UCL (Assumes normality) | 0.00498 | 95% H-Stat UCL | 0.00529 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Normal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (t) UCL | 0.00531 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

DICHLOROMETHANE

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 17 | Number of Distinct Observations | 5 |
| Number of Detects | 4 | Number of Non-Detects | 13 |
| Number of Distinct Detects | 4 | Number of Distinct Non-Detects | 1 |
| Minimum Detect | 0.001 | Minimum Non-Detect | 0.01 |
| Maximum Detect | 0.019 | Maximum Non-Detect | 0.01 |
| Variance Detects | 7.1000E-5 | Percent Non-Detects | 76.47% |
| Mean Detects | 0.0135 | SD Detects | 0.00843 |
| Median Detects | 0.017 | CV Detects | 0.624 |
| Skewness Detects | -1.872 | Kurtosis Detects | 3.546 |
| Mean of Logged Detects | -4.756 | SD of Logged Detects | 1.436 |

**Normal GOF Test on Detects Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.758 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.748 | Detected Data appear Normal at 5% Significance Level |
| Lilliefors Test Statistic | 0.367 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.375 | Detected Data appear Normal at 5% Significance Level |

Detected Data appear Normal at 5% Significance Level

**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**

| | | | |
|---|---|---|---|
| KM Mean | 0.00394 | KM Standard Error of Mean | 0.00179 |
| KM SD | 0.00638 | 95% KM (BCA) UCL | N/A |
| 95% KM (t) UCL | 0.00706 | 95% KM (Percentile Bootstrap) UCL | N/A |
| 95% KM (z) UCL | 0.00688 | 95% KM Bootstrap t UCL | N/A |
| 90% KM Chebyshev UCL | 0.0093 | 95% KM Chebyshev UCL | 0.0117 |
| 97.5% KM Chebyshev UCL | 0.0151 | 99% KM Chebyshev UCL | 0.0217 |

**Gamma GOF Tests on Detected Observations Only**

| | | |
|---|---|---|
| A-D Test Statistic | 0.826 | **Anderson-Darling GOF Test** |
| 5% A-D Critical Value | 0.664 | Detected Data Not Gamma Distributed at 5% Significance Level |
| K-S Test Statistic | 0.439 | **Kolmogorov-Smirnov GOF** |
| 5% K-S Critical Value | 0.401 | Detected Data Not Gamma Distributed at 5% Significance Level |

Detected Data Not Gamma Distributed at 5% Significance Level

**Gamma Statistics on Detected Data Only**

| | | | |
|---|---|---|---|
| k hat (MLE) | 1.249 | k star (bias corrected MLE) | 0.479 |
| Theta hat (MLE) | 0.0108 | Theta star (bias corrected MLE) | 0.0282 |
| nu hat (MLE) | 9.995 | nu star (bias corrected) | 3.832 |
| Mean (detects) | 0.0135 | | |

**Gamma ROS Statistics using Imputed Non-Detects**

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

| | | | |
|---|---|---|---|
| Minimum | 0.001 | Mean | 0.0108 |
| Maximum | 0.019 | Median | 0.01 |
| SD | 0.00396 | CV | 0.366 |
| k hat (MLE) | 4.523 | k star (bias corrected MLE) | 3.764 |
| Theta hat (MLE) | 0.00239 | Theta star (bias corrected MLE) | 0.00288 |
| nu hat (MLE) | 153.8 | nu star (bias corrected) | 128 |
| Adjusted Level of Significance (β) | 0.0346 | | |
| Approximate Chi Square Value (127.97, α) | 102.8 | Adjusted Chi Square Value (127.97, β) | 100.5 |
| 95% Gamma Approximate UCL (use when n>=50) | 0.0135 | 95% Gamma Adjusted UCL (use when n<50) | N/A |

**Estimates of Gamma Parameters using KM Estimates**

| | | | |
|---|---|---|---|
| Mean (KM) | 0.00394 | SD (KM) | 0.00638 |
| Variance (KM) | 4.0644E-5 | SE of Mean (KM) | 0.00179 |
| k hat (KM) | 0.382 | k star (KM) | 0.354 |
| nu hat (KM) | 12.99 | nu star (KM) | 12.03 |
| theta hat (KM) | 0.0103 | theta star (KM) | 0.0111 |
| 80% gamma percentile (KM) | 0.00625 | 90% gamma percentile (KM) | 0.0114 |
| 95% gamma percentile (KM) | 0.0171 | 99% gamma percentile (KM) | 0.0316 |

**Gamma Kaplan-Meier (KM) Statistics**

| | | | |
|---|---|---|---|
| Approximate Chi Square Value (12.03, α) | 5.25 | Adjusted Chi Square Value (12.03, β) | 4.787 |
| 95% Gamma Approximate KM-UCL (use when n>=50) | 0.00903 | 95% Gamma Adjusted KM-UCL (use when n<50) | 0.00991 |

**Lognormal GOF Test on Detected Observations Only**

| | | |
|---|---|---|
| Shapiro Wilk Test Statistic | 0.674 | **Shapiro Wilk GOF Test** |
| 5% Shapiro Wilk Critical Value | 0.748 | Detected Data Not Lognormal at 5% Significance Level |
| Lilliefors Test Statistic | 0.417 | **Lilliefors GOF Test** |
| 5% Lilliefors Critical Value | 0.375 | Detected Data Not Lognormal at 5% Significance Level |

Detected Data Not Lognormal at 5% Significance Level

**Lognormal ROS Statistics Using Imputed Non-Detects**

| | | | |
|---|---|---|---|
| Mean in Original Scale | 0.00451 | Mean in Log Scale | -6.363 |
| SD in Original Scale | 0.00647 | SD in Log Scale | 1.485 |
| 95% t UCL (assumes normality of ROS data) | 0.00724 | 95% Percentile Bootstrap UCL | 0.00733 |
| 95% BCA Bootstrap UCL | 0.00769 | 95% Bootstrap t UCL | 0.00813 |
| 95% H-UCL (Log ROS) | 0.0188 | | |

**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**

| | | | |
|---|---|---|---|
| KM Mean (logged) | -6.401 | KM Geo Mean | 0.00166 |
| KM SD (logged) | 1.094 | 95% Critical H Value (KM-Log) | 2.812 |
| KM Standard Error of Mean (logged) | 0.306 | 95% H-UCL (KM -Log) | 0.00652 |
| KM SD (logged) | 1.094 | 95% Critical H Value (KM-Log) | 2.812 |
| KM Standard Error of Mean (logged) | 0.306 | | |

**DL/2 Statistics**

| **DL/2 Normal** | | **DL/2 Log-Transformed** | |
|---|---|---|---|
| Mean in Original Scale | 0.007 | Mean in Log Scale | -5.171 |
| SD in Original Scale | 0.00521 | SD in Log Scale | 0.666 |
| 95% t UCL (Assumes normality) | 0.00921 | 95% H-Stat UCL | 0.0103 |

DL/2 is not a recommended method, provided for comparisons and historical reasons

**Nonparametric Distribution Free UCL Statistics**

Detected Data appear Normal Distributed at 5% Significance Level

**Suggested UCL to Use**

| | |
|---|---|
| 95% KM (t) UCL | 0.00706 |

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**VINYL CHLORIDE**

**General Statistics**

| | | | |
|---|---|---|---|
| Total Number of Observations | 17 | Number of Distinct Observations | 3 |
| Number of Detects | 1 | Number of Non-Detects | 16 |
| Number of Distinct Detects | 1 | Number of Distinct Non-Detects | 2 |

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable VINYL CHLORIDE was not processed!

# Appendix H

## Blood Lead Modeling Results

**Adult Lead Model**

| Description of Variable | Receptor | Utility Worker | Construction Worker | Outdoor Worker | Utility Worker | Construction Worker | Outdoor Worker | Utility Worker | Construction Worker | Outdoor Worker | Recreator |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Depth** | **0-10 ft** | **0-10 ft** | **0-2 ft** | **0-10 ft** | **0-10 ft** | **0-2 ft** | **0-10 ft** | **0-10 ft** | **0-2 ft** | **0-2 ft** |
| | **Exp. Area** | **NFA** | **NFA** | **NFA** | **SFA** | **SFA** | **SFA** | **UNDV** | **UNDV** | **UNDV** | **UNDV+UHC** |
| Soil lead concentration | µg/g or ppm | 296 | 296 | 303 | 911 | 911 | 1,880 | 682 | 682 | 665 | 1,189 |
| Fetal/maternal PbB ratio | -- | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 |
| Biokinetic slope factor | µg/dL per µg/day | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| Geometric standard deviation PbB (GSD) | -- | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 |
| Baseline blood lead level ($PbB_0$) | µg/dL | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| Soil ingestion rate (IR) (including soil-derived indoor dust) | g/day | 0.100 | 0.100 | 0.050 | 0.100 | 0.100 | 0.050 | 0.100 | 0.100 | 0.050 | 0.050 |
| Total ingestion rate of outdoor soil and indoor dust | g/day | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Weighting factor; fraction of $IR_{S+D}$ ingested as outdoor soil | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Mass fraction of soil in dust | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Absorption fraction (same for soil and dust) | -- | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| Exposure frequency (same for soil and dust) | days/year | 10 | 219 | 219 | 10 | 219 | 219 | 10 | 219 | 219 | 150 |
| Averaging time (same for soil and dust) | days/year | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 |
| **PbB of adult worker, geometric mean** | µg/dL | 0.6 | 1.5 | 1.0 | 0.7 | 3.2 | 3.3 | 0.7 | 2.6 | 1.6 | 1.8 |
| $95^{th}$ percentile PbB among fetuses of adult workers | µg/dL | 1.5 | 3.4 | 2.5 | 1.7 | 7.6 | 7.8 | 1.6 | 6.1 | 3.7 | 4.2 |
| Target PbB level of concern (*e.g* ., 10 µg/dL) | µg/dL | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| **Probability that fetal PbB > $PbB_t$, assuming lognormal distribution** | **%** | 0.01% | 1% | 0.2% | 0.03% | **18%** | **19%** | 0.02% | **9%** | 2% | 3% |

Notes:

Source – US EPA (2003b).

Baseline blood lead level ($PbB_0$) and geometric standard deviation (GSD) derived from US EPA (2017b).

**LEAD MODEL FOR WINDOWS** **Version 1.1**

Model Version: 1.1 Build11
User Name:
Date: 6/18/2017
Site Name: Former Manufacturing Plant
Operable Unit: North of Foster Avenue
Run Mode: Research

****** Air ******

Indoor Air Pb Concentration: 30.000 percent of outdoor.
Other Air Parameters:

| Age | Time Outdoors (hours) | Ventilation Rate ($m^3$/day) | Lung Absorption (%) | Outdoor Air Pb Conc (µg Pb/$m^3$) |
|---|---|---|---|---|
| 0.5-1 | 1 | 2 | 32 | 0.1 |
| 1-2 | 2 | 3 | 32 | 0.1 |
| 2-3 | 3 | 5 | 32 | 0.1 |
| 3-4 | 4 | 5 | 32 | 0.1 |
| 4-5 | 4 | 5 | 32 | 0.1 |
| 5-6 | 4 | 7 | 32 | 0.1 |
| 6-7 | 4 | 7 | 32 | 0.1 |

****** Diet ******

| Age | Diet Intake (µg/day) |
|---|---|
| 0.5-1 | 2.26 |
| 1-2 | 1.96 |
| 2-3 | 2.13 |
| 3-4 | 2.04 |
| 4-5 | 1.95 |
| 5-6 | 2.05 |
| 6-7 | 2.22 |

****** Drinking Water ******

Drinking Water Concentration: 4.000 µg Pb/L
Water Consumption:

| Age | Water (L/day) |
|---|---|
| 0.5-1 | 0.2 |
| 1-2 | 0.5 |
| 2-3 | 0.52 |
| 3-4 | 0.53 |
| 4-5 | 0.55 |
| 5-6 | 0.58 |
| 6-7 | 0.59 |

****** Soil & Dust ******

| | |
|---|---|
| Multiple Source Analysis Used | |
| Average multiple source concentration: | 171.000 µg/g |
| Mass fraction of outdoor soil to indoor dust conversion factor: | 0.7 |
| Outdoor airborne lead to indoor household dust lead concentration: | 100 |
| Use alternate indoor dust Pb sources? | No |

| Age | Soil (µg Pb/g) | House Dust (µg Pb/g) |
|---|---|---|
| 0.5-1 | 230 | 171 |
| 1-2 | 230 | 171 |
| 2-3 | 230 | 171 |
| 3-4 | 230 | 171 |
| 4-5 | 230 | 171 |
| 5-6 | 230 | 171 |
| 6-7 | 230 | 171 |

****** Alternate Intake ******

| Age | Alternate (µg Pb/day) |
|---|---|
| 0.5-1 | 0 |
| 1-2 | 0 |
| 2-3 | 0 |
| 3-4 | 0 |
| 4-5 | 0 |
| 5-6 | 0 |
| 6-7 | 0 |

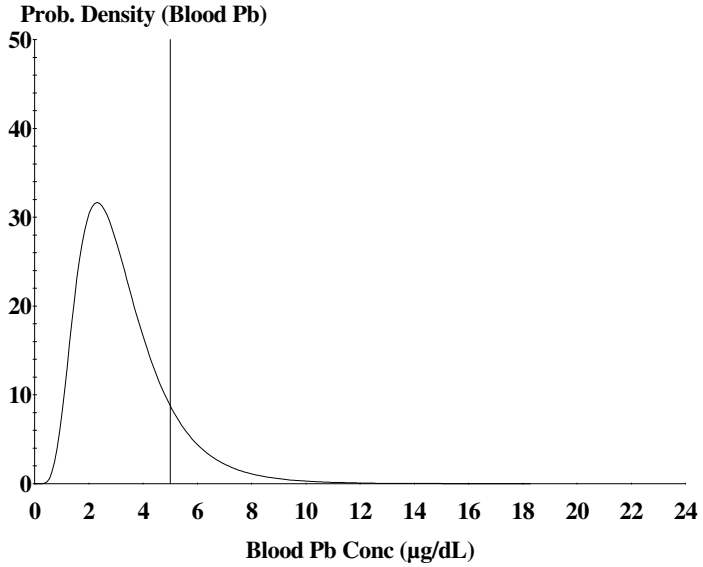
****** Maternal Contribution: Infant Model ******

Maternal Blood Concentration: 0.600 µg Pb/dL

**CALCULATED BLOOD LEAD AND LEAD UPTAKES:**

| Year | Air (µg/day) | Diet (µg/day) | Alternate (µg/day) | Water (µg/day) |
|---|---|---|---|---|
| 0.5-1 | 0.021 | 1.054 | 0 | 0.373 |
| 1-2 | 0.034 | 0.904 | 0 | 0.922 |
| 2-3 | 0.062 | 0.993 | 0 | 0.969 |
| 3-4 | 0.067 | 0.96 | 0 | 0.998 |
| 4-5 | 0.067 | 0.935 | 0 | 1.055 |
| 5-6 | 0.093 | 0.99 | 0 | 1.12 |
| 6-7 | 0.093 | 1.076 | 0 | 1.143 |

| Year | Soil+Dust (µg/day) | Total (µg/day) | Blood (µg/dL) |
|---|---|---|---|
| 0.5-1 | 4.698 | 6.145 | 3.3 |
| 1-2 | 7.378 | 9.239 | 3.8 |
| 2-3 | 7.458 | 9.482 | 3.5 |
| 3-4 | 7.532 | 9.557 | 3.4 |
| 4-5 | 5.683 | 7.739 | 2.8 |
| 5-6 | 5.149 | 7.352 | 2.3 |
| 6-7 | 4.881 | 7.193 | 2.1 |




**Cutoff = 5.000 µg/dl**
**Geo Mean = 2.990**
**GSD = 1.600**
**% Above = 13.705**
**% Below = 86.295**

**Age Range = 0 to 84 months**

**Run Mode = Research**
**Comment = NFA - Child resident**

**LEAD MODEL FOR WINDOWS** **Version 1.1**

Model Version: 1.1 Build11
User Name:
Date: 6/18/2017
Site Name: Former Manufacturing Plant
Operable Unit: South of Foster Avenue
Run Mode: Research

****** Air ******

Indoor Air Pb Concentration: 30.000 percent of outdoor.
Other Air Parameters:

| Age | Time Outdoors (hours) | Ventilation Rate ($m^3$/day) | Lung Absorption (%) | Outdoor Air Pb Conc (µg Pb/$m^3$) |
|---|---|---|---|---|
| 0.5-1 | 1 | 2 | 32 | 0.1 |
| 1-2 | 2 | 3 | 32 | 0.1 |
| 2-3 | 3 | 5 | 32 | 0.1 |
| 3-4 | 4 | 5 | 32 | 0.1 |
| 4-5 | 4 | 5 | 32 | 0.1 |
| 5-6 | 4 | 7 | 32 | 0.1 |
| 6-7 | 4 | 7 | 32 | 0.1 |

****** Diet ******

| Age | Diet Intake (µg/day) |
|---|---|
| 0.5-1 | 2.26 |
| 1-2 | 1.96 |
| 2-3 | 2.13 |
| 3-4 | 2.04 |
| 4-5 | 1.95 |
| 5-6 | 2.05 |
| 6-7 | 2.22 |

****** Drinking Water ******

Drinking Water Concentration: 4.000 µg Pb/L
Water Consumption:

| Age | Water (L/day) |
|---|---|
| 0.5-1 | 0.2 |
| 1-2 | 0.5 |
| 2-3 | 0.52 |
| 3-4 | 0.53 |
| 4-5 | 0.55 |
| 5-6 | 0.58 |
| 6-7 | 0.59 |

****** Soil & Dust ******

| | |
|---|---|
| Multiple Source Analysis Used | |
| Average multiple source concentration: | 2057.500 µg/g |
| Mass fraction of outdoor soil to indoor dust conversion factor: | 0.7 |
| Outdoor airborne lead to indoor household dust lead concentration: | 100 |
| Use alternate indoor dust Pb sources? | No |

| Age | Soil (µg Pb/g) | House Dust (µg Pb/g) |
|---|---|---|
| 0.5-1 | 2925 | 2057.5 |
| 1-2 | 2925 | 2057.5 |
| 2-3 | 2925 | 2057.5 |
| 3-4 | 2925 | 2057.5 |
| 4-5 | 2925 | 2057.5 |
| 5-6 | 2925 | 2057.5 |
| 6-7 | 2925 | 2057.5 |

****** Alternate Intake ******

| Age | Alternate (µg Pb/day) |
|---|---|
| 0.5-1 | 0 |
| 1-2 | 0 |
| 2-3 | 0 |
| 3-4 | 0 |
| 4-5 | 0 |
| 5-6 | 0 |
| 6-7 | 0 |

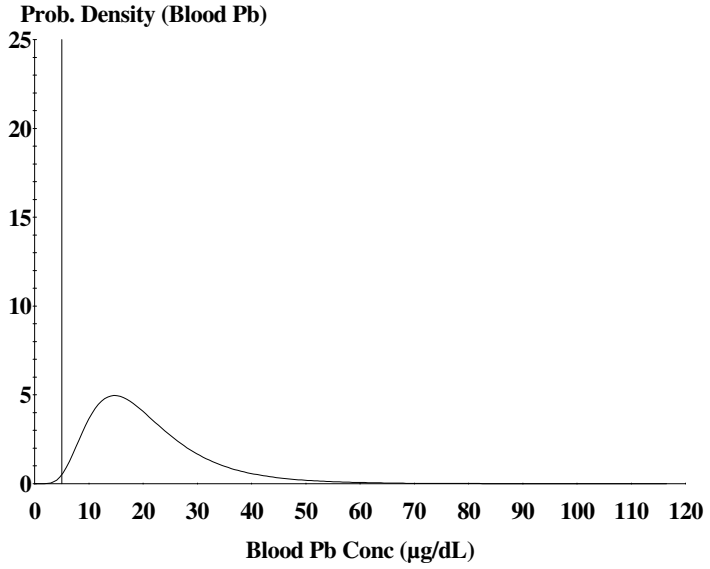
****** Maternal Contribution: Infant Model ******

Maternal Blood Concentration: 0.600 µg Pb/dL

**CALCULATED BLOOD LEAD AND LEAD UPTAKES:**

| Year | Air (µg/day) | Diet (µg/day) | Alternate (µg/day) | Water (µg/day) |
|---|---|---|---|---|
| 0.5-1 | 0.021 | 0.704 | 0 | 0.249 |
| 1-2 | 0.034 | 0.571 | 0 | 0.583 |
| 2-3 | 0.062 | 0.655 | 0 | 0.639 |
| 3-4 | 0.067 | 0.659 | 0 | 0.685 |
| 4-5 | 0.067 | 0.711 | 0 | 0.802 |
| 5-6 | 0.093 | 0.786 | 0 | 0.89 |
| 6-7 | 0.093 | 0.876 | 0 | 0.932 |

| Year | Soil+Dust (µg/day) | Total (µg/day) | Blood (µg/dL) |
|---|---|---|---|
| 0.5-1 | 38.862 | 39.835 | 20.1 |
| 1-2 | 57.777 | 58.965 | 23.2 |
| 2-3 | 60.96 | 62.316 | 22.1 |
| 3-4 | 64.058 | 65.469 | 21.7 |
| 4-5 | 53.565 | 55.146 | 18.7 |
| 5-6 | 50.711 | 52.481 | 16.2 |
| 6-7 | 49.287 | 51.189 | 14.4 |




**Cutoff = 5.000 µg/dl**
**Geo Mean = 19.061**
**GSD = 1.600**
**% Above = 99.779**
**% Below = 0.221**

**Age Range = 0 to 84 months**

**Run Mode = Research**
**Comment = SFA - child resident**

**LEAD MODEL FOR WINDOWS** **Version 1.1**

Model Version: 1.1 Build11
User Name:
Date: 6/18/2017
Site Name: Former Manufacturing Plant
Operable Unit: Undeveloped Area
Run Mode: Research

****** Air ******

Indoor Air Pb Concentration: 30.000 percent of outdoor.
Other Air Parameters:

| Age | Time Outdoors (hours) | Ventilation Rate ($m^3$/day) | Lung Absorption (%) | Outdoor Air Pb Conc (µg Pb/$m^3$) |
|---|---|---|---|---|
| 0.5-1 | 1 | 2 | 32 | 0.1 |
| 1-2 | 2 | 3 | 32 | 0.1 |
| 2-3 | 3 | 5 | 32 | 0.1 |
| 3-4 | 4 | 5 | 32 | 0.1 |
| 4-5 | 4 | 5 | 32 | 0.1 |
| 5-6 | 4 | 7 | 32 | 0.1 |
| 6-7 | 4 | 7 | 32 | 0.1 |

****** Diet ******

| Age | Diet Intake (µg/day) |
|---|---|
| 0.5-1 | 2.26 |
| 1-2 | 1.96 |
| 2-3 | 2.13 |
| 3-4 | 2.04 |
| 4-5 | 1.95 |
| 5-6 | 2.05 |
| 6-7 | 2.22 |

****** Drinking Water ******

Drinking Water Concentration: 4 µg Pb/L
Water Consumption:

| Age | Water (L/day) |
|---|---|
| 0.5-1 | 0.2 |
| 1-2 | 0.5 |
| 2-3 | 0.52 |
| 3-4 | 0.53 |
| 4-5 | 0.55 |
| 5-6 | 0.58 |
| 6-7 | 0.59 |

****** Soil & Dust ******

| | |
|---|---|
| Multiple Source Analysis Used | |
| Average multiple source concentration: | 247.300 µg/g |
| Mass fraction of outdoor soil to indoor dust conversion factor: | 0.7 |
| Outdoor airborne lead to indoor household dust lead concentration: | 100 |
| Use alternate indoor dust Pb sources? | No |

| Age | Soil (µg Pb/g) | House Dust (µg Pb/g) |
|---|---|---|
| 0.5-1 | 339 | 247.3 |
| 1-2 | 339 | 247.3 |
| 2-3 | 339 | 247.3 |
| 3-4 | 339 | 247.3 |
| 4-5 | 339 | 247.3 |
| 5-6 | 339 | 247.3 |
| 6-7 | 339 | 247.3 |

****** Alternate Intake ******

| Age | Alternate (µg Pb/day) |
|---|---|
| 0.5-1 | 0 |
| 1-2 | 0 |
| 2-3 | 0 |
| 3-4 | 0 |
| 4-5 | 0 |
| 5-6 | 0 |
| 6-7 | 0 |

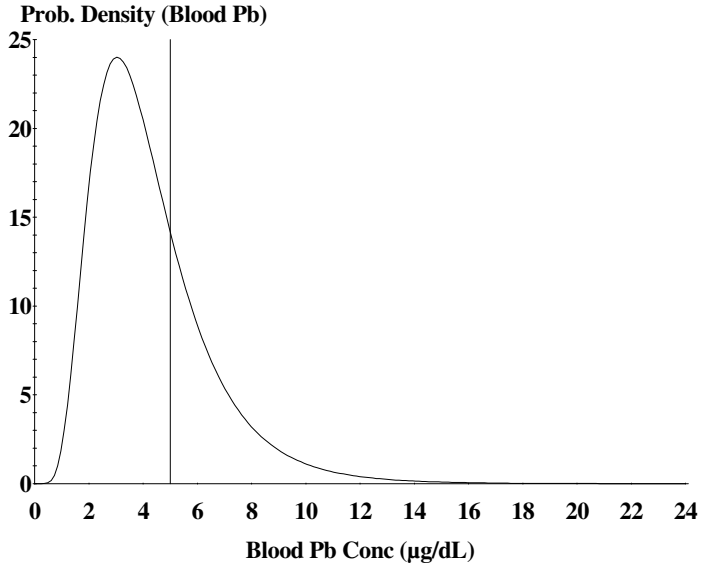
****** Maternal Contribution: Infant Model ******

Maternal Blood Concentration: 0.600 µg Pb/dL

**CALCULATED BLOOD LEAD AND LEAD UPTAKES:**

| Year | Air (µg/day) | Diet (µg/day) | Alternate (µg/day) | Water (µg/day) |
|---|---|---|---|---|
| 0.5-1 | 0.0210 | 1.03 | 0 | 0.365 |
| 1-2 | 0.0340 | 0.879 | 0 | 0.897 |
| 2-3 | 0.0620 | 0.969 | 0 | 0.947 |
| 3-4 | 0.0670 | 0.940 | 0 | 0.977 |
| 4-5 | 0.0670 | 0.922 | 0 | 1.04 |
| 5-6 | 0.0930 | 0.979 | 0 | 1.11 |
| 6-7 | 0.0930 | 1.07 | 0 | 1.13 |

| Year | Soil+Dust (µg/day) | Total (µg/day) | Blood (µg/dL) |
|---|---|---|---|
| 0.5-1 | 6.71 | 8.12 | 4.4 |
| 1-2 | 10.5 | 12.3 | 5.1 |
| 2-3 | 10.6 | 12.6 | 4.7 |
| 3-4 | 10.8 | 12.8 | 4.5 |
| 4-5 | 8.19 | 10.2 | 3.7 |
| 5-6 | 7.44 | 9.62 | 3.1 |
| 6-7 | 7.06 | 9.35 | 2.7 |




**Cutoff = 5.000 µg/dl**
**Geo Mean = 3.942**
**GSD = 1.600**
**% Above = 30.657**
**% Below = 69.343**

**Age Range = 0 to 84 months**

**Run Mode = Research**
**Comment = UNDV - child resident**

**LEAD MODEL FOR WINDOWS** **Version 1.1**

Model Version: 1.1 Build11
User Name:
Date: 6/18/2017
Site Name: Former Manufacturing Plant
Operable Unit: Undeveloped Area and Upper Hilliard Creek
Run Mode: Research

****** Air ******

Indoor Air Pb Concentration: 30.000 percent of outdoor.
Other Air Parameters:

| Age | Time Outdoors (hours) | Ventilation Rate ($m^3$/day) | Lung Absorption (%) | Outdoor Air Pb Conc (µg Pb/$m^3$) |
|---|---|---|---|---|
| 0.5-1 | 1 | 2 | 32 | 0.1 |
| 1-2 | 2 | 3 | 32 | 0.1 |
| 2-3 | 3 | 5 | 32 | 0.1 |
| 3-4 | 4 | 5 | 32 | 0.1 |
| 4-5 | 4 | 5 | 32 | 0.1 |
| 5-6 | 4 | 7 | 32 | 0.1 |
| 6-7 | 4 | 7 | 32 | 0.1 |

****** Diet ******

| Age | Diet Intake (µg/day) |
|---|---|
| 0.5-1 | 2.26 |
| 1-2 | 1.96 |
| 2-3 | 2.13 |
| 3-4 | 2.04 |
| 4-5 | 1.95 |
| 5-6 | 2.05 |
| 6-7 | 2.22 |

****** Drinking Water ******

Drinking Water Concentration: 4.000 µg Pb/L
Water Consumption:

| Age | Water (L/day) |
|---|---|
| 0.5-1 | 0.2 |
| 1-2 | 0.5 |
| 2-3 | 0.52 |
| 3-4 | 0.53 |
| 4-5 | 0.55 |
| 5-6 | 0.58 |
| 6-7 | 0.59 |

****** Soil & Dust ******

| | |
|---|---|
| Multiple Source Analysis Used | |
| Average multiple source concentration: | 842.300 µg/g |
| Mass fraction of outdoor soil to indoor dust conversion factor: | 0.7 |
| Outdoor airborne lead to indoor household dust lead concentration: | 100 |
| Use alternate indoor dust Pb sources? | No |

| Age | Soil (µg Pb/g) | House Dust (µg Pb/g) |
|---|---|---|
| 0.5-1 | 1189 | 842.3 |
| 1-2 | 1189 | 842.3 |
| 2-3 | 1189 | 842.3 |
| 3-4 | 1189 | 842.3 |
| 4-5 | 1189 | 842.3 |
| 5-6 | 1189 | 842.3 |
| 6-7 | 1189 | 842.3 |

****** Alternate Intake ******

| Age | Alternate (µg Pb/day) |
|---|---|
| 0.5-1 | 0 |
| 1-2 | 0 |
| 2-3 | 0 |
| 3-4 | 0 |
| 4-5 | 0 |
| 5-6 | 0 |
| 6-7 | 0 |

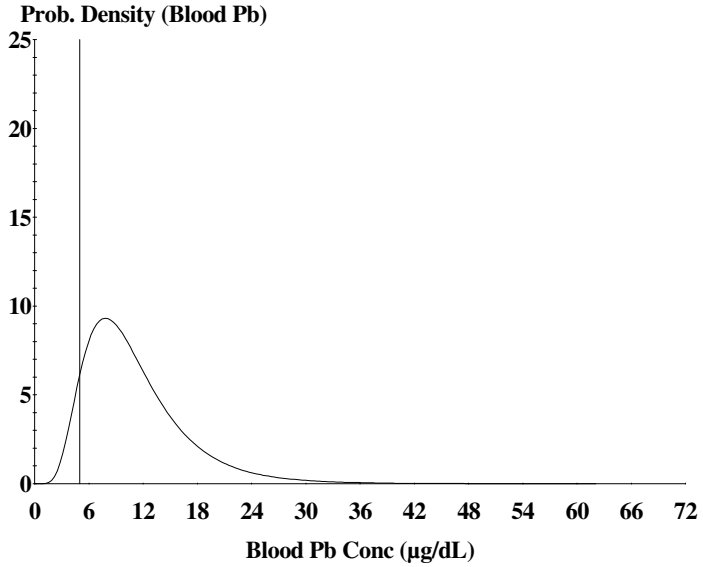
****** Maternal Contribution: Infant Model ******

Maternal Blood Concentration: 0.600 µg Pb/dL

**CALCULATED BLOOD LEAD AND LEAD UPTAKES:**

| Year | Air (µg/day) | Diet (µg/day) | Alternate (µg/day) | Water (µg/day) |
|---|---|---|---|---|
| 0.5-1 | 0.021 | 0.882 | 0 | 0.312 |
| 1-2 | 0.034 | 0.734 | 0 | 0.749 |
| 2-3 | 0.062 | 0.826 | 0 | 0.807 |
| 3-4 | 0.067 | 0.816 | 0 | 0.848 |
| 4-5 | 0.067 | 0.836 | 0 | 0.943 |
| 5-6 | 0.093 | 0.903 | 0 | 1.022 |
| 6-7 | 0.093 | 0.992 | 0 | 1.055 |

| Year | Soil+Dust (µg/day) | Total (µg/day) | Blood (µg/dL) |
|---|---|---|---|
| 0.5-1 | 19.873 | 21.089 | 11 |
| 1-2 | 30.28 | 31.797 | 12.8 |
| 2-3 | 31.354 | 33.049 | 12.1 |
| 3-4 | 32.347 | 34.078 | 11.7 |
| 4-5 | 25.68 | 27.526 | 9.7 |
| 5-6 | 23.741 | 25.759 | 8.2 |
| 6-7 | 22.754 | 24.894 | 7.2 |




**Cutoff = 5.000 µg/dl**
**Geo Mean = 10.156**
**GSD = 1.600**
**% Above = 93.418**
**% Below = 6.582**

**Age Range = 0 to 84 months**

**Run Mode = Research**
**Comment = UNDV+ UHC - Child recreator**

# Tables

**Table 1 FMP Exposure Areas and Receptors**

| Abbreviation | Description | Location | Current Land Use | Zoning | Media | Receptors |
|---|---|---|---|---|---|---|
| NFA | North of Foster Avenue | On-site | Commercial/Industrial | OTP | Soil | UW, CW, OW, Res |
| SFA | South of Foster Avenue | On-site | Commercial/Industrial | OTP | Soil | UW, CW, OW, Res |
| UNDV | Undeveloped Area | On-site and Off-site | Undeveloped | OTP, OR | Soil | UW, CW, OW, Rec, Res |
| EUSA | East of United States Avenue | Off-site | Street, Vacant Commercial/Industrial | OTP, PO | Soil | UW, CW, OW, Res |
| UHC | Upper Hilliards Creek | On-site and Off-site | Water | OTP, OR | SD, SW | Recreators |

Notes:

Receptors:

| | |
|---|---|
| UW | Utility Worker |
| CW | Construction Worker |
| OW | Outdoor Worker |
| Rec | Recreators: Adult, Adolescent, Child |
| Res | Residents: Adult and Child |

Zoning:

| | |
|---|---|
| OTP | Office Technical Park |
| OR | Office/Residential |
| PO | Professional Office |

Media:

| | |
|---|---|
| SD | Sediment |
| SW | Surface Water |

**Table 2 Number of Sample Locations by Exposure Area**

| Exposure Area | Soil | Sediment | Surface Water |
|---|---|---|---|
| EUSA | 25 | NA | NA |
| NFA | 161 | NA | NA |
| SFA | 86 | NA | NA |
| UNDV | 201 | NA | NA |
| UHC | NA | 15 | 11 |

Notes:

NA – Not applicable; medium not evaluated.

The table presents counts of locations, not sample counts.

**Table 3 Surrogate Screening Criteria**

| Analytes with No Screening Criterion | Surrogate Compound Used for Screening Criterion |
|---|---|
| 1,3-Dichlorobenzene | 1,4-Dichlorobenzene |
| 3-Nitroaniline | 4- Nitroaniline |
| 4-Nitrophenol | 2,4-Dinitrophenol |
| Acenaphthylene | Acenaphthene |
| Alpha-chlordane | Chlordane |
| Benzo(g,h,i)perylene | Pyrene |
| Delta-BHC | Beta-BHC |
| Dimethylphthalate | Diethyl Phthalate |
| Endosulfan II, Endosulfan Sulfate | Endosulfan |
| Endrin Aldehyde, Endrin Ketone | Endrin |
| Methylcyclohexane | Cyclohexane |
| Phenanthrene | Anthracene |
| Total-1,2-Dichloroethene | cis-1,2-Dichloroethene |
| m&p-Xylenes | m-Xylene |

**Table 4 Screening Criteria for Compounds with Multiple Forms**

| Analyte | Form Used for Screening Criterion |
|---|---|
| Antimony | Antimony (Metallic) |
| Cadmium | Cadmium (Diet) |
| Cyanide | Cyanide (CN-) |
| Lead | Lead and Compounds |
| Manganese | Manganese (Non-diet) |
| Mercury | Mercuric Chloride (and Other Mercury Salts) |
| Nickel | Nickel Soluble Salts |
| Thallium | Thallium Soluble Salts |
| Vanadium | Vanadium and Compounds |

**Table 5 Summary of COPCs**

| Group | Analyte | Soil | | | | | | | | Sediment | Surface Water | Screening Criteria | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0-10 ft | | | | 0-2 ft | | | | 0-0.5 ft | N/A | Soil/ Sediment | Surface Water |
| | | EUSA | NFA | SFA | UNDV | EUSA | NFA | SFA | UNDV | UHC | UHC | mg/kg | mg/L |
| METALS | ALUMINUM | | 6 | 1 | 14 | | 4 | 1 | 11 | 1 | | 7700 | 2 |
| METALS | ANTIMONY | | 8 | 16 | 72 | | 5 | 13 | 64 | 7 | 1 | 3.1 | 0.00078 |
| METALS | ARSENIC | 8 | 310 | 105 | 222 | 7 | 122 | 44 | 144 | 12 | 14 | 0.68 | 0.000052 |
| METALS | BARIUM | | 13 | 5 | 19 | | 3 | 3 | 13 | 2 | 2 | 1500 | 0.38 |
| METALS | CADMIUM | | 2 | 1 | 5 | | | 1 | 4 | | | 7.1 | 0.00092 |
| METALS | CHROMIUM | | | | | | | | | 14 | 3 | 0.3 | 0.000035 |
| METALS | CHROMIUM, HEXAVALENT | 8 | 29 | 17 | 20 | 6 | 18 | 12 | 12 | | | 0.3 | 0.000035 |
| METALS | COBALT | 1 | 55 | 24 | 94 | 1 | 39 | 14 | 76 | 3 | | 2.3 | 0.0006 |
| METALS | COPPER | | 1 | | 4 | | 1 | | 3 | 1 | | 310 | 0.08 |
| METALS | CYANIDE | | 53 | 45 | 87 | | 17 | 26 | 69 | 6 | 4 | 2.3 | 0.00015 |
| METALS | IRON | 5 | 153 | 43 | 117 | 5 | 65 | 21 | 92 | 6 | 12 | 5500 | 1.4 |
| METALS | LEAD | | 51 | 36 | 88 | | 22 | 20 | 77 | 4 | 4 | 400 | 0.015 |
| METALS | MANGANESE | | 23 | 5 | 29 | | 12 | 5 | 29 | | 14 | 180 | 0.043 |
| METALS | MERCURY | | | 2 | 22 | | | | 18 | | | 2.3 | 0.00057 |
| METALS | THALLIUM | 1 | 17 | 12 | 14 | 1 | 11 | 8 | 12 | 3 | 2 | 0.078 | 0.00002 |
| METALS | VANADIUM | | 8 | 1 | 13 | | 4 | 1 | 13 | | 1 | 39 | 0.0086 |
| METALS | ZINC | | 2 | 1 | 8 | | | 1 | 7 | | | 2300 | 0.6 |
| PEST/PCB | ALDRIN | | 2 | | | | | | | | | 0.039 | |
| PEST/PCB | AROCLOR-1248 | | | | | | 1 | | | | | 0.2 | |
| PEST/PCB | AROCLOR-1254 | | 5 | 5 | 10 | | 4 | 2 | 6 | 5 | | 0.12 | |
| PEST/PCB | AROCLOR-1260 | | 45 | | 34 | | 25 | | 32 | 2 | | 0.2 | |
| PEST/PCB | DIELDRIN | | 4 | | 4 | | 3 | | 4 | | | 0.034 | 0.0000018 |
| SVOC | 1,1'-BIPHENYL | | 3 | | | | | | | | | 4.7 | |
| SVOC | 2-METHYLNAPHTHALENE | | 1 | 1 | | | | | | | | 24 | |
| SVOC | BENZO(A)ANTHRACENE | | 78 | 53 | 116 | | 46 | 40 | 98 | 14 | | 0.16 | 0.000012 |
| SVOC | BENZO(A)PYRENE | 4 | 176 | 90 | 175 | 4 | 98 | 49 | 133 | 14 | 1 | 0.016 | 0.0000034 |
| SVOC | BENZO(B)FLUORANTHENE | | 93 | 60 | 124 | | 54 | 43 | 104 | 14 | 1 | 0.16 | 0.000034 |
| SVOC | BENZO(K)FLUORANTHENE | | 13 | 18 | 64 | | 7 | 15 | 58 | 8 | | 1.6 | 0.00034 |
| SVOC | CARBAZOLE | | 2 | | | | | | | | | 24 | |
| SVOC | CHRYSENE | | 4 | 6 | 4 | | 1 | 6 | 4 | 1 | | 16 | 0.0034 |
| SVOC | DIBENZO(A,H)ANTHRACENE | 1 | 105 | 60 | 135 | 1 | 66 | 40 | 109 | 13 | | 0.016 | 0.0000034 |
| SVOC | DIBENZOFURAN | | 3 | | | | | | | | | 7.3 | |
| SVOC | INDENO(1,2,3-CD)PYRENE | | 56 | 43 | 104 | | 35 | 35 | 89 | 14 | 1 | 0.16 | 0.000034 |
| SVOC | NAPHTHALENE | | 24 | 12 | | | 4 | 4 | | | 2 | 3.8 | 0.00017 |
| SVOC | PENTACHLOROPHENOL | | | 3 | 20 | | | | 8 | | | 1 | 0.000041 |
| VOC | 1,4-DICHLOROBENZENE | | | | | | | | | | 1 | 2.6 | 0.00048 |
| VOC | BENZENE | | 6 | 2 | | | 1 | 1 | | | 4 | 1.2 | 0.00046 |
| VOC | DICHLOROMETHANE | | | | | | | | | | 3 | 34 | 0.011 |
| VOC | ETHYLBENZENE | | 31 | 5 | | | 5 | 3 | | | | 5.8 | 0.0015 |
| VOC | METHYLCYCLOHEXANE | | 1 | | | | 1 | | | | | 650 | 1.3 |
| VOC | TRICHLOROETHYLENE (TCE) | | 2 | | | | 1 | | | | | 0.41 | |
| VOC | VINYL CHLORIDE | | | | | | | | | | 1 | 0.059 | 0.000019 |
| VOC | XYLENES (TOTAL) | | 14 | 2 | | | | 1 | | | | 58 | 0.019 |

Notes:

Table lists the number of samples with exceedances for each analyte.

Analytes that are COPCs in at least one exposure area are presented.

## Table 6 Analytes Eliminated as COPCs Due to Low Detection Frequency

### Table 6a Summary – All Exposure Areas Combined

| Medium | Exposure Area | Group | Analyte | Detected | Sampled | Minimum Detected | Maximum Detected | Screening Criteria | Units | # Samples > Criteria |
|---|---|---|---|---|---|---|---|---|---|---|
| Soil (0-10 ft) | All | PEST/PCB | AROCLOR-1248 | 7 | 569 | 0.038 | 0.44 | 0.2 | mg/kg | 1 |
| Soil (0-10 ft) | All | SVOC | 1,2,4,5-TETRACHLOROBENZENE | 5 | 557 | 0.011 | 4.4 | 2.3 | mg/kg | 1 |
| Soil (0-10 ft) | All | SVOC | 2,6-DINITROTOLUENE | 1 | 709 | 1.2 | 1.2 | 0.36 | mg/kg | 1 |
| Soil (0-10 ft) | All | VOC | 2-HEXANONE | 2 | 462 | 0.069 | 860 | 20 | mg/kg | 1 |
| Soil (0-10 ft) | All | VOC | BROMOMETHANE | 3 | 462 | 0.0017 | 1.5 | 0.68 | mg/kg | 1 |

### Table 6b Detailed Results

| Medium | Exposure Area | Group | Analyte | Top Depth | Bottom Depth | Station | Date | Result | Qualifier | Units | Screening Criteria | Detection Frequency | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | 0-10 ft | 0-2 ft |
| Soil | NFA | PEST/PCB | AROCLOR-1248 | 0 | 0.5 | MPSB0086 | 3/25/2010 | 0.097 | J | mg/kg | 0.2 | 2.5% | Retained as COPC |
| Soil | NFA | PEST/PCB | AROCLOR-1248 | 0 | 0.5 | MPSB0022 | 12/9/2009 | 0.13 | | mg/kg | | | |
| Soil | NFA | PEST/PCB | AROCLOR-1248 | 0 | 0.5 | MPSB0024 | 12/10/2009 | 0.072 | | mg/kg | | | |
| Soil | NFA | PEST/PCB | AROCLOR-1248 | 1.5 | 2 | MPSB0019 | 12/8/2009 | 0.44 | | mg/kg | | | |
| Soil | NFA | PEST/PCB | AROCLOR-1248 | 1.5 | 2 | MPSB0020 | 12/8/2009 | 0.12 | J | mg/kg | | | |
| Soil | NFA | PEST/PCB | AROCLOR-1248 | 1.5 | 2 | MPSB0022 | 12/9/2009 | 0.038 | J | mg/kg | | | |
| Soil | NFA | PEST/PCB | AROCLOR-1248 | 1.5 | 2 | MPSB0024 | 12/10/2009 | 0.042 | | mg/kg | | | |
| Soil | NFA | SVOC | 1,2,4,5-TETRACHLOROBENZENE | 0 | 0.5 | MPSB0148 | 10/1/2012 | 0.011 | J | mg/kg | 2.3 | 1.6% | 2.7% |
| Soil | NFA | SVOC | 1,2,4,5-TETRACHLOROBENZENE | 0 | 2 | ERTSB-012 | 2/24/2015 | 0.04 | J | mg/kg | | | |
| Soil | NFA | SVOC | 1,2,4,5-TETRACHLOROBENZENE | 1.5 | 2 | MPSB0144 | 9/25/2012 | 0.031 | J | mg/kg | | | |
| Soil | NFA | SVOC | 1,2,4,5-TETRACHLOROBENZENE | 2 | 4 | ERTSB-012 | 2/24/2015 | 0.067 | J | mg/kg | | | |
| Soil | NFA | SVOC | 1,2,4,5-TETRACHLOROBENZENE | 4.5 | 5 | MPSB0143 | 9/25/2012 | 4.4 | | mg/kg | | | |
| Soil | NFA | SVOC | 2,6-DINITROTOLUENE | 8 | 9.6 | TB-38 | 7/6/1993 | 1.2 | J | mg/kg | 0.36 | 0.3% | Not a COPC |
| Soil | NFA | VOC | 2-HEXANONE | 1.5 | 2 | MPSB0151 | 10/2/2012 | 860 | | mg/kg | 20 | 0.5% | 1.6% |
| Soil | SFA | VOC | 2-HEXANONE | 4.75 | 5 | TB-91 | 2/5/1999 | 0.069 | | mg/kg | | Not a COPC | Not a COPC |
| Soil | NFA | VOC | BROMOMETHANE | 4.5 | 5 | MPSB0150 | 10/1/2012 | 1.5 | J | mg/kg | 0.68 | 1.0% | Not a COPC |
| Soil | NFA | VOC | BROMOMETHANE | 6 | 6.5 | MPSB0150 | 10/1/2012 | 0.098 | J | mg/kg | | | |
| Soil | EUSA | VOC | BROMOMETHANE | 1.5 | 2 | MPSB0079 | 3/22/2010 | 0.0017 | J | mg/kg | | Not a COPC | Not a COPC |

Notes:

Shading – Concentration exceeds respective screening criterion.

Not a COPC – Compound is not a COPC because maximum concentration for exposure area and depth is below screening criterion or compound is not detected in depth interval specified.

## Table 7 TICs Retained as COPCs

| Analyte | Soil, 0-10 ft | | | | Soil, 0-2 ft | | | | Sediment, 0-0.5 ft |
|---|---|---|---|---|---|---|---|---|---|
| | EUSA | NFA | SFA | UNDV | EUSA | NFA | SFA | UNDV | UHC |
| (TIC) 1,1-BIPHENYL, 2,3,4,4,5,5-HEXACHLORO | | | | | | 6 | | | |
| (TIC) 1,2,4-TRIMETHYLBENZENE | | 12 | 4 | | | | | | |
| (TIC) BENZENE, 1,2,3-TRIMETHYL- | | 12 | 5 | | | | | | |
| (TIC) BENZENE, 1,3,5-TRIMETHYL- | | 7 | 2 | | | | | | |
| (TIC) BENZO[J]FLUORANTHENE | | | | | | 5 | 1 | | 2 |
| (TIC) NAPHTHALENE, 1-METHYL- | | 1 | | | | | | | |

Notes:

Table lists the number of samples with exceedances for each TIC.

No TICs with screening levels were detected in surface water.

**Table 8 Adult Lead Model Input Values**

| Term | Definition | Value |
|---|---|---|
| $PbB_0$ | Geometric mean baseline blood lead level (BLL, µg/dL) for adult females (age 18-45 years) | 0.6 |
| GSD | Geometric standard deviation for adult females | 1.8 |
| EF | Exposure frequency (days/year) | Receptor-specific:<br>219 (Outdoor Worker, Construction Worker)<br>150 (Recreator)<br>10 (Utility Worker) |
| AT | Averaging time (days) | 365 |
| PbS | Soil lead concentration (µg/g) | Area-specific |
| IR | Soil ingestion rate (g/day) | Receptor-specific:<br>0.05 (Recreator, Outdoor Worker)<br>0.10 (Construction Worker, Utility Worker) |
| AF | Fraction of ingested lead absorbed into the blood stream (dimensionless), assuming 20% absorption of soluble lead and 60% relative bioavailability | 0.12 |
| BKSF | Biokinetic slope factor (change in blood lead per µg change in daily lead uptake) (µg/dL per µg/day) | 0.4 |
| $R_{fetal/maternal}$ | Fetal/maternal PbB ratio | 0.9 |

**Table 9 IEUBK Model Input Values**

| Parameter | Input Value |
|---|---|
| Air Concentration (µg Pb/m$^3$) | 0.1 (default) |
| Dietary Lead Intake (µg/day) | Model default ranges from 1.95-2.26 |
| Drinking Water Concentration (µg Pb/L) | Model default of 4 µg/L |
| Water Consumption (L/day) | Model default ranges from 0.2-0.59 |
| Soil and Dust Ingestion Rate (g/day) | Model default ranges from 0.085-0.135 |
| Soil Concentration (µg Pb/g) | Exposure Area-specific, arithmetic mean |
| House Dust (µg Pb/g) | Model-calculated as 70% of soil concentration |
| Absorption Fraction (%) | Model default of 30% for soil and dust<br>Model default of 50% for diet and water |
| Maternal Blood Concentration (µg Pb/dL) | 0.6 |

**Table 10 Summary of Total Cancer Risks and Non-cancer Hazards by Exposure Area**

| Exposure Area | Utility Worker | | Construction Worker | | Outdoor Worker | | Resident | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total Excess Lifetime Cancer Risk | Non-cancer Hazard | Total Excess Lifetime Cancer Risk | Non-cancer Hazard | Total Excess Lifetime Cancer Risk | Non-cancer Hazard | Total Excess Lifetime Cancer Risk | Non-cancer Hazard, Child | Non-cancer Hazard, Adult |
| EUSA | 1E-07 | 0.007 | 1E-07 | 0.2 | 9E-07 | 0.05 | 8E-06 | 0.8 | 0.07 |
| NFA | 5E-06 | 0.3 | 5E-06 | **6** | 2E-05 | 0.5 | **2E-04** | **7** | 0.9 |
| SFA | 1E-06 | 0.06 | 1E-06 | 1 | 2E-05 | 0.5 | **3E-04** | **7** | 0.9 |
| UNDV | 8E-06 | 0.08 | 8E-06 | **2** | 4E-05 | 0.8 | **3E-04** | **10** | **2** |

**Assuming 5% Cr(VI) in Sediment:**

| Exposure Area | Child Recreator | | Adolescent Recreator | | Adult Recreator | |
|---|---|---|---|---|---|---|
| | Total Excess Lifetime Cancer Risk | Non-cancer Hazard | Total Excess Lifetime Cancer Risk | Non-cancer Hazard | Total Excess Lifetime Cancer Risk | Non-cancer Hazard |
| UNDV+UHC | **1E-03** | **12** | 1E-04 | **3** | **2E-04** | **2** |

**Assuming 100% Cr(VI) in Sediment:**

| Exposure Area | Child Recreator | | Adolescent Recreator | | Adult Recreator | |
|---|---|---|---|---|---|---|
| | Total Excess Lifetime Cancer Risk | Non-cancer Hazard | Total Excess Lifetime Cancer Risk | Non-cancer Hazard | Total Excess Lifetime Cancer Risk | Non-cancer Hazard |
| UNDV+UHC | **4E-03** | **13** | **2E-04** | **3** | **2E-04** | **2** |

Notes:

**BOLD** – Cancer Risk >1 x $10^{-4}$ or Hazard Index > 1.

Blank – Receptor not evaluated in this exposure area.

**Table 11 Summary of Lead Risks**

| Exposure Area | Exposed Media | Receptor | Lead EPC (mg/kg) | GM BLL (µg/dL) | Predicted Probability of BLL > 5 µg/dL (%) |
|---|---|---|---|---|---|
| NFA | Soil (0-10 ft) | Utility Worker | 296 | 0.6 | 0.01% |
| NFA | Soil (0-10 ft) | Construction Worker | 296 | 1.5 | 1% |
| NFA | Soil (0-2 ft) | Outdoor Worker | 303 | 1.0 | 0.2% |
| NFA | Soil (0-0.5 ft) | Child Resident | 230 | 3.0 | **14%** |
| SFA | Soil (0-10 ft) | Utility Worker | 911 | 0.7 | 0.03% |
| SFA | Soil (0-10 ft) | Construction Worker | 911 | 3.2 | **18%** |
| SFA | Soil (0-2 ft) | Outdoor Worker | 1,880 | 3.3 | **19%** |
| SFA | Soil (0-0.5 ft) | Child Resident | 2,925 | 19 | **99.8%** |
| UNDV | Soil (0-10 ft) | Utility Worker | 682 | 0.7 | 0.02% |
| UNDV | Soil (0-10 ft) | Construction Worker | 682 | 2.6 | **9%** |
| UNDV | Soil (0-2 ft) | Outdoor Worker | 665 | 1.6 | 2% |
| UNDV | Soil (0-0.5 ft) | Child Resident | 339 | 3.9 | **31%** |
| UNDV+UHC | Soil (0-2 ft) + Sediment (0-0.5 ft) | Child Recreator | 1,189 | 10 | **93%** |
| UNDV+UHC | Soil (0-2 ft) + Sediment (0-0.5 ft) | Adult Recreator | 1,189 | 1.8 | 3% |

Notes:

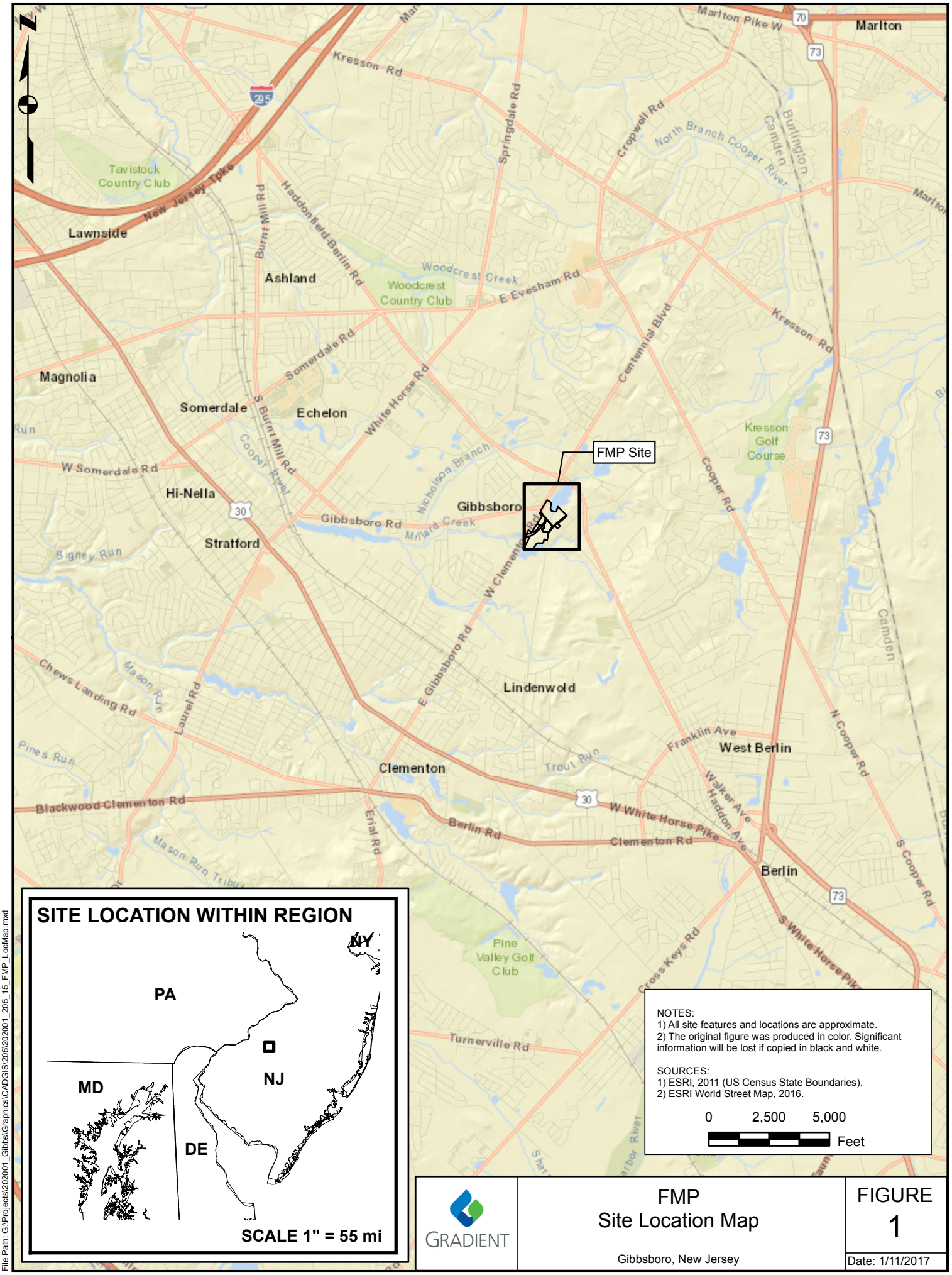
BLL – Blood Lead Level; EPC – Exposure Point Concentration; GM – Geometric Mean.

**BOLD** – Predicted probability >5%.

**Table 12 COPCs that Would Be Eliminated if Pre-2005 Data Were Removed from HHRA**

| Media | Exposure Area | Group | Chemical |
|---|---|---|---|
| Soil 0-10 ft | NFA | SVOC | 2-METHYLNAPHTHALENE |
| Soil 0-10 ft | NFA | VOC | TRICHLOROETHYLENE (TCE) |
| Soil 0-10 ft | SFA | METALS | CADMIUM |
| Soil 0-10 ft | SFA | METALS | ZINC |
| Soil 0-10 ft | SFA | SVOC | 2-METHYLNAPHTHALENE |
| Soil 0-10 ft | SFA | VOC | XYLENES (TOTAL) |
| Soil 0-2 ft | NFA | VOC | BENZENE |
| Soil 0-2 ft | NFA | VOC | TRICHLOROETHYLENE (TCE) |
| Soil 0-2 ft | SFA | METALS | CADMIUM |
| Soil 0-2 ft | SFA | METALS | ZINC |
| Soil 0-2 ft | SFA | VOC | XYLENES (TOTAL) |
| Soil 0-2 ft | UNDV | METALS | COPPER |
| Sediment | NONE | NONE | NONE |
| Surface Water | UHC | METALS | CHROMIUM |
| Surface Water | UHC | METALS | VANADIUM |
| Surface Water | UHC | SVOC | BENZO(A)PYRENE |
| Surface Water | UHC | SVOC | BENZO(B)FLUORANTHENE |
| Surface Water | UHC | SVOC | INDENO(1,2,3-CD)PYRENE |
| Surface Water | UHC | VOC | DICHLOROMETHANE |

# Figures




GRADIENT

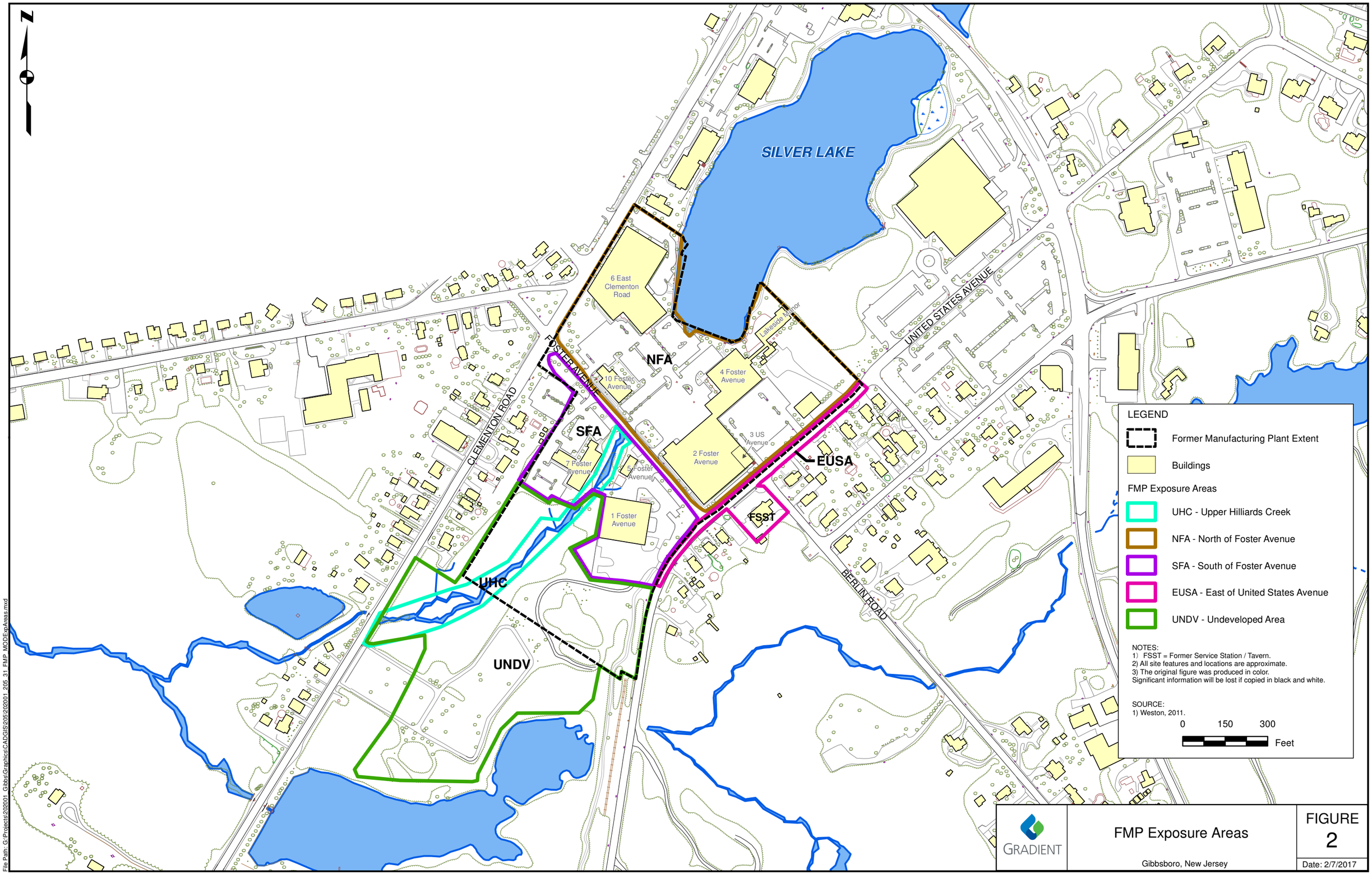
FMP
Site Location Map

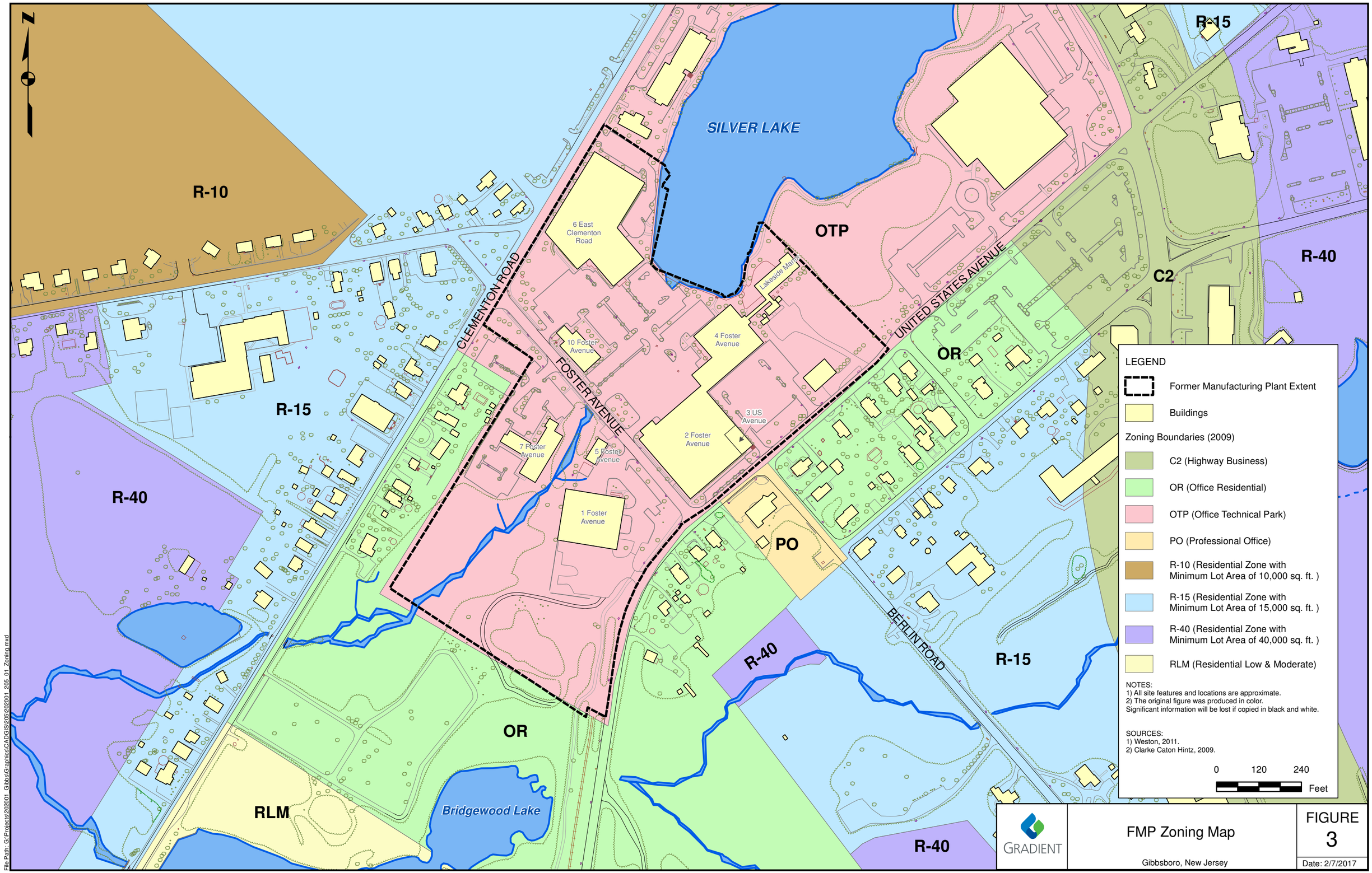
Gibbsboro, New Jersey

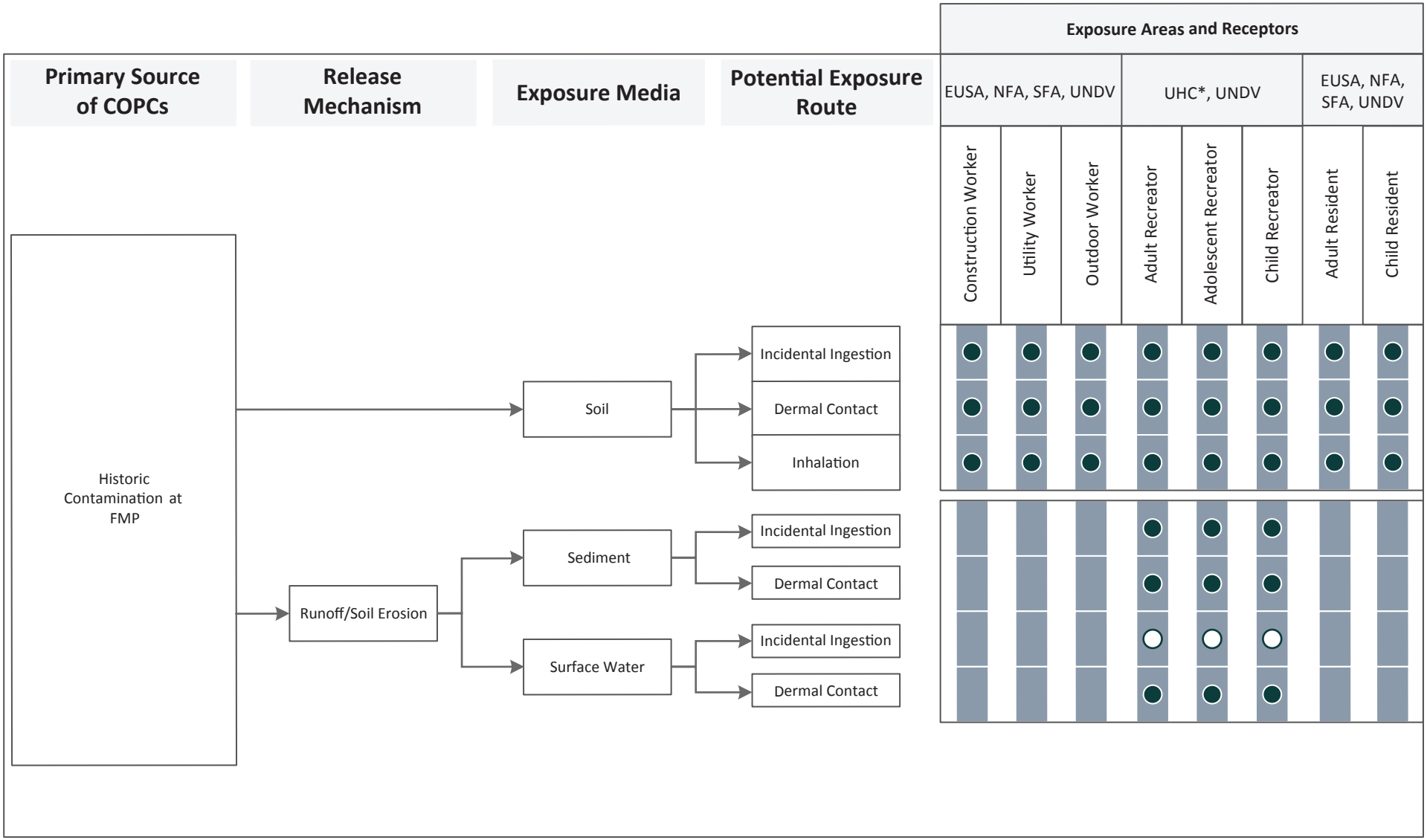
FIGURE
1

Date: 1/11/2017

File Path: G:\Projects\202001_Gibbs\Graphics\CADGIS\205\202001_205_15_FMP_LocMap.mxd


N
SILVER LAKE
6 East Clementon Road
NFA
FOSTER AVENUE
10 Foster Avenue
4 Foster Avenue
Lakeside Manor
SFA
7 Foster Avenue
5 Foster Avenue
2 Foster Avenue
3 US Avenue
1 Foster Avenue
EUSA
FSST
UNITED STATES AVENUE
CLEMENTON ROAD
BERLIN ROAD
UHC
UNDV
LEGEND
Former Manufacturing Plant Extent
Buildings
FMP Exposure Areas
UHC - Upper Hilliards Creek
NFA - North of Foster Avenue
SFA - South of Foster Avenue
EUSA - East of United States Avenue
UNDV - Undeveloped Area
NOTES:
1) FSST = Former Service Station / Tavern.
2) All site features and locations are approximate.
3) The original figure was produced in color.
Significant information will be lost if copied in black and white.
SOURCE:
1) Weston, 2011.
0 150 300
Feet
GRADIENT
FMP Exposure Areas
Gibbsboro, New Jersey
FIGURE 2
Date: 2/7/2017
File Path: G:\Projects\202001_Gibbs\Graphics\CADGIS\205\202001_205_31_FMP_MODExpAreas.mxd


SILVER LAKE
R-10
R-15
R-40
C2
OTP
OR
PO
RLM
Bridgewood Lake
CLEMENTON ROAD
FOSTER AVENUE
UNITED STATES AVENUE
BERLIN ROAD
6 East Clementon Road
10 Foster Avenue
4 Foster Avenue
3 US Avenue
2 Foster Avenue
7 Foster Avenue
5 Foster Avenue
1 Foster Avenue
LEGEND
Former Manufacturing Plant Extent
Buildings
Zoning Boundaries (2009)
C2 (Highway Business)
OR (Office Residential)
OTP (Office Technical Park)
PO (Professional Office)
R-10 (Residential Zone with Minimum Lot Area of 10,000 sq. ft. )
R-15 (Residential Zone with Minimum Lot Area of 15,000 sq. ft. )
R-40 (Residential Zone with Minimum Lot Area of 40,000 sq. ft. )
RLM (Residential Low & Moderate)
NOTES:
1) All site features and locations are approximate.
2) The original figure was produced in color.
Significant information will be lost if copied in black and white.
SOURCES:
1) Weston, 2011.
2) Clarke Caton Hintz, 2009.
0 120 240
Feet
GRADIENT
FMP Zoning Map
Gibbsboro, New Jersey
FIGURE 3
Date: 2/7/2017
File Path: G:\Projects\202\01 Gibbs\Graphics\CAD\GIS\205\202\01 205_01 Zoning.mxd




* The three Recreators are exposed to soil in UNDV, plus sediment and surface water in UHC.

COPCs = Chemicals of Potential Concern

Exposure Areas:

EUSA = East of United States Avenue
NFA = North of Foster Avenue
SFA = South of Foster Avenue
SL = Silver Lake
SRA = South Residential Area
UHC = Upper Hilliards Creek
UNDV = Undeveloped Area

- Complete and significant
- Complete but insignificant
- Incomplete

GRADIENT

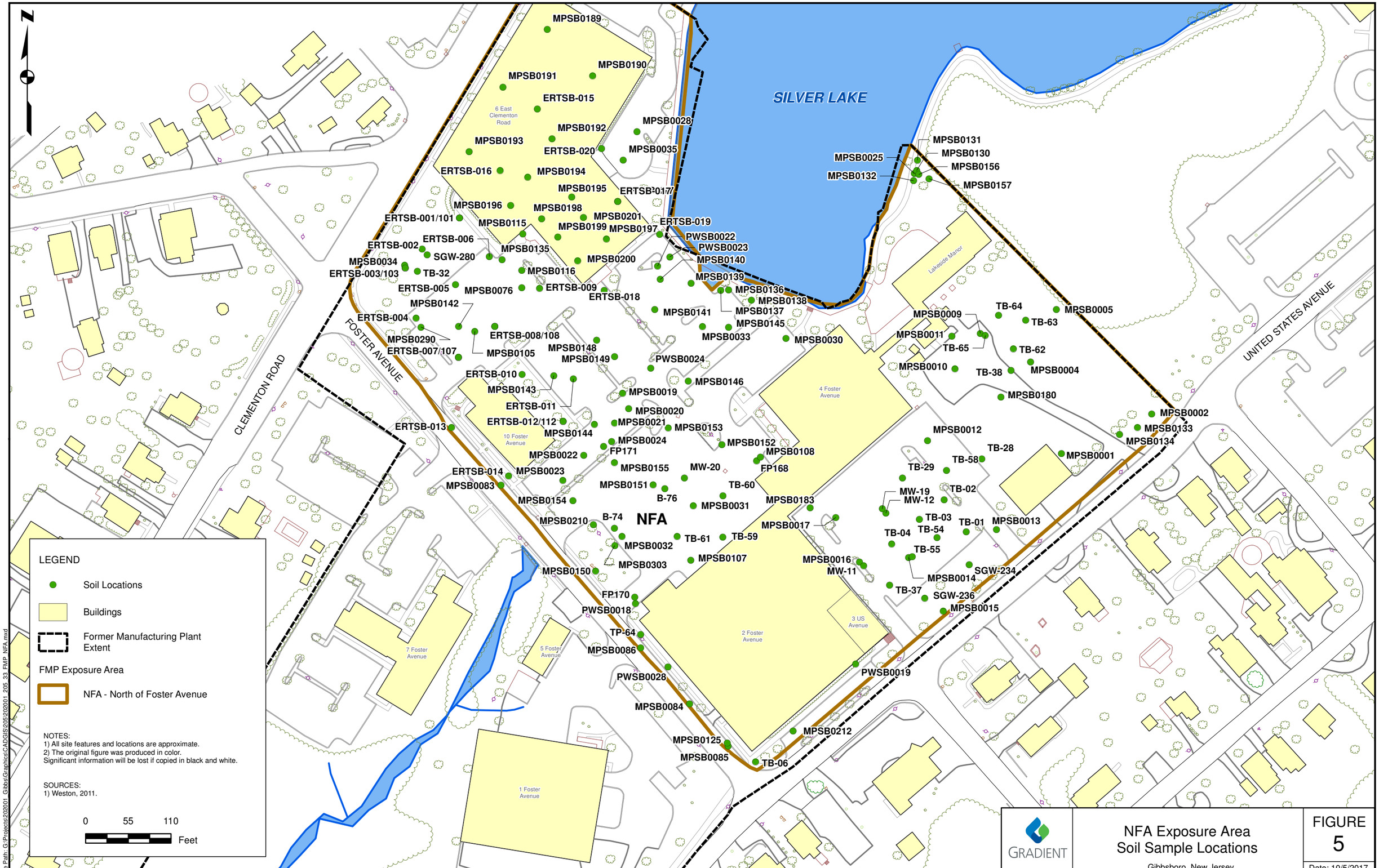
Conceptual Site Model
Former Manufacturing Plant (FMP)

Gibbsboro, New Jersey

FIGURE 4

Date: 09/12/2017

File Path: G_Drive\Groups\Graphics\216009\CSM_FormerManufacturingPlant.ai



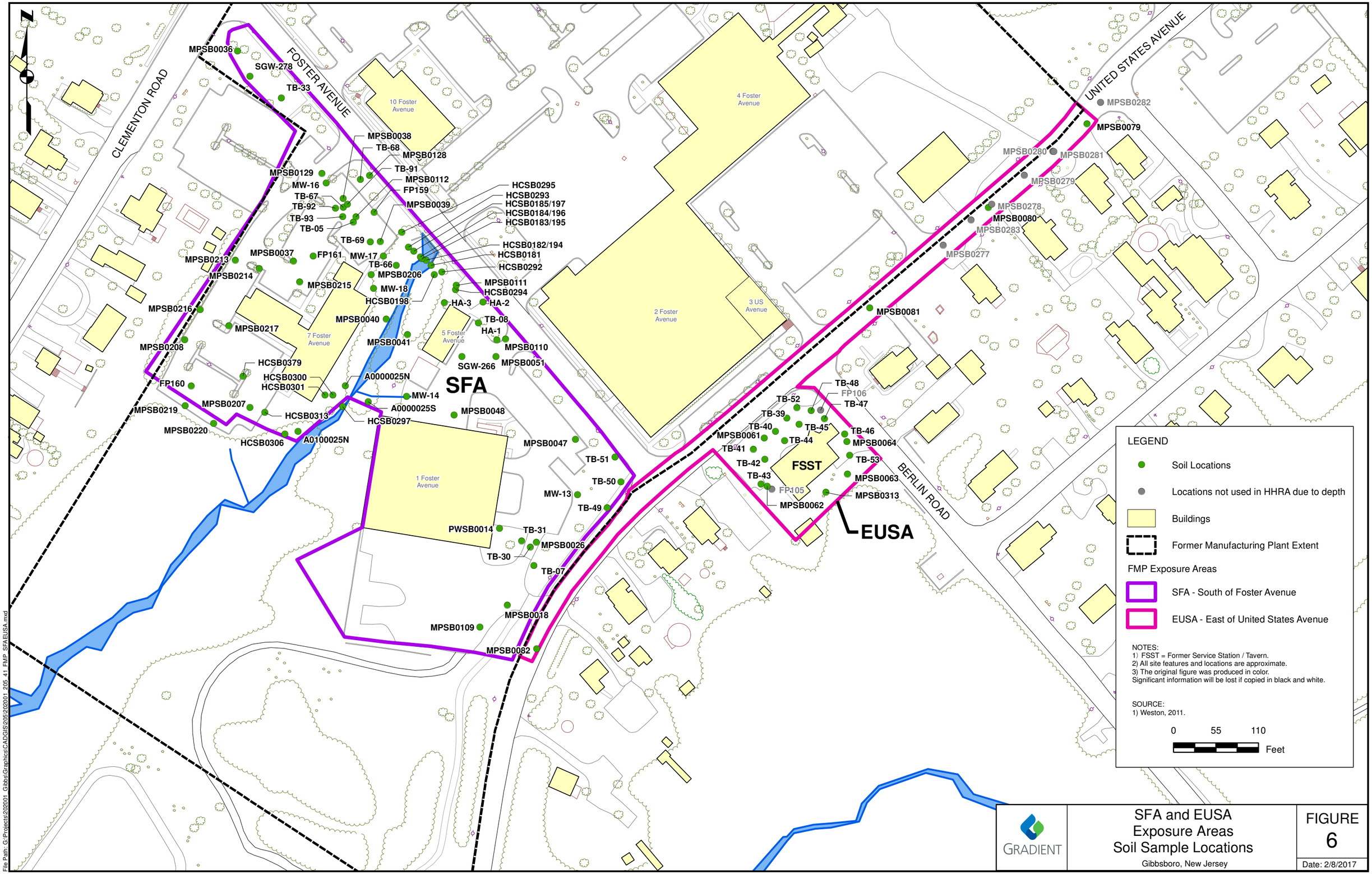

GRADIENT

NFA Exposure Area
Soil Sample Locations

Gibbsboro, New Jersey

FIGURE
5

Date: 10/5/2017



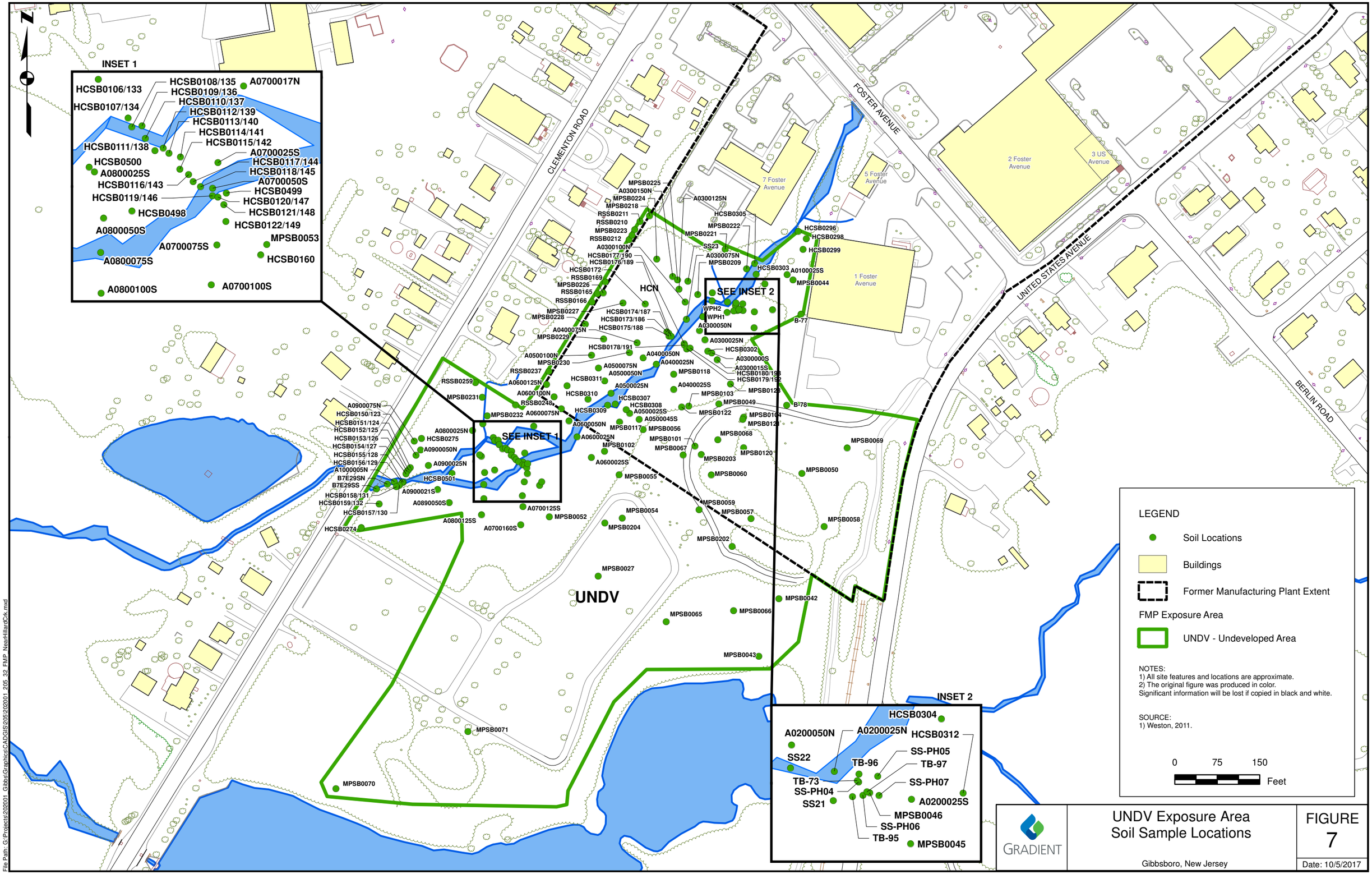

GRADIENT

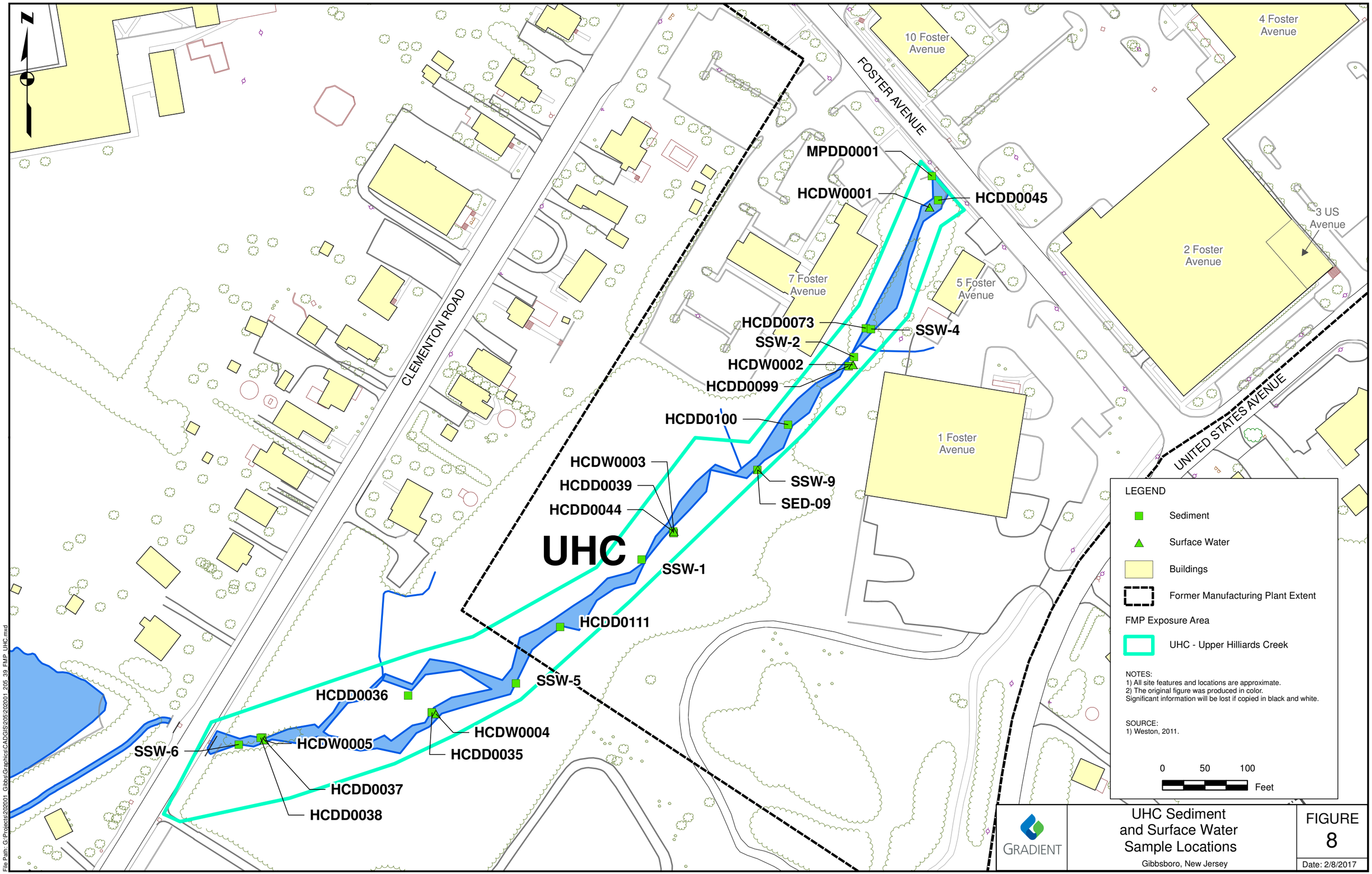
SFA and EUSA
Exposure Areas
Soil Sample Locations

Gibbsboro, New Jersey

FIGURE
6

Date: 2/8/2017


N
INSET 1
HCSB0106/133
HCSB0107/134
HCSB0108/135
HCSB0109/136
HCSB0110/137
HCSB0112/139
HCSB0113/140
HCSB0114/141
HCSB0115/142
A0700017N
HCSB0111/138
HCSB0500
A0800025S
HCSB0116/143
HCSB0119/146
HCSB0498
A0800050S
A0800075S
A0700075S
A0700025S
HCSB0117/144
HCSB0118/145
A0700050S
HCSB0499
HCSB0120/147
HCSB0121/148
HCSB0122/149
MPSB0053
HCSB0160
A0800100S
A0700100S
CLEMENTON ROAD
FOSTER AVENUE
UNITED STATES AVENUE
BERLIN ROAD
7 Foster Avenue
5 Foster Avenue
2 Foster Avenue
3 US Avenue
1 Foster Avenue
HCN
SEE INSET 2
SEE INSET 1
UNDV
INSET 2
HCSB0304
A0200050N
A0200025N
HCSB0312
SS22
SS-PH05
TB-96
TB-97
TB-73
SS-PH07
SS-PH04
SS21
A0200025S
MPSB0046
SS-PH06
TB-95
MPSB0045
LEGEND
Soil Locations
Buildings
Former Manufacturing Plant Extent
FMP Exposure Area
UNDV - Undeveloped Area
NOTES:
1) All site features and locations are approximate.
2) The original figure was produced in color.
Significant information will be lost if copied in black and white.
SOURCE:
1) Weston, 2011.
0
75
150
Feet
GRADIENT
UNDV Exposure Area
Soil Sample Locations
Gibbsboro, New Jersey
FIGURE
7
Date: 10/5/2017
File Path: G:\Projects\202001_Gibbs\Graphics\CAD\GIS\205\202001_205_32_FMP_NeartHillardCrk.mxd


N
CLEMENTON ROAD
FOSTER AVENUE
UNITED STATES AVENUE
10 Foster Avenue
4 Foster Avenue
2 Foster Avenue
3 US Avenue
7 Foster Avenue
5 Foster Avenue
1 Foster Avenue
UHC
MPDD0001
HCDW0001
HCDD0045
HCDD0073
SSW-4
SSW-2
HCDW0002
HCDD0099
HCDD0100
HCDW0003
HCDD0039
HCDD0044
SSW-9
SED-09
SSW-1
HCDD0111
SSW-5
HCDD0036
HCDW0004
HCDW0005
HCDD0035
SSW-6
HCDD0037
HCDD0038
LEGEND
Sediment
Surface Water
Buildings
Former Manufacturing Plant Extent
FMP Exposure Area
UHC - Upper Hilliards Creek
NOTES:
1) All site features and locations are approximate.
2) The original figure was produced in color.
Significant information will be lost if copied in black and white.
SOURCE:
1) Weston, 2011.
0 50 100
Feet
GRADIENT
UHC Sediment and Surface Water Sample Locations
Gibbsboro, New Jersey
FIGURE 8
Date: 2/8/2017
File Path: G:\Projects\202001_Gibbs\Graphics\CAD\GIS\205\202001_205_39_FMP_UHC.mxd