ORIGINAL

RECORD OF DECISION

Site 8, Former Incinerator Area
United States Coast Guard YARD
Baltimore, Maryland

UNITED STATES COAST GUARD

United States Environmental Protection Agency
Region III

MDE

Maryland Department of the Environment

TETRA TECH

PITT 09-11-002

September 19, 2011

Mr. Robert DeMarco
Mail Stop 10, Facilities Management, Building 4
U.S. Coast Guard YARD
2401 Hawkins Point Road
Baltimore, MD 21226-1797

Reference: a. Contract DTCG83-08-D-3CL109; A/E Services for Misc. Environmental Projects
b. Task Order HSCG83-09-J-3YD104 Site 8 Misc CERCLA Services

Subject: YARD Site 8 (Former Incinerator Area) Record of Decision

Dear Mr. DeMarco:

Enclosed please find three (3) copies of the final Site 8 Record of Decision. Should you have any questions regarding the enclosed document, please contact the Project Manager, Mr. Mark Sladic at (412) 921-8216 or myself at (412) 921-8415.

Very truly yours,

Roger A. Clark, Ph.D.
Program Manager

Enclosure

Cc: Jerry Hoover, USEPA (3 copies)
Kurt Scarbro, MDE (2 copies)
Scott Nesbit, TtNUS PGH (1 copy)
Mark Sladic, TtNUS PGH (1 copy)
Jacquie Speakman, TtNUS PGH (letter only)
File 112G02011

Tetra Tech
661 Andersen Drive, Pittsburgh, PA 15220-2700
Tel 412.921.7090 Fax 412.921.4040 www.tetratech.com

RECORD OF DECISION

Site 8, Former Incinerator Area
United States Coast Guard YARD
Baltimore, Maryland

UNITED STATES COAST GUARD

United States Environmental Protection Agency
Region III

MDE

Maryland Department of the Environment

CONTENTS

LIST OF ACRONYMS AND ABBREVIATIONS

LIST OF ACRONYMS AND ABBREVIATIONS

bgs	below ground surface
CAG	Community Advisory Group
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	chemical of concern
COPC	chemical of potential concern
CSF	Cancer Slope Factor
CSM	Conceptual Site Model
CTE	Central Tendency Exposure
cy	cubic yard
EE/CA	Engineering Evaluation/Cost Analysis
HHRA	Human Health Risk Assessment
HI	Hazard Index
HQ	Hazard Quotient
ILCR	incremental lifetime cancer risk
MDE	Maryland Department of the Environment
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
RACR	Removal Action Completion Report
RAO	removal action objective
RBC	Risk-Based Concentration
RCRA	Resource Conservation and Recovery Act
RDC	Coast Guard Research and Development Center
RfD	reference dose
RI	Remedial Investigation
RME	reasonable maximum exposure
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act
SI	Site Inspection
SVOC	semivolatile organic compound
TAL	target analyte list
TCDD	tetrachlorodibenzo-p-dioxin
TCL	target compound list
TCRA	Time Critical Removal Action
TEQ	Toxicity Equivalent

Tetra Tech	Tetra Tech NUS, Inc.
µg/L	microgram per liter
USC	United States Code
USCG	United States Coast Guard
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound
YARD	United States Coast Guard Baltimore Yard

RECORD OF DECISION

SITE NAME AND LOCATION

United States Coast Guard – Baltimore YARD
Site 8 – Former Incinerator Area
Baltimore, Maryland
USEPA ID No. MD4690307844

1.0 DECLARATION

1.1 STATEMENT OF BASIS AND PURPOSE

This Record of Decision (ROD) presents the selected remedy that *no further action* is necessary to protect the public health and the environment at Site 8 (Former Incinerator Area), Curtis Bay United States Coast Guard (USCG) Yard (YARD), Baltimore, Maryland. The determination has been made in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA) and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

This decision is based on information contained in the Administrative Record file for the YARD. The USCG and USEPA Region III issue this ROD jointly. The Maryland Department of the Environment (MDE) concurs with the no further action decision. A letter from MDE indicating concurrence is provided in Appendix A.

1.2 DESCRIPTION OF THE DECISION

Site 8 consists of slightly less than one acre of undeveloped land. The former incinerator (Building 53) was used at the YARD beginning in the 1930s or 1940s. The materials to be incinerated reportedly consisted of general YARD refuse, including cardboard boxes, wooden pallets, paper, and burnable trash. There are no reports of burning liquid fuels, liquid solvents, paints, or polychlorinated biphenyl (PCB)-containing oils, and there are no reports of materials being brought from non-YARD sources to be burned in the incinerator. The incinerator ash may have been disposed off-site or at Site 9 due to its proximity to the incinerator and history as a disposal unit. A bulk storage area along the eastern Site 8 boundary was used for shipbuilding materials including wooden boats.

A Remedial Investigation (RI) including a human health risk assessment was performed to assess potential risk and the need for additional sampling at Site 8. Under potential future land use scenarios,

unacceptable risks were identified for future site residents from exposure to subsurface soil containing polycyclic aromatic hydrocarbons (PAHs), dioxins/furans, PCBs (Aroclor-1254 and Aroclor-1260), and arsenic.

Groundwater samples collected at Site 8 contained concentrations of manganese that exceeded human health screening criteria. However, after a comprehensive evaluation of the groundwater data and site conditions, it was determined that groundwater at this site does not pose an unacceptable risk. No unacceptable risks to ecological receptors were associated with the site, primarily due to lack of habitat.

To address the potential risk posed by the subsurface soil around the former incinerator's footprint, a Time Critical Removal Action (TCRA) was performed which included the excavation and off-site disposal of surface and subsurface soil containing carcinogenic PAHs, dioxins/furans, PCBs (Aroclor-1254 and Aroclor-1260), and arsenic. The components of the removal action, including installation and maintenance of erosion and sediment controls, waste characterization, removal verification sampling, equipment decontamination, and site restoration were completed in accordance with the Removal Action Work Plan prepared for the project.

The verification sampling performed after the TCRA confirmed that residual soil contamination was not present at levels that may pose a risk to human health or the environment. After the proposed volumes of contaminated soil were removed at each of the excavation areas, additional excavation was performed based on a visual inspection. The relative locations of the excavation areas are shown on Figure 2-4. Approximately twice the volume of soil estimated for excavation was removed as a conservative measure to ensure all potentially contaminated soil was removed. Removal of the contaminated soil mitigated the potential direct contact threat posed by the contaminants in the soil and the threat of release and migration through leaching of contaminants to groundwater. The removal of contaminated soil allows for a range of future uses of the site including residential. Therefore, no further action is recommended for soil and groundwater at Site 8.

1.3 STATUTORY DETERMINATIONS

It has been determined that no further CERCLA remedial action is necessary for Site 8 based upon the results of the RI and post TCRA sampling, and the subsequent recharacterization of the risks posed by subsurface soil to potential future residents.

This remedy will not result in hazardous substances, pollutants, or contaminants remaining on-site above levels that allow for unlimited use and unrestricted exposure; therefore, a 5-year review will not be required for Site 8.

1.4 AUTHORIZING SIGNATURES

Richard K. Murphy, Captain
Commanding Officer
United States Coast Guard YARD

13 Sept 2011
Date

Henry J. Sokolowski, Associate Director
Office of Federal Facility Remediation and Site Assessment
Hazardous Site Cleanup Division
USEPA - Region 3

9/14/11
Date

2.0 DECISION SUMMARY

2.1 SITE NAME, LOCATION, AND DESCRIPTION

The USCG YARD is located on Hawkins Point Road, approximately 6 miles southeast of downtown Baltimore and 6 miles west of the Chesapeake Bay. Most of the facility lies within Anne Arundel County, with the exception of the northernmost portion, which is within the Baltimore City limits (Figure 2-1). The YARD encompasses approximately 113 acres and is situated in a heavily industrialized area with a manganese ore processor to the east, the Baltimore City landfill to the north, and a trucking company to the west. Curtis Creek forms the southern boundary of the YARD. Arundel Cove, a tributary to Curtis Creek, divides the YARD into two distinct areas. The YARD and associated industries are situated on the western side of the cove, and a residential and recreational area is located to the east.

The YARD refers to the entire Coast Guard Baltimore Facility. The United States Environmental Protection Agency (USEPA) identification number for the YARD is MD4690307844. The YARD consists of nine CERCLA Sites, one of which is Site 8. For purposes of this document, these CERCLA Sites will be referred to as "Site" or "Sites," when not referring specifically to Site 8.

Site 8 is located in the northeastern corner of the YARD immediately north of Buildings 25 and 26 and directly south of the facility's northern property boundary (Figure 2-2). The former incinerator (Building 53) was located on a south-facing grass-sloped median between the YARD's northern property fence line and Reynolds Avenue to the south. The land encompassing Site 8 was originally developed in the 1930s or 1940s when incinerator operations began. After Building 53 was demolished in 1996, the land was graded and seeded.

2.2 SITE HISTORY AND ENFORCEMENT ACTIVITIES

2.2.1 Site History

The YARD was originally established in 1899 as a USCG training academy and boat repair facility. Industrial development of the property began around 1906 and continued for the next 30 years, with the construction of over 40 buildings by the late 1930s. Although manufacturing operations were reduced at the YARD throughout the 1980s and 1990s, ship repair and maintenance activities have continued to the present. The YARD was added to the USEPA National Priorities List (NPL) effective September 5, 2002. A total of nine Sites have been identified at the YARD for investigation and remediation (if necessary) under the CERCLA program. A map showing the nine CERCLA Sites, including Site 8, is presented as Figure 2-2.

Site 8 is located in the northeastern corner of the YARD, immediately north of Buildings 25 and 26, and directly south of the facility's northern property boundary as shown in Figure 2-3. The land encompassing Site 8 was originally developed in the 1930s to 1940s. During that time period the former incinerator (Building 53) was constructed and began operations, incinerating general YARD refuse such as cardboard boxes, wooden pallets, paper, and burnable trash. The exact termination date of incinerator operations is not known. However, according to a facility representative, and as shown on a facility map, the incinerator had ceased operations by 1974.

Following incineration, the waste (ash) was transported by truck from either the western or southern side of Building 53 down a slight grade to Reynolds Avenue. The ultimate disposition of the ash is unknown. Interviews with YARD representatives indicate the ash may have been transported offsite and/or disposed at Site 9. Recent excavation activities at Site 9 has uncovered ash type material.

Historical aerial photographs indicate no definitive excavation or disposal activities at Site 8. However, as the RI demonstrates, small amounts of ash type material was found below grade at Site 8. This is consistent with an area where incinerator activities had occurred. Building 53 was demolished in 1996 and the land was restored to the surrounding grade.

2.2.2 Site Investigations

Numerous investigations have been completed at the YARD over the last 10 years. The previous studies and investigations related to Site 8 are outlined below.

USCG Research and Development Center Investigation

The USCG Research and Development Center (RDC) conducted limited investigations of Site 8 from 1989 to 1990 (USCG, 1990). The investigations consisted of a file review, personnel interviews, and chemical analyses of soil and groundwater samples.

At Site 8, no visual evidence of site impact to the underlying soils was observed during drilling (USCG, 1990). The USCG acknowledges that the technical scope of this investigation was limited and the quality of the obtained data may not be appropriate for documenting CERCLA-related decisions at the YARD. Nevertheless, the USCG reported the results to the USEPA and used the results to plan the technical scope of the 2000 Site Inspection (SI).

Site Inspection

In 2000, a Site Inspection (SI) was performed to evaluate the degree of contamination and the level of anticipated remedial action required at Site 8 (USCG, 2000). Four soil borings were completed within and downgradient of the former incinerator's concrete floor footprint. Three boreholes were completed to a maximum depth ranging between eight to 12 feet below ground surface (bgs). Fill material consisting of creosote-treated wood, glass, cinders, and gravel was encountered in boring SS/SB08-03 to a depth of 6.5 feet bgs. Water-saturated soils were encountered from five to seven feet bgs. The soil samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOCs), TCL semi-volatile organic compounds (SVOCs), TCL pesticides/PCBs, Target Analyte List (TAL) metals, and cyanide. Two of the collocated surface/subsurface soil samples were also analyzed for dioxins/furans. Results of the soil samples indicated exceedances of PAHs and dioxins and slight exceedances of arsenic. The soil sample results are presented in Table 2-1. No groundwater monitoring wells were installed during the SI, and the wells installed during the RDC investigation were not resampled.

Remedial Investigation

An RI was initiated in 2008 to further delineate the nature and extent of contamination at Site 8. Two trenches were excavated to assess the subsurface soil conditions and check for the presence of ash and cinders from the former incinerator. Also, three groundwater monitoring wells were installed. The Site 8 RI sampling program included the collection of 5 surface soil, 24 subsurface soil, and three groundwater samples (Tables 2-2 through 2-5).

A baseline Human Health Risk Assessment (HHRA) was developed in the RI Report (Tetra Tech, 2010a). Current/future construction workers, facility maintenance workers, industrial workers, adolescent trespassers, future child and adult recreational users, and hypothetical child and adult residents were evaluated for exposure to surface soil, subsurface soil, and groundwater at Site 8. An ecological risk assessment was not conducted because Site 8 is located in an industrial area and provides virtually no habitat for ecological receptors.

In surface soil, SVOCs, particularly PAH compounds, were prevalent throughout the site. The following PAHs were retained as chemicals of potential concern (COPCs): benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene. Metals in surface soil retained as COPCs included aluminum, arsenic, beryllium, chromium, cobalt, copper, iron, manganese, mercury, nickel, vanadium, and zinc. Dioxins were detected at concentrations exceeding screening criteria in two surface soil samples. The maximum tetrachlorodibenzo-p-dioxin (TCDD) Toxicity Equivalent (TEQ) concentration was detected within the footprint of the former incincerator.

In subsurface soil samples, benzene, ethylbenzene, and tetrachloroethene were the VOCs identified as COPCs. These three VOCs were only detected in subsurface soil samples collected from the trenches at Site 8. A series of SVOCs, specifically PAHs, in subsurface soil were identified as COPCs in the HHRA. The following PAHs were retained as COPCs: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene. A series of TAL metals were also identified as COPCs, including aluminum, antimony, arsenic, barium, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, nickel, selenium, silver, thallium, vanadium, and zinc. TCDD TEQ concentrations exceeded the soil screening level in one subsurface sample located within the area of the former incinerator and three samples collected from Trench 02. The maximum TEQ concentration was detected in a sample at Trench 02 at a depth of three feet bgs.

All groundwater samples collected at Site 8 contained concentrations of manganese that exceeded human health screening criteria. The manganese concentrations at Site 8 ranged from 256 to 867 micrograms per liter (µg/L). Manganese in groundwater has been identified as exceeding non-cancer risk benchmarks for hypothetical child residents in the HHRA under the reasonable maximum exposure (RME) scenario. Traditionally, exposures evaluated in the HHRA are based on the concept of a RME scenario only, which is defined as the "maximum exposure that is reasonably expected at a site". In the case of a resident child, the RME slightly exceeds the hazard index (HI) of one, which is the acceptable level. However, the RME HI is based on a maximum detected groundwater concentration in the shallow aquifer and conservative, chronic-exposure toxicity criteria published by USEPA. Additionally, based on recent risk assessment guidance, USEPA suggests evaluating the central tendency exposure (CTE) scenario. The CTE scenario portrays the average scenario. The HI for the CTE scenario is less than one, indicating that adverse health effects are not anticipated. Therefore, unrestricted use should be allowed based on an evaluation of overall risk. Pesticides were detected at concentrations slightly above the HHRA screening criteria in the groundwater from one monitoring well. However, these levels were determined not to pose an unacceptable risk to human health.

Engineering Evaluation/Cost Analysis

An Engineering Evaluation/Cost Analysis (EE/CA) was performed in 2010 to develop removal action objectives (RAOs) to provide guidelines for evaluating the removal action, and to ensure that the action complies with regulatory requirements (Tetra Tech, 2010b). The RAOs were developed to mitigate the potential future threats to public health and the environment.

The EE/CA screened removal technologies and identified, evaluated, and compared removal action alternatives to establish the preferred alternative. Removal action alternatives were screened on the

basis of implementability, effectiveness, and cost. The two alternatives assessed for Site 8 included No Action and Excavation and Off-Site Disposal.

A comparison of the two alternatives resulted in the selection of Excavation and Off-Site Disposal as the preferred alternative. The Excavation and Off-Site Disposal alternative proposed excavating four areas of approximately 625 square feet to a depth of six feet bgs, which corresponds to a total volume of approximately 556 cubic yards (cy) of material. The concentration of contaminants in the excavated soil was not be considered hazardous and therefore could be disposed as non-hazardous waste in a Resource Conservation and Recovery Act (RCRA) Subtitle D landfill. After excavation, four verification samples would be analyzed to ensure that any remaining contaminants in Site 8 soil are less than the cleanup goals. If required, additional excavation would be performed until cleanup goals are met. Excavated areas would be backfilled with clean fill and restored to prior surface elevations, and the area of disturbance would be seeded and covered with straw.

Time-Critical Removal Action

The major elements of the TCRA at Site 8, including site preparation, excavation, waste characterization, verification sampling, and site restoration were conducted in June, 2010. The limits of contaminated Site 8 soil that contained PAHs, dioxins/furans, PCBs, and arsenic were determined through an evaluation of the RI and EE/CA data and comparison with cleanup levels. Approximately twice the volume of soil estimated for excavation in the EE/CA was removed as a conservative measure to ensure all potentially contaminated soil was removed from the site [approximately 1,132 cy total].

Verification samples were collected from each of the four excavation areas to verify the removal of contaminants. The samples conformed to clean-up goals and additional excavation was not required at the site. However, additional soil was excavated based on visual soil characteristics as a conservative measure.

Following verification sampling, the excavated areas were backfilled, regraded, and seeded. Soil from both on-site and off-site borrow sources were used as backfill material. The site was graded to promote positive drainage and minimize ponding of surface water prior to seeding. A Removal Action Completion Report (RACR) was completed in 2011 to document the TCRA at Site 8 (Tetra Tech, 2011a).

2.2.3 History of CERCLA Enforcement

In September 2002, the YARD was placed on the National Priorities List. Nine CERCLA sites were identified in the western industrialized portion of the YARD. Site 8 is one of the nine CERCLA sites to be

addressed at the YARD. The status of all the YARD sites can be found in the Site Management Plan (SMP), which is located in the Administrative Record File.

2.3 COMMUNITY PARTICIPATION

The USCG and USEPA provided information regarding the cleanup through the Administrative Record file for Site 8, the information repository, and announcements published in the local newspapers. In accordance with Sections 113 and 117 of CERCLA, 42 United States Code (U.S.C.) Sections 9613 and 9617, the USCG, in conjunction with USEPA, provided a public comment period and public meeting for the Proposed Remedial Action Plan (Proposed Plan). The public notice announcing the availability of documents, the public comment period, and public meeting were published in the Maryland Gazette newspaper on May 21, 2011. The public comment period was held from May 23, 2011 to June 22, 2011, and a public meeting to present the Proposed Plan was held on June 2, 2011 in building 28A at the YARD. The Proposed Plan for Site 8 signed on May 23, 2011 presented the decision that no further action was needed at Site 8 (Tetra Tech, 2011b). The documents relevant to the decision for Site 8 were made available to the public in the Information Repository for the YARD that is maintained at the Anne Arundel County Public Library, North County Area Branch, 1010 Eastway, Glen Burnie, MD and the Anne Arundel County Public Library Brooklyn Park Branch, 1 East 11th Avenue, Baltimore, Maryland. Additional community involvement is detailed in Section 3.2.

2.4 SCOPE AND ROLE OF RESPONSE ACTION

Site 8 is one of several YARD sites that are part of the comprehensive environmental investigation and cleanup activities currently being performed at the YARD under the CERCLA program. The status of all the YARD sites can be found in the current version of the SMP. Site 8, the subject of this ROD, consists of surface and subsurface soil and underlying groundwater. This ROD has been prepared to address all site media (soil and groundwater). The findings of this ROD document that Site 8 contamination does not pose an unacceptable risk to human and ecological receptors. This ROD for Site 8 is the fourth ROD prepared for sites at the YARD.

2.5 SITE CHARACTERISTICS

2.5.1 Physical Setting

The YARD covers approximately 113 acres and is a densely developed area of shipbuilding facilities, administrative shops, equipment staging areas, piers, and parking lots. Land use surrounding the YARD is primarily heavy industrial and commercial, and several large manufacturing operations are located nearby. Curtis Creek borders the YARD to the south and west.

Site 8, the area formerly occupied by the incinerator and surrounding grounds form an embankment on the northern and northeastern sides of Reynolds Avenue, and comprise an area of slightly less than one acre. Site 8 is currently grass covered undeveloped land that is maintained by the ground keepers.

2.5.2 Conceptual Site Model

The conceptual site model (CSM) illustrates contaminant sources, release mechanisms, exposure pathways, migration routes, and potential receptors and provides the data collected during investigations performed at Site 8. The CSM is displayed in Figure 2-5.

Based on historical aerial photographs, it appears that materials incinerated at Building 53 were brought to Site 8 from Reynolds Avenue and then to the incinerator building via an unimproved roadway on the eastern side of the building. The materials to be incinerated, according to interviews with former YARD employees, consisted of general YARD refuse, including cardboard boxes, wooden pallets, paper, and burnable trash. There are no reports of burning liquid fuels, liquid solvents, paints, or PCB-containing oils, and there are no reports of materials being brought from non-YARD sources to be burned in the incinerator. Aerial photographs from 1942 to 1957 indicate areas of possible ash stockpiling and storage of miscellaneous material along the northeastern property fence.

Following incineration, the waste (ash) was transported by truck from either the western or southern side of the incinerator building down a slight gradient to Reynolds Avenue. If ash from the incinerator was spilled during truck-loading operations, it would have most likely occurred alongside the eastern or southern side of the incinerator building. The ultimate disposition of the ash is unknown.

Based on current and potential future land use, the following potential receptors may be exposed to contaminated environmental media (soil and groundwater) at Site 8:

- Construction Worker – A plausible on-site receptor under current and future land use.
- Facility Maintenance Worker – An on-site receptor under current and future land use. This includes adult personnel assigned to perform primarily outdoor maintenance activities at Site 8.
- Typical Industrial Worker/Facility Personnel – An on-site receptor under current and future land use. This includes personnel assigned to work at Site 8.
- Trespasser – A plausible receptor under current and future land use. The facility is fenced and access to the YARD by land is controlled by gates and a full-time security force, but the Site boundary along Curtis Creek is not fenced.

- Recreational User – A hypothetical on-site receptor under future land use only. Recreational activities do not currently occur and there are no formal recreational facilities at Site 8.

- Future On-Site Resident – A future residential scenario, assuming Site 8 is ultimately used for residential development, is typically evaluated in a risk assessment for decision-making purposes. For example, conservatively evaluating future residential risk may eliminate the need for deed restrictions prior to site closure if risks to residential receptors are minimal.

2.5.3 Nature and Extent of Contamination

Based on the RI discussion involving toxicity and risk assessment for human and environmental receptors, the media of concern at Site 8 was determined to be subsurface soil ranging from two to six feet in depth. PAHs and dioxins were the primary contaminants contributing to unacceptable risks.

Through implementation of the TCRA, the potential risks associated with exposure to contaminated soil have been mitigated. Verification samples were collected from each of the four excavation areas to verify the removal of contaminants. The samples conformed to clean-up goals and additional excavation was not required at the site.

2.6 CURRENT AND POTENTIAL FUTURE LAND AND RESOURCE USES

The YARD is an active USCG facility and is expected to remain active for the foreseeable future. Site 8 is currently undeveloped land. Receptors other than facility maintenance workers are unlikely to use Site 8. However, for purposes of completeness, the HHRA prepared for Site 8 considered receptor exposure under residential, industrial, and recreational land use scenarios. Groundwater at the YARD, including Site 8, is not currently used as a drinking water source and is not anticipated to be used as a drinking water source in the near future. However, the potential beneficial use of Site 8 groundwater as a drinking water source is maintained by this decision.

2.7 SUMMARY OF SITE RISKS

This section of the ROD summarizes the results of the baseline HHRA. The HHRA contains evaluations of all COPCs and exposure pathways, including those that do not pose unacceptable risks to human health. COPCs are those chemicals identified as potential threats to human health after an initial screening and are evaluated in the baseline risk assessment. Chemicals of concern (COCs) are a subset of the COPCs identified as those site-related chemicals needing to be addressed by a response action because they exceed risk-based remediation goals.

2.7.1 Baseline Human Health Risk Assessment Process

2.7.1.1 Chemicals of Potential Concern

The selection of COPCs is a qualitative screening process that identifies those site-related chemicals that may add to overall potential risks. The COPC selection process was conservative to ensure selection of the constituents comprising the great majority of the potential risk associated with Site 8.

The maximum detected concentration of each constituent in each medium was compared to a screening value to select the COPCs for the media. If the maximum concentration of a constituent exceeded the screening value, the constituent was selected as a COPC and retained for the risk evaluation. The COPC screening levels are based on USEPA Region 3 Risk-Based Concentrations (RBCs) for residential land use considering both cancer and non-cancer risks. The USEPA Region 3 RBCs were developed using protective default exposure scenarios suggested by USEPA (1991) and the most current available reference doses (RfDs) and cancer slope factors (CSFs) (USEPA, 2004). Chemicals eliminated from evaluation at this step are assumed to present minimal risks to potential human receptors.

2.7.1.2 Exposure Assessment

The exposure assessment defines and evaluates the type and magnitude of human exposure to the chemicals present at or migrating from a site. The exposure assessment is designed to depict the physical setting of the site, identify potentially exposed populations, and estimate chemical intakes under the identified exposure scenarios. Actual or potential exposures are based on the most likely pathways of contaminant release and transport, as well as human activity patterns. A complete exposure pathway has three components: a source of chemicals that can be released into the environment, a route of contaminant transport through an environmental medium, and an exposure or contact point for a human receptor.

The potential human receptors evaluated for exposure to soil and groundwater at Site 8 are identified in Section 2.5.2. Reasonable Maximum Exposure (RME) and Central Tendency Exposure (CTE) risks were evaluated for each receptor. The RME scenario represents the highest level of human exposure that could reasonably be expected to occur, and the CTE scenario represents the average human exposure. Pathway-specific information for the receptors, such as the values of exposure parameters used to quantify exposure, is presented in the Site 8 RI.

The exposure point concentration, which is calculated per USEPA guidance for COPCs only, is a reasonable maximum estimate of the chemical concentration that is likely to be contacted over time, and

is used to calculate estimated exposure intakes. The 95-percent upper confidence limit, which is based on the distribution of a data set, is considered to be the best estimate of the exposure concentration for data sets with 10 or more samples.

2.7.1.3 Toxicity Assessment

This section provides the methodologies for characterization of the potential human health risks associated with potential exposure to media at Site 8. The toxicity assessment identifies the potential adverse health effects in exposed populations. Toxicity values approved by USEPA are used to characterize the potential risk.

The toxicity value used to evaluate carcinogenic effects is the cancer slope factor (CSF). The CSF is an upper-bound estimate of the probability that a person will develop cancer over a lifetime based on a given dose. It is based on dose-response data from human and/or animal studies. At this time, slope factors are not available for the dermal route of exposure. Thus, the dermal slope factors used in the assessment have been extrapolated from oral values. An adjustment factor is sometimes applied and is dependent on how well the chemical is absorbed via the oral route.

The toxicity value used to evaluate non-carcinogenic effects is the RfD. The RfD is an estimate of the daily exposure level for the human population that is likely to be without appreciable risk during an established period of time, ranging from several weeks to a lifetime, depending on the exposure scenario being evaluated. It is based on a review of available animal and/or human toxicity data, with adjustments for various uncertainties associated with the data. As with CSFs, RfDs are not available for the dermal route of exposure; dermal RfDs can be extrapolated from oral reference doses by applying an appropriate adjustment factor. Adjustments were performed in accordance with USEPA guidance.

2.7.1.4 Risk Characterization

Quantitative estimates of risk are calculated using exposure and toxicity values according to risk assessment methods outlined in current USEPA guidance (1989). Incremental Lifetime Cancer Risks (ILCRs) are expressed in the form of unitless probabilities derived using published CSFs. Non-carcinogenic risk estimates are presented in the form of Hazard Quotients (HQs) derived using published RfDs.

ILCR estimates are generated for each COPC using estimated exposure intakes and published CSFs:

$$ILCR = (CDI) / (CSF)$$

where:

ILCR = a unitless probability (e.g., 2.0×10^{-5}) of an individual's developing cancer

CDI = chronic daily intake averaged over 70 years (mg/kg-day)

CSF = cancer slope factor, expressed as (mg/kg-day)-1.

An excess ILCR of 1.0×10^{-6} indicates that an individual experiencing the RME estimate has a 1 in 1,000,000 chance of developing cancer as a result of site-related exposure. This is referred to as an "excess ILCR" because it would be in addition to the risks of cancer individuals face from other causes such as smoking or overexposure to the sun. The chance of an individual's developing cancer from all other causes has been estimated to be as high as one in three.

To interpret the quantitative risks and to aid risk managers in determining the need for remediation at a site, quantitative risk estimates are compared to typical benchmarks. USEPA has defined the range 1.0×10^{-6} to 1.0×10^{-4} as the ILCR "acceptable range" for most hazardous waste facilities addressed under CERCLA. Cumulative ILCRs greater than 1.0×10^{-4} generally indicate that some degree of remediation is required, and ILCRs less than 1.0×10^{-6} normally will not result in remedial efforts. Whenever ILCRs fall between 1.0×10^{-4} and 1.0×10^{-6}, decisions for remediation are made on a case-specific basis. Individual chemicals contributing significantly to risks above the acceptable range are considered to be COCs.

Non-carcinogenic risks are assessed using the concept of HQs and Hazard Indices (HIs). The HQ for a COPC is the ratio of the estimated intake to the RfD:

$$HQ = (Estimated\ Exposure\ Intake) / (RfD)$$

Summing the individual HQs for all the COPCs generates an HI. It should be noted that an HI is not a mathematical prediction of the severity of toxic effects and therefore is not a true "risk"; it is simply a numerical indicator of the possibility of the occurrence of non-carcinogenic (threshold) effects.

An HI exceeding unity (1.0) indicates that there may be potential non-carcinogenic health risks associated with exposure. If an HI exceeds 1.0, target organ effects from individual COPCs contributing to the risk are considered. Only those chemicals that affect the same target organ(s) or exhibit similar critical effect(s) are regarded as being truly additive. Thus, COPCs contributing to an HI greater than 1.0 on the basis of a single target organ/effect are considered to be COCs.

2.7.1.5 Uncertainty Analysis

The risk measures used in site risk assessments are not precise, probability-based estimates of risk but are conditional estimates which assume a set of exposures and toxicities. Thus, it is important to specify fully the assumptions and uncertainties inherent in the risk assessment to place the risk assessment in proper perspective. This process is referred to as an uncertainty analysis. The uncertainties associated with the risk evaluations for media at Site 8 are discussed in the following sections.

2.7.2 Baseline Human Health Risk Assessment

A baseline HHRA was developed for Site 8 in the RI report that identified COCs and developed carcinogenic and non-carcinogenic risk estimates. A revised risk assessment was developed following the TCRA and was presented in the RACR (Tetra Tech, 2011a). Information on the procedures followed to develop the HHRA is provided in the RI and RACR. The following discussion is a summary of the HHRA for Site 8.

Current/future construction workers, facility maintenance workers, industrial workers, adolescent trespassers, future child and adult recreational users, and hypothetical child and adult residents were evaluated as potential receptors in the site-specific baseline HHRA. These receptors were evaluated for exposure to surface soil, subsurface soil, and groundwater at Site 8.

The residual cancer risks for all receptors exposed to soil under the RME scenario were less than the USEPA's acceptable risk range of $1x10^{-6}$ to $1x10^{-4}$. HIs for all receptors exposed to soil under the RME scenario were less than or equal to unity, indicating that adverse non-carcinogenic effects are not anticipated for these receptors under the defined exposure conditions.

All groundwater samples collected at Site 8 contained concentrations of manganese that exceeded human health screening criteria. The manganese concentrations at Site 8 ranged from 256 to 867 micrograms per liter (µg/L). Manganese in groundwater has been identified as exceeding non-cancer risk benchmarks for hypothetical child residents in the HHRA under the RME scenario. Traditionally, exposures evaluated in the HHRA are based on the concept of a RME scenario only, which is defined as the "maximum exposure that is reasonably expected at a site". In the case of a resident child, the RME slightly exceeds the HI of one, which is the acceptable level. However, the RME HI is based on a maximum detected groundwater concentration in the shallow aquifer and conservative, chronic-exposure toxicity criteria published by USEPA. Additionally, based on recent risk assessment guidance, USEPA suggests evaluating the CTE scenario. The CTE scenario portrays the average scenario. The HI for the CTE scenario is less than one, indicating that adverse health effects are not anticipated. Therefore, unrestricted use should be allowed based on an evaluation of overall risk.

2.7.3 Ecological Risk Assessment

Site 8 consists of a fraction of an acre of turfgrass routinely mowed by the YARD's ground keepers. The site lies between Reynolds Avenue to the south and an active rail line to the north. The conditions at Site 8 provide essentially no habitat for terrestrial receptors such as amphibians, reptiles, large carnivorous birds and mammals, and most omnivores and herbivores. Birds undoubtedly forage occasionally in the mowed grass at Site 8, and occasional use of the site by small mammals such as rodents cannot be ruled out, but the mowed turfgrass and developed character of the site result in essentially no habitat for most terrestrial receptors and preclude any significant exposure to site-related contaminants. Therefore, an ecological risk assessment was not conducted for Site 8 soil.

Site-related chemicals in groundwater presumably discharge into Arundel Cove approximately 500 feet south of Site 8. Surface water runoff discharges off site via overland flow to nearby storm drain catch basins located along Reynolds Avenue, which discharge into Arundel Cove. Any potential contribution of Site 8-related contaminant migration into Arundel Cove was evaluated in the Site 9 risk assessment.

2.7.4 Conclusions of Risk Assessments

ILCRs and HIs were estimated for each verification sampling location. ILCRs for all locations were within the USEPA's target risk range of $1x10^{-4}$ to $1x10^{-6}$. HIs at all locations were less than 1, indicating no adverse noncarcinogenic health effects are anticipated under the conditions established in the exposure assessment.

Removal of the contaminated soil from Site 8 mitigated the potential direct contact risk posed by the material and the threat of contaminant release and migration. The removal action eliminated the mobility of contaminants contained in the waste and immediately addressed soil contamination and the potential risks from exposure, as well as eliminated potential for leaching of contaminants to groundwater. The removal of contaminated soil allows for a range of future uses of the site including residential, is consistent with accepted removal practices, and meets the NCP removal criteria.

Regarding groundwater risks, no adverse carcinogenic or noncarcinogenic health effects are anticipated under the conditions established in the exposure assessment.

2.8 NO FURTHER ACTION DETERMINATION

The results of the investigations indicate that, based on available information, soil and groundwater associated with Site 8 do not present unacceptable risk to human health and the environment. In this

case, the USCG, with the support of the USEPA, determine that no further CERCLA remedial action is necessary for Site 8. There are no costs associated with this remedy. MDE concurs with this remedy.

2.9 DOCUMENTATION OF SIGNIFICANT CHANGES

The Proposed Plan for Site 8 at the YARD, Baltimore, Maryland was released for public comment on May 23, 2011. The Proposed Plan identified that no further action was required for Site 8. No comments were received during the public comment period, and it was determined that no significant changes to the no further action determination, as originally identified in the Proposed Plan, were necessary or appropriate.

TABLE 2-1

SUMMARY OF DETECTED CONCENTRATIONS OF ORGANICS AND INORGANICS IN SITE INSPECTION SURFACE AND SUBSURFACE SAMPLES
SITE 8 - FORMER INCINERATOR AREA
U.S. COAST GUARD YARD
BALTIMORE, MARYLAND

PARAMETER	SB8-1	SS8-1	SB8-2	SS8-2	SB8-3	SS8-3	SB8-4	SS8-4
Volatile Organic Compounds (µg/kg)								
1,1,1-Trichloroethane	12 U	11 U	11 U	11 U	11 U	10 U	11 U	11 UJ
1,1,2,2-Tetrachloroethane	12 U	11 U	11 U	11 U	11 U	10 U	11 U	11 UJ
1,1,2-Trichloroethane	12 U	11 U	11 U	11 U	11 U	10 U	11 U	11 UJ
1,1-Dichloroethane	12 U	11 U	11 U	11 U	11 U	10 U	11 U	11 UJ
1,1-Dichloroethene	12 U	11 U	11 U	11 U	11 U	10 U	11 U	11 UJ
1,2-Dichloroethane	12 U	11 U	11 U	11 U	11 U	10 U	11 U	11 UJ
1,2-Dichloropropane	12 U	11 U	11 U	11 U	11 U	10 U	11 U	11 UJ
2-Butanone	2 B	3 B	11 UJ	11 U	11 U	3 B	3 B	11 UJ
2-Hexanone	12 U	11 U	11 U	11 U	11 U	10 U	11 U	11 UJ
4-Methyl-2-Pentanone	12 U	11 U	11 U	11 U	11 U	10 U	11 U	11 UJ
Acetone	10 B	65 B	5 B	11 B	20 B	6 B	12 B	19 B
Benzene	12 U	11 U	11 U	11 U	11 U	10 U	11 U	11 UJ
Bromodichloromethane	12 U	11 U	11 U	11 U	11 U	10 U	11 U	11 UJ
Bromoform	12 U	11 U	11 U	11 U	11 U	10 U	11 U	11 UJ
Bromomethane	12 U	11 U	11 U	11 U	11 U	10 U	11 U	11 UJ
Carbon Disulfide	12 U	11 U	11 U	11 U	11 U	10 U	11 U	11 UJ
Carbon Tetrachloride	12 U	11 U	11 U	11 U	11 U	10 U	11 U	11 UJ
Chlorobenzene	12 U	11 U	11 U	11 U	11 U	10 U	11 U	11 UJ
Chlorodibromomethane	12 U	11 U	11 U	11 U	11 U	10 U	11 U	11 UJ
Chloroethane	12 U	11 U	11 U	11 U	11 U	10 U	11 U	11 UJ
Chloroform	12 U	11 U	11 U	11 U	11 U	10 U	11 U	11 UJ
Chloromethane	12 U	11 U	11 U	11 U	11 U	10 U	11 U	11 UJ
cis-1,3-Dichloropropene	12 U	11 U	11 U	11 U	11 U	10 U	11 U	11 UJ
Ethylbenzene	12 U	11 U	11 U	11 U	11 U	10 U	11 U	11 UJ
Methylene Chloride	28 B	34 B	26 B	44 B	59 B	31 B	44 B	73 B
Styrene	12 U	11 U	11 U	11 U	11 U	10 U	11 U	11 UJ
Tetrachloroethene	12 U	11 U	11 U	11 U	11 U	10 U	11 U	11 UJ
Toluene	12 U	11 U	11 U	11 U	11 U	10 U	11 U	11 UJ
Total 1,2-Dichloroethene	12 U	11 U	11 U	11 U	11 U	10 U	11 U	11 UJ
Total Xylenes	12 U	11 U	11 U	11 U	11 U	10 U	11 U	11 UJ
trans-1,3-Dichloropropene	12 U	11 U	11 U	11 U	11 U	10 U	11 U	11 UJ
Trichloroethene	12 U	11 U	11 U	11 U	11 U	10 U	11 U	11 UJ
Vinyl Chloride	12 U	11 U	11 U	11 U	11 U	10 U	11 U	11 UJ
Semivolatile Organic Compounds (µg/kg)								
1,2,4-Trichlorobenzene	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
1,2-Dichlorobenzene	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
1,3-Dichlorobenzene	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
1,4-Dichlorobenzene	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
2,2'-Oxybis(1-Chloropropane)	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
2,4,5-Trichlorophenol	1900 UJ	1800 UJ	940 UJ	900 UJ	920 UJ	890 UJ	950 UJ	920 UJ
2,4,6-Trichlorophenol	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
2,4-Dichlorophenol	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
2,4-Dimethylphenol	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
2,4-Dinitrophenol	1900 UJ	1800 UJ	940 UJ	900 UJ	920 UJ	890 UJ	950 UJ	920 UJ
2,4-Dinitrotoluene	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
2,6-Dinitrotoluene	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
2-Chloronaphthalene	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
2-Chlorophenol	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
2-Methylnaphthalene	760 UJ	710 UJ	370 UJ	47 J	370 UJ	350 UJ	46 J	370 UJ
2-Methylphenol	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
2-Nitroaniline	1900 UJ	1800 UJ	940 UJ	900 UJ	920 UJ	890 UJ	950 UJ	920 UJ
2-Nitrophenol	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
3,3'-Dichlorobenzidine	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
3-Nitroaniline	1900 UJ	1800 UJ	940 UJ	900 UJ	920 UJ	890 UJ	950 UJ	920 UJ
4,6-Dinitro-2-Methylphenol	1900 UJ	1800 UJ	940 UJ	900 UJ	920 UJ	890 UJ	950 UJ	920 UJ
4-Bromophenyl Phenyl Ether	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ

TABLE 2-1

SUMMARY OF DETECTED CONCENTRATIONS OF ORGANICS AND INORGANICS IN SITE INSPECTION SURFACE AND SUBSURFACE SAMPLES
SITE 8 - FORMER INCINERATOR AREA
U.S. COAST GUARD YARD
BALTIMORE, MARYLAND

PARAMETER	SB8-1	SS8-1	SB8-2	SS8-2	SB8-3	SS8-3	SB8-4	SS8-4
Semivolatile Organic Compounds - Continued (µg/kg)								
4-Chloro-3-Methylphenol	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
4-Chloroaniline	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
4-Chlorophenyl Phenyl Ether	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
4-Methylphenol	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
4-Nitroaniline	1900 UJ	1800 UJ	940 UJ	900 UJ	920 UJ	890 UJ	950 UJ	920 UJ
4-Nitrophenol	1900 UJ	1800 UJ	940 UJ	900 UJ	920 UJ	890 UJ	950 UJ	920 UJ
Acenaphthene	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
Acenaphthylene	170 J	120 J	370 UJ	56 J	370 UJ	350 UJ	380 UJ	370 UJ
Anthracene	200 J	110 J	370 UJ	52 J	370 UJ	350 UJ	380 UJ	370 UJ
Benzo(a)anthracene	2000 J	1200 J	270 J	490 J	130 J	39 J	150 J	370 UJ
Benzo(a)pyrene	1800 J	960 J	240 J	430 J	130 J	40 J	160 J	41 J
Benzo(b)fluoranthene	2000 J	1000 J	320 J	420 J	190 J	53 J	250 J	60 J
Benzo(g,h,i)perylene	1200 J	720 J	210 J	290 J	130 J	43 J	120 J	370 UJ
Benzo(k)fluoranthene	1600 J	1000 J	230 J	410 J	120 J	47 J	110 J	44 J
bis(2-Chloroethoxy)Methane	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
bis(2-Chloroethyl)Ether	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
bis(2-ethylhexyl) phthalate	760 UJ	710 UJ	180 J	100 J	51 J	45 J	380 UJ	54 J
Butyl Benzyl Phthalate	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	42 J	370 UJ
Carbazole	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
Chrysene	2000 J	1200 J	270 J	510 J	160 J	50 J	190 J	47 J
di-n-Butyl Phthalate	760 UJ	710 UJ	190 J	360 UJ	370 UJ	350 UJ	53 J	50 J
di-n-Octyl Phthalate	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
Dibenzo(a,h)anthracene	520 J	320 J	81 J	140 J	49 J	350 UJ	43 J	370 UJ
Dibenzofuran	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
Diethyl Phthalate	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
Dimethyl Phthalate	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
Fluoranthene	2600 J	1700 J	370 J	560 J	180 J	53 J	260 J	50 J
Fluorene	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
Hexachlorobenzene	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
Hexachlorobutadiene	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
Hexachlorocyclopentadiene	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
Hexachloroethane	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
Indeno(1,2,3-cd)pyrene	1300 J	780 J	210 J	330 J	120 J	43 J	110 J	44 J
Isophorone	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
N-Nitroso-di-n-Propylamine	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
N-Nitrosodiphenylamine	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
Naphthalene	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
Nitrobenzene	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
Pentachlorophenol	1900 UJ	1800 UJ	940 UJ	900 UJ	920 UJ	890 UJ	950 UJ	920 UJ
Phenanthrene	700 J	380 J	130 J	110 J	66 J	350 UJ	110 J	370 UJ
Phenol	760 UJ	710 UJ	370 UJ	360 UJ	370 UJ	350 UJ	380 UJ	370 UJ
Pyrene	2900 J	1900 J	440 J	700 J	210 J	70 J	290 J	63 J
Pesticides/PCBs (µg/kg)								
4,4'-DDD	88 J	130 J	260 J	150 J	130 J	170 J	3.7 UJ	3.6 UJ
4,4'-DDE	3.8 UJ	6.8 J	12 R	6.7 J	3.7 UJ	12 J	3.7 UJ	3.6 UJ
4,4'-DDT	110 J	390 J	570 J	320 J	96 J	380 J	3.7 UJ	9.1 J
Aldrin	2.0 UJ	1.8 UJ	2.0 UJ	1.8 UJ	1.9 UJ	1.8 UJ	1.9 UJ	1.9 UJ
alpha-BHC	2.0 UJ	1.8 UJ	2.9 J	1.8 UJ	1.9 J	1.8 UJ	1.9 UJ	1.9 UJ
alpha-Chlordane	2.0 UJ	1.8 UJ	2.0 UJ	1.8 UJ	1.9 UJ	1.8 UJ	1.9 UJ	1.9 UJ
Aroclor-1016	38 UJ	36 UJ	38 UJ	36 UJ	37 UJ	35 UJ	37 UJ	36 UJ
Aroclor-1221	78 UJ	73 UJ	77 UJ	73 UJ	74 UJ	72 UJ	76 UJ	74 UJ
Aroclor-1232	38 UJ	36 UJ	38 UJ	36 UJ	37 UJ	35 UJ	37 UJ	36 UJ
Aroclor-1242	38 UJ	36 UJ	38 UJ	36 UJ	37 UJ	35 UJ	37 UJ	36 UJ
Aroclor-1248	38 UJ	36 UJ	38 UJ	36 UJ	37 UJ	35 UJ	37 UJ	36 UJ
Aroclor-1254	38 UJ	36 UJ	38 UJ	36 UJ	37 UJ	35 UJ	37 UJ	36 UJ
Aroclor-1260	38 UJ	36 UJ	38 UJ	36 UJ	37 UJ	24 J	32 J	36 UJ
beta-BHC	2.0 UJ	1.8 UJ	4.8 J	3.4 J	2.7 J	2.3 J	1.9 UJ	1.9 UJ

TABLE 2-1

SUMMARY OF DETECTED CONCENTRATIONS OF ORGANICS AND INORGANICS IN SITE INSPECTION SURFACE AND SUBSURFACE SAMPLES
SITE 8 - FORMER INCINERATOR AREA
U.S. COAST GUARD YARD
BALTIMORE, MARYLAND

PARAMETER	SB8-1	SS8-1	SB8-2	SS8-2	SB8-3	SS8-3	SB8-4	SS8-4
Pesticides/PCBs - continued (µg/kg)								
delta-BHC	2.0 UJ	1.8 UJ	2.0 UJ	1.8 UJ	1.9 UJ	1.8 UJ	1.9 UJ	1.9 UJ
Dieldrin	3.8 UJ	5.9 R	13 R	5.3 R	3.7 UJ	15 R	3.7 UJ	3.6 UJ
Endosulfan I	5.9 R	5.9 R	2.5 R	5.1 J	2.0 J	1.8 UJ	1.9 UJ	1.9 UJ
Endosulfan II	3.8 UJ	3.6 UJ	3.8 UJ	3.6 UJ	3.7 UJ	3.5 UJ	3.7 UJ	3.6 UJ
Endosulfan Sulfate	3.8 UJ	3.6 UJ	3.8 UJ	3.6 UJ	3.7 UJ	3.5 UJ	3.7 UJ	3.6 UJ
Endrin	3.8 UJ	4.0 J	9.0 J	5.5 J	3.7 UJ	1.5 R	3.7 UJ	3.6 UJ
Endrin Aldehyde	3.8 UJ	3.6 UJ	5.9 R	3.6 UJ	3.7 UJ	3.9 J	3.7 UJ	3.6 UJ
Endrin Ketone	3.8 UJ	3.6 UJ	3.8 UJ	3.6 UJ	3.7 UJ	3.5 UJ	3.7 UJ	3.6 UJ
gamma-BHC (Lindane)	2.0 UJ	1.8 UJ	2.0 UJ	1.8 UJ	1.9 UJ	1.8 UJ	1.9 UJ	1.9 UJ
gamma-Chlordane	2.7 J	3.0 J	2.0 UJ	1.8 UJ	1.9 UJ	1.8 UJ	1.9 UJ	1.9 UJ
Heptachlor	2.0 UJ	1.8 UJ	2.0 UJ	1.8 UJ	1.9 UJ	1.8 UJ	1.9 UJ	1.9 UJ
Heptachlor Epoxide	2.0 UJ	1.8 UJ	2.0 UJ	1.8 UJ	1.9 UJ	1.8 UJ	1.9 UJ	1.9 UJ
Methoxychlor	20 UJ	18 UJ	20 UJ	18 UJ	19 UJ	18 UJ	19 UJ	19 UJ
Toxaphene	190 J	260 J	490 J	220 J	110 J	280 J	190 UJ	190 UJ
Dioxins/Furans (ng/kg)								
1,2,3,4,6,7,8,9-OCDD	391 U	558 B	-	-	463 B	1180 J	-	-
1,2,3,4,6,7,8,9-OCDF	51.9 U	61.3 U	-	-	55.3 U	175 J	-	-
1,2,3,4,6,7,8-HPCDD	36.8 U	54.5 U	-	-	59.2 U	128 J	-	-
1,2,3,4,6,7,8-HPCDF	23.6 U	32.6 U	-	-	62.2 U	148 J	-	-
1,2,3,4,7,8,9-HPCDF	29.5 U	40.8 U	-	-	50 U	42.2 U	-	-
1,2,3,4,7,8-HXCDD	21.5 U	29.9 U	-	-	33.9 U	44.5 U	-	-
1,2,3,4,7,8-HXCDF	17.6 U	21.1 U	-	-	28.5 U	57.4 U	-	-
1,2,3,6,7,8-HXCDD	22.2 U	30.8 U	-	-	34.9 U	45.9 U	-	-
1,2,3,6,7,8-HXCDF	17.1 U	20.5 U	-	-	27.7 U	46.3 U	-	-
1,2,3,7,8,9-HXCDD	20.9 U	29.1 U	-	-	33 U	57.2 U	-	-
1,2,3,7,8,9-HXCDF	22.2 U	26.5 U	-	-	35.8 U	52.4 U	-	-
1,2,3,7,8-PECDD	11.8 U	13.2 U	-	-	16.3 U	24.2 J	-	-
1,2,3,7,8-PECDF	32 U	26 U	-	-	31.3 U	25.5 U	-	-
2,3,4,6,7,8-HXCDF	18.4 U	22 U	-	-	29.7 U	40.6 U	-	-
2,3,4,7,8-PECDF	31.1 U	25.2 U	-	-	30.3 U	24.7 U	-	-
2,3,7,8-TCDD	14.8 U	21 U	-	-	17.7 U	19.6 U	-	-
2,3,7,8-TCDF	12.7 U	12.4 U	-	-	17 U	19.7 U	-	-
Total HPCDD	36.8 U	54.5 U	-	-	59.2 U	128	-	-
Total HPCDF	26.2 U	36.3 U	-	-	62.2 U	229 U	-	-
Total HXCDD	21.5 U	29.9 U	-	-	33.9 U	148 U	-	-
Total HXCDF	18.6 U	22.3 U	-	-	30.1 U	237 U	-	-
Total PECDD	139 U	13.2 U	-	-	16.3 U	24.2	-	-
Total PECDF	31.5 U	25.6 U	-	-	30.8 U	25.1 U	-	-
Total TCDD	141 U	21 U	-	-	201 U	175 U	-	-
Total TCDF	12.7 U	12.4 U	-	-	17 U	73.4 U	-	-
Inorganics (mg/kg)								
Aluminum	3780	3830	3470	3050	2890	4580	7200	6020
Antimony	0.44 U	2.1	0.50 L	0.55	0.35 U	0.99	0.56 L	0.34 U
Arsenic	1.8 K	2.1 K	0.54 U	1.9 K	2.0 K	2.5 K	3.2 K	4.1 K
Barium	34.4	46.4	34.8	31.5	31.7	39.9	49.6	27.2
Beryllium	0.57	1.3	1.3 K	0.96	0.61	0.76	2.1	0.43
Cadmium	0.07 U	0.06 U	0.27 U	0.06 U	0.05 U	0.06 U	0.34 U	0.05 U
Calcium	3820 J	7030 J	3200 J	3490 J	3080 J	5340 J	4790 J	3100 J
Chromium	14.9	16.4	39.6	12.5	13.8	17.2	44.1	23.6
Cobalt	3.4	3.6	3.6	2.9	3.1	2.3	5.7	2.2
Copper	37.2 J	57.6 J	51.7 J	63.1 J	92.9 J	56.8 J	131 J	29.1 J
Cyanide	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Iron	9810	10900	31600	8890	10300	11700	25400	14800
Lead	55.4 J	85.2 J	71.3 J	82.5 J	74.0 J	108 J	141 J	44.4 J

TABLE 2-1

SUMMARY OF DETECTED CONCENTRATIONS OF ORGANICS AND INORGANICS IN SITE INSPECTION SURFACE AND SUBSURFACE SAMPLES
SITE 8 - FORMER INCINERATOR AREA
U.S. COAST GUARD YARD
BALTIMORE, MARYLAND

PARAMETER	SB8-1	SS8-1	SB8-2	SS8-2	SB8-3	SS8-3	SB8-4	SS8-4
Inorganics - continued (mg/kg)								
Magnesium	1710	2960	842	1260	1240	1860	1690	1110
Manganese	125 J	144 J	104 J	127 J	101 J	162 J	219 J	112 J
Mercury	0.08 K	0.17	0.21	0.13	0.31	0.13	0.07 K	0.13
Nickel	10.5	12.5	14.1	11.7	11.2	11.3	19.5	8.1 B
Potassium	262	428	268 L	289	283	422	566	587
Selenium	0.61 UJ	0.57 UJ	4.0 UJ	0.54 UJ	0.47 UJ	0.51 UJ	0.60 UJ	0.46 UJ
Silver	2.7 K	2.8 K	8.7 K	2.4 K	2.7 K	3.1 K	6.8 K	4.0 K
Sodium	226	257	55.0 B	102 B	60.2 B	121 B	173 B	58.2 B
Thallium	1.3 B	0.70 B	1.0 B	0.46 B	0.75 B	0.54 B	1.1 B	0.57 B
Vanadium	27.6	27.6	73.6	23.3	28.7	31.8	67.5	44.1
Zinc	142 J	246 J	164 J	230 J	183 J	228 J	802 J	57.7 J

B = Analyte not detected. Result is attributed to laboratory blank contamination.
J = Value is estimated.
K = Value is qualified as biased high.
L = Value is qualified as biased low.
R = Value is not considered to be reliable.
U = Analyte not detected at the reporting limit left of the letter.
UJ = Numerical detection limit for the undetected result is estimated.
mg/kg = Milligrams per kilogram.
µg/kg = Micrograms per kilogram.
ng/kg = Nanograms per kilogram.

TABLE 2-2

SUMMARY OF DETECTED CONCENTRATIONS IN SURFACE SOIL
SITE 8 - FORMER INCINERATOR AREA
U.S. COAST GUARD YARD
BALTIMORE, MARYLAND
PAGE 1 OF 2

PARAMETER	SS8-05	SS8-06	SS8-07	SS8-08	SS8-09	SS8-10
Semivolatile Organics (mg/kg)						
ACENAPHTHYLENE	0.19 U	0.13 J	0.11 J	0.18 U	0.18 U	0.091 J
ANTHRACENE	0.19 U	0.091 J	0.036 J	0.18 U	0.18 U	0.021 J
BAP EQUIVALENT	0.2338	1.6044	0.6383	0 U	0.2757	0.6019
BENZO(A)ANTHRACENE	0.05 J	0.6	0.22	0.18 U	0.066 J	0.2
BENZO(A)PYRENE	0.12 J	1.2	0.48	0.18 U	0.16 J	0.45 J
BENZO(B)FLUORANTHENE	0.078 J	0.92	0.25	0.18 U	0.11 J	0.37 J
BENZO(G,H,I)PERYLENE	0.049 J	0.37	0.21	0.18 U	0.067 J	0.17 J
BENZO(K)FLUORANTHENE	0.055 J	0.53	0.32	0.18 U	0.074 J	0.13 J
BIS(2-ETHYLHEXYL)PHTHALATE	0.041 J	0.18 U	0.18 U	0.18 U	0.18	0.2 U
CARBAZOLE	0.19 U	0.026 J	0.18 U	0.18 U	0.18 U	0.2 U
CHRYSENE	0.06 J	0.68	0.24	0.18 U	0.086 J	0.21
DIBENZO(A,H)ANTHRACENE	0.19 U	0.2	0.083 J	0.18 U	0.18 U	0.073 J
FLUORANTHENE	0.059 J	0.98	0.33	0.18 U	0.13 J	0.31
INDENO(1,2,3-CD)PYRENE	0.054 J	0.48	0.26	0.18 U	0.073 J	0.2 J
N-NITROSO-DI-N-PROPYLAMINE	0.19 U	0.18 U	0.22	0.18 U	0.18 U	0.2 U
PHENANTHRENE	0.19 U	0.29	0.075 J	0.18 U	0.042 J	0.039 J
PYRENE	0.057 J	0.89	0.3	0.18 U	0.13 J	0.25
TOTAL PAHS	0.582	7.361	2.914	0 U	0.938	2.514
Pesticides/PCBs (mg/kg)						
4,4'-DDD	0.24 J	0.034	0.16 J	0.005 J	0.038	0.016 J
4,4'-DDE	0.073 J	0.027	0.15 J	0.0035 U	0.042	0.062 J
4,4'-DDT	1.1	0.2	1.2	0.0035 U	0.3 J	0.28 J
ALPHA-CHLORDANE	0.018 J	0.0018 U	0.0075 J	0.0018 U	0.0018 U	0.002 U
AROCLOR-1260	0.037 U	0.035 U	1.2 J	0.035 U	0.035 U	0.038 U
METHOXYCHLOR	0.025	0.018 U	0.041 J	0.018 U	0.018 U	0.02 U
TOTAL AROCLOR	0 U	0 U	1.2	0 U	0 U	0 U
TOTAL DDT POS	1.413	0.261	1.51	0.005	0.38	0.358
Petroleum Hydrocarbons (mg/kg)						
DIESEL RANGE ORGANICS	9.3 U	20	8.8 U	8.8 U	11	9.5 U
Dioxins/Furans (ng/kg)						
1,2,3,4,6,7,8,9-OCDD	-	-	934	750	-	-
1,2,3,4,6,7,8,9-OCDF	-	-	68.7	9.99 J	-	-
1,2,3,4,6,7,8-HPCDD	-	-	51.8	22.6	-	-
1,2,3,4,6,7,8-HPCDF	-	-	49	5.66	-	-
1,2,3,4,7,8,9-HPCDF	-	-	2.34 J	0.386 J	-	-
1,2,3,4,7,8-HXCDD	-	-	1.15 J	0.324 J	-	-
1,2,3,4,7,8-HXCDF	-	-	10.4	0.946 J	-	-
1,2,3,6,7,8-HXCDD	-	-	2.48 J	0.864 J	-	-
1,2,3,6,7,8-HXCDF	-	-	3.61 J	0.575 J	-	-
1,2,3,7,8,9-HXCDD	-	-	1.83 J	0.653 J	-	-
1,2,3,7,8,9-HXCDF	-	-	0.936 J	0.555 U	-	-
1,2,3,7,8-PECDD	-	-	0.691 J	0.26 U	-	-
1,2,3,7,8-PECDF	-	-	2.06 J	0.453 J	-	-
2,3,4,6,7,8-HXCDF	-	-	3 J	0.639 J	-	-
2,3,4,7,8-PECDF	-	-	4.38 J	1.06 J	-	-
2,3,7,8-TCDF	-	-	1.46	0.904 J	-	-
TEQ	-	-	5.8856	1.3365	-	-
TOTAL HPCDD	-	-	127	63.6	-	-
TOTAL HPCDF	-	-	78.5	12.5	-	-
TOTAL HXCDD	-	-	29.4	10.7	-	-
TOTAL HXCDF	-	-	54.3 J	8.95	-	-
TOTAL PECDD	-	-	7.17 J	1.57	-	-
TOTAL PECDF	-	-	45.3 J	11.2	-	-

TABLE 2-2

SUMMARY OF DETECTED CONCENTRATIONS IN SURFACE SOIL
SITE 8 - FORMER INCINERATOR AREA
U.S. COAST GUARD YARD
BALTIMORE, MARYLAND

PARAMETER	SS8-05	SS8-06	SS8-07	SS8-08	SS8-09	SS8-10
Dioxins/Furans - Continued (ng/kg)						
TOTAL TCDD	-	-	1.96	0.544	-	-
TOTAL TCDF	-	-	26.9 J	6.64	-	-
Inorganics (mg/kg)						
ALUMINUM	2290	2300	2750	955	8380	2640 L
ARSENIC	1.2	2.8	2.6	0.87	2.4	3.1
BARIUM	25.8 L	25.5 L	37.2 L	9.2 L	138 L	29
BERYLLIUM	2.2	0.4	0.6	0.65	20.5	0.47
CADMIUM	0.23	0.21 U	0.24	0.21 U	0.58	0.23
CALCIUM	3180	5850	12400	1730	12800	4650
CHROMIUM	25.7 K	13.7	12.8	5.8	43.9	13.6
COBALT	4.2	2.7	2.7	1.7 U	19.4	3
COPPER	38.3 K	80.3	46.1	65.1	1010	50.1 J
IRON	21000	8240	8690	3410	30500	9530 J
LEAD	34.4 K	76.8 K	76.7 K	34 K	354 K	50.4
MAGNESIUM	748	1250	1650	723	2250	1630
MANGANESE	150	107	124	38.9	532	221
MERCURY	0.062	0.089	0.06	0.042 U	0.063	0.049 U
NICKEL	16.2	9.6	9.8 K	7.7	73.8 K	10.4
POTASSIUM	341	257	319	138 U	807	285
SODIUM	166 U	159 U	156 U	155 U	921	171 U
VANADIUM	59.6	23.4	23.5	4.6	15.3	27.4 L
ZINC	111	132	150	235	5450	89.8
Miscellaneous Parameters (mg/kg)						
CYANIDE	0.23 U	0.23 U	0.22 U	0.22 U	0.22 U	0.24 U

B = Analyte is not detected. Result is attributed to laboratory blank contamination.
J = Value is estimated.
K = Value is qualified as biased high.
L = Value is qualified as biased low.
R = Value is not considered to be reliable.
U = Analyte not detected at the associated reporting limit.
UJ = Numerical detection limit for the undetected result is estimated.
mg/kg = Milligrams per kilogram.

TABLE 2-3

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL
SITE 8 - FORMER INCINERATOR AREA
U.S. COAST GUARD YARD
BALTIMORE, MARYLAND

PARAMETER	SB8-05			SB8-06					SB8-07			
	(4-6)	(0.5-2)	(2-4)	(0.5-2)	(2-4)	(4-6)	(4-6)-AVG	(4-6)-D	(0.5-2)	(2-4)	(2-4)-AVG	(2-4)-D
Volatile Organics (mg/kg)												
METHYLENE CHLORIDE	0.012 B	0.015 B	0.014 B	0.0098 B	0.012 B	0.012 B	0.0103 B	0.0086 B	0.012 B	0.0099 B	0.0099 B	-
Semivolatile Organics (mg/kg)												
1,1-BIPHENYL	0.2 U	0.19 U	0.21 U	0.3 K	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.19 U	0.19 U	-
2-METHYLNAPHTHALENE	0.2 U	0.19 U	0.21 U	1.2 K	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.19 U	0.19 U	-
ACENAPHTHENE	0.2 U	0.19 U	0.21 U	2.7 K	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.19 U	0.19 U	-
ACENAPHTHYLENE	0.2 U	0.19 U	0.21 U	0.17 K	0.19 U	0.2 U	0.2 U	0.2 U	0.045 J	0.13 J	0.13 J	-
ACETOPHENONE	0.2 U	0.19 U	0.21 U	0.19 U	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.19 U	0.19 U	-
ANTHRACENE	0.2 U	0.19 U	0.21 U	6.7	0.19 U	0.2 U	0.2 U	0.2 U	0.063 J	0.039 J	0.039 J	-
BAP EQUIVALENT	0 U	0 U	0 U	29.147	0 U	0 U	0 U	0 U	0.3774	0.9209	0.9209	-
BENZO(A)ANTHRACENE	0.2 U	0.19 U	0.21 U	17	0.19 U	0.2 U	0.2 U	0.2 U	0.14 J	0.37	0.37	-
BENZO(A)PYRENE	0.2 U	0.19 U	0.21 U	22	0.19 U	0.2 U	0.2 U	0.2 U	0.29	0.68	0.68	-
BENZO(B)FLUORANTHENE	0.2 U	0.19 U	0.21 U	13	0.19 U	0.2 U	0.2 U	0.2 U	0.15 J	0.41	0.41	-
BENZO(G,H,I)PERYLENE	0.2 U	0.19 U	0.21 U	6.9	0.19 U	0.2 U	0.2 U	0.2 U	0.12 J	0.25	0.25	-
BENZO(K)FLUORANTHENE	0.2 U	0.19 U	0.21 U	13	0.19 U	0.2 U	0.2 U	0.2 U	0.17 J	0.4	0.4	-
BIS(2-ETHYLHEXYL)PHTHALATE	0.2 U	0.19 U	0.21 U	0.19 U	0.19 U	0.2 U	0.2 U	0.2 U	0.063 J	0.19 U	0.19 U	-
BUTYL BENZYL PHTHALATE	0.2 U	0.19 U	0.21 U	0.19 U	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.032 J	0.032 J	-
CARBAZOLE	0.2 U	0.19 U	0.21 U	5.2	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.19 U	0.19 U	-
CHRYSENE	0.2 U	0.19 U	0.21 U	18	0.19 U	0.2 U	0.2 U	0.2 U	0.15 J	0.39	0.39	-
DIBENZO(A,H)ANTHRACENE	0.2 U	0.19 U	0.21 U	3.2 J	0.19 U	0.2 U	0.2 U	0.2 U	0.043 J	0.13 J	0.13 J	-
DIBENZOFURAN	0.2 U	0.19 U	0.21 U	2.6 K	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.19 U	0.19 U	-
DIMETHYL PHTHALATE	0.2 U	0.19 U	0.21 U	0.19 U	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.19 U	0.19 U	-
FLUORANTHENE	0.2 U	0.044 J	0.21 U	42	0.19 U	0.2 U	0.2 U	0.2 U	0.23	0.55	0.55	-
FLUORENE	0.2 U	0.19 U	0.21 U	1.6 K	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.19 U	0.19 U	-
INDENO(1,2,3-CD)PYRENE	0.2 U	0.19 U	0.21 U	8.6	0.19 U	0.2 U	0.2 U	0.2 U	0.14 J	0.3	0.3	-
NAPHTHALENE	0.2 U	0.19 U	0.21 U	1.5 K	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.19 U	0.19 U	-
PHENANTHRENE	0.2 U	0.19 U	0.21 U	42	0.19 U	0.2 U	0.2 U	0.2 U	0.063 J	0.071 J	0.071 J	-
PYRENE	0.2 U	0.04 J	0.21 U	30	0.19 U	0.2 U	0.2 U	0.2 U	0.19	0.46	0.46	-
TOTAL PAHS	0 U	0.084	0 U	229.57	0 U	0 U	0 U	0 U	1.794	4.18	4.18	-
Pesticides/PCBs (mg/kg)												-
4,4'-DDD	0.0039 U	0.075	0.004 U	0.31 J	0.0093	0.0018 R	0.0039 UJ	0.0039 UJ	0.46 J	0.63	0.63	-
4,4'-DDE	0.0039 U	0.0037 U	0.004 U	0.037 J	0.0037 U	0.0038 U	0.0039 U	0.0039 U	0.064 J	0.018 J	0.018 J	-
4,4'-DDT	0.0039 U	0.025	0.004 U	1.2	0.014	0.0021 J	0.0021 J	0.0039 UJ	0.83	0.31 J	0.31 J	-
ALDRIN	0.002 U	0.0019 U	0.0021 U	0.0019 U	0.0019 U	0.002 U	0.002 U	0.002 U	0.0019 U	0.0019 U	0.0019 U	-
ALPHA-BHC	0.002 U	0.0019 U	0.0021 U	0.0019 U	0.0019 U	0.002 U	0.002 U	0.002 U	0.0019 U	0.0088 J	0.0088 J	-
ALPHA-CHLORDANE	0.002 U	0.0019 U	0.0021 U	0.01 J	0.0019 U	0.002 U	0.002 U	0.002 U	0.014 J	0.012 J	0.012 J	-
AROCLOR-1254	0.039 U	0.037 U	0.04 U	0.036 U	0.037 U	0.038 U	0.0385 U	0.039 U	0.037 U	0.037 U	0.037 U	-
AROCLOR-1260	0.039 U	0.037 U	0.04 U	0.036 U	0.037 U	0.038 U	0.0385 U	0.039 U	0.037 U	0.037 U	0.037 U	-
BETA-BHC	0.002 U	0.0019 U	0.0021 U	0.0019 U	0.0019 U	0.002 U	0.002 U	0.002 U	0.0019 U	0.0019 U	0.0019 U	-
DELTA-BHC	0.002 U	0.0019 U	0.0021 U	0.0019 U	0.0019 U	0.002 U	0.002 U	0.002 U	0.0019 U	0.0019 U	0.0019 U	-
ENDOSULFAN SULFATE	0.0039 U	0.0037 U	0.004 U	0.0036 U	0.0037 U	0.0038 U	0.0039 U	0.0039 U	0.0037 U	0.0088 R	0.0088 R	-
ENDRIN ALDEHYDE	0.0039 U	0.0037 U	0.004 U	0.0036 U	0.0037 U	0.0038 U	0.0039 U	0.0039 U	0.018 R	0.0037 U	0.0037 U	-
GAMMA-CHLORDANE	0.002 U	0.0019 U	0.0021 U	0.0019 U	0.0019 U	0.002 U	0.002 U	0.002 U	0.0019 U	0.0019 U	0.0019 U	-

TABLE 2-3

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL
SITE 8 - FORMER INCINERATOR AREA
U.S. COAST GUARD YARD
BALTIMORE, MARYLAND

PARAMETER	SB8-05			SB8-06					SB8-07			
	(4-6)	(0.5-2)	(2-4)	(0.5-2)	(2-4)	(4-6)	(4-6)-AVG	(4-6)-D	(0.5-2)	(2-4)	(2-4)-AVG	(2-4)-D
HEPTACHLOR EPOXIDE	0.002 U	0.0019 U	0.0021 U	0.0019 U	0.0019 U	0.002 U	0.002 U	0.002 U	0.0019 U	0.0019 U	0.0019 U	-
Pesticides/PCBs - Continued (mg/kg)												
METHOXYCHLOR	0.02 U	0.019 U	0.021 U	0.019 U	0.019 U	0.02 U	0.02 U	0.02 U	0.011 J	0.019 U	0.019 U	-
TOTAL AROCLOR	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	-
TOTAL DDT POS	0 U	0.1	0 U	1.547	0.0233	0.0021	0.0021	0 U	1.354	0.958	0.958	-
Petroleum Hydrocarbons (mg/kg)												
DIESEL RANGE ORGANICS	9.7 U	31	10 U	9.1 U	9.3 U	9.6 U	9.65 U	9.7 U	9.2 U	18	18	-
Dioxins/Furans (ng/kg)												
1,2,3,4,6,7,8,9-OCDD	-	-	-	-	-	32 U	9.06 J	9.06 J	-	856	905.5	955
1,2,3,4,6,7,8,9-OCDF	-	-	-	-	-	1.06 J	1.06 J	1.11 U	-	78.2	83.05	87.9
1,2,3,4,6,7,8-HPCDD	-	-	-	-	-	2.06 J	1.4855 J	0.911 J	-	51.7	58.25	64.8
1,2,3,4,6,7,8-HPCDF	-	-	-	-	-	0.517 U	0.245 J	0.245 J	-	56	58.8	61.6
1,2,3,4,7,8,9-HPCDF	-	-	-	-	-	0.56 U	0.5565 U	0.553 U	-	2.23 J	2.575 J	2.92 J
1,2,3,4,7,8-HXCDD	-	-	-	-	-	0.56 U	0.5565 U	0.553 U	-	0.953 J	1.0715 J	1.19 J
1,2,3,4,7,8-HXCDF	-	-	-	-	-	0.56 U	0.385 J	0.385 J	-	12.2	12.9	13.6
1,2,3,6,7,8-HXCDD	-	-	-	-	-	0.56 U	0.5565 U	0.553 U	-	2.37 J	2.775 J	3.18 J
1,2,3,6,7,8-HXCDF	-	-	-	-	-	0.56 U	0.5565 U	0.553 U	-	4.06 J	4.765 J	5.47 J
1,2,3,7,8,9-HXCDD	-	-	-	-	-	0.56 U	0.5565 U	0.553 U	-	1.61 J	2.145 J	2.68 J
1,2,3,7,8,9-HXCDF	-	-	-	-	-	0.56 U	0.3905 U	0.221 U	-	0.894 J	1.127 J	1.36 J
1,2,3,7,8-PECDD	-	-	-	-	-	0.56 U	0.5565 U	0.553 U	-	0.732 J	0.773 J	0.814 J
1,2,3,7,8-PECDF	-	-	-	-	-	0.56 U	0.5565 U	0.553 U	-	2.39 J	2.685 J	2.98 J
2,3,4,6,7,8-HXCDF	-	-	-	-	-	0.56 U	0.5565 U	0.553 U	-	3.23 J	3.71 J	4.19 J
2,3,4,7,8-PECDF	-	-	-	-	-	0.168 J	0.1425 J	0.117 J	-	4.93 J	6.165 J	7.4
2,3,7,8-TCDF	-	-	-	-	-	0.204 J	0.2235 J	0.243 J	-	1.99	2.015	2.04
TEQ	-	-	-	-	-	0.0917	0.1239	0.1122	-	6.3930	7.2467	8.1005
TOTAL HPCDD	-	-	-	-	-	5.34	3.1255	0.911	-	118	138.5	159
TOTAL HPCDF	-	-	-	-	-	0.56 U	0.449	0.449	-	89.4	93.6	97.8
TOTAL HXCDD	-	-	-	-	-	1.49	0.945	0.4	-	26.8	33.15	39.5
TOTAL HXCDF	-	-	-	-	-	0.56 U	0.81	1.34	-	62.3 J	67.2 J	72.1
TOTAL PECDD	-	-	-	-	-	0.56 U	0.5565 U	0.553 U	-	8.41 J	9.405 J	10.4 J
TOTAL PECDF	-	-	-	-	-	0.168	0.5705	0.973	-	52 J	54.6 J	57.2 J
TOTAL TCDD	-	-	-	-	-	0.258 U	0.1845 U	0.111 U	-	2.81	4.335 J	5.86 J
TOTAL TCDF	-	-	-	-	-	0.204	0.331	0.458	-	34.5	37.4 J	40.3 J
Inorganics (mg/kg)												
ALUMINUM	851	2470	1900	2450	2770	1830	1905	1980	2990	2540	2540	-
ARSENIC	3.0	4.3	1.3	2.4	0.34 U	1.9	2.05	2.2	2.4	2.2	2.2	-
BARIUM	7.3 UL	21.7 L	7.5 UL	33.9 L	7.9 L	7.3 UL	7.35 UL	7.4 UL	35.8 L	33.4 L	33.4 L	-
BERYLLIUM	0.23 U	0.87	0.26	0.48	0.23 U	0.23 U	0.23 U	0.23 U	1.6	0.56	0.56	-
CADMIUM	0.23 U	0.22 U	0.24 U	0.22 U	0.23 U	0.23 U	0.23 U	0.23 U	0.22 U	0.22 U	0.22 U	-
CALCIUM	428	4990	1000	4170	244	195 U	195.5 U	196 U	2320	4990	4990	-
CHROMIUM	8.5	19.9 K	5.6	12.1	6.6	5.6	7.0	8.4	10.4	12.8	12.8	-
COBALT	1.8 U	2.6	1.9 U	2.3	1.8 U	1.9 U	1.9 U	1.9 U	2.4	2.4	2.4	-
COPPER	5.8	36.8	7.7	38.6	4.4	3.0	3.25	3.5	45.6	60.4	60.4	-

TABLE 2-3

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL
SITE 8 - FORMER INCINERATOR AREA
U.S. COAST GUARD YARD
BALTIMORE, MARYLAND

PARAMETER	SB8-05			SB8-06					SB8-07			
	(4-6)	(0.5-2)	(2-4)	(0.5-2)	(2-4)	(4-6)	(4-6)-AVG	(4-6)-D	(0.5-2)	(2-4)	(2-4)-AVG	(2-4)-D
IRON	3400	11500	4000	7940	4030	2510	2805	3100	6960	7320	7320	-
LEAD	2.1 K	38.8 K	5.5 K	139 K	0.45 U	1.3 K	1.5 K	1.7 K	129 K	75.5 K	75.5 K	-
Inorganics - Continued (mg/kg)												
MAGNESIUM	164 U	930	515	1220	256	165 U	132.25	182	953	1590	1590	-
MANGANESE	8.4	79.6	28.2	102	19.3	46.6	38.3	30.0	62.3	105	105	-
MERCURY	0.049 U	0.072	0.051 U	0.07	0.047 U	0.049 U	0.047 U	0.045 U	0.11	0.27	0.27	-
NICKEL	2.0	11.0	4.7	7.9	2.1	1.7	1.8	1.9	10.1	9.2	9.2	-
POTASSIUM	152 U	307	289	353	174	153 U	153.5 U	154 U	340	351	351	-
SELENIUM	1.4 U	1.3 U	1.4 U	1.3 U	1.6	1.4 U	1.4 U	1.4 U	1.3 U	1.3 U	1.3 U	-
SILVER	0.23 U	0.22 U	0.24 U	0.22 U	0.23 U	0.23 U	0.23 U	0.23 U	0.22 U	0.22 U	0.22 U	-
SODIUM	171 U	165 U	177 U	163 U	167 U	172 U	172.5 U	173 U	164 U	165 U	165 U	-
VANADIUM	23.7	55.1	19.1	24.4	14.4	15.4	15.65	15.9	21.4	21.5	21.5	-
ZINC	7.6	94.0	15.3	132	12.1	10.7	10.65	10.6	139	151	151	-
Miscellaneous Parameters (mg/kg)												
CYANIDE	0.25 U	0.23 U	0.26 U	0.23 U	0.24 U	0.24 U	0.225	0.33	0.23 U	0.24 U	0.24 U	-
TOTAL ORGANIC CARBON	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 2-3

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL
SITE 8 - FORMER INCINERATOR AREA
U.S. COAST GUARD YARD
BALTIMORE, MARYLAND

PARAMETER	SB8-07	SB8-08					SB8-09			SB8-10		
	(4-6)	(0.5-2)	(2-4)	(4-6)	(4-6)-AVG	(4-6)-D	(0.5-2)	(2-4)	(4-6)	(0.5-2)	(2-4)	(4-6)
Volatile Organics (mg/kg)												
METHYLENE CHLORIDE	0.0097 B	0.008 B	0.057 J	0.013 B	0.0683 J	0.13 J	0.0054 U	0.005 B	0.13 J	0.0073 B	0.0065 B	0.0086 B
Semivolatile Organics (mg/kg)												
1,1-BIPHENYL	0.19 U	0.2 U	0.19 U	0.072 J	0.072 J	0.21 U	0.18 U	0.18 U	0.2 U	0.19 U	0.18 U	0.2 U
2-METHYLNAPHTHALENE	0.04 J	0.2 U	0.19 U	0.25	0.1715 J	0.093 J	0.18 U	0.18 U	0.2 U	0.19 U	0.18 U	0.2 U
ACENAPHTHENE	0.19 U	0.2 U	0.19 U	1.3	0.825 J	0.35 J	0.18 U	0.18 U	0.048 J	0.19 U	0.18 U	0.2 U
ACENAPHTHYLENE	0.19 U	0.2 U	0.19 U	0.063 J	0.053 J	0.043 J	0.18 U	0.18 U	0.2 U	0.077 J	0.18 U	0.12 J
ACETOPHENONE	0.19 U	0.2 U	0.19 U	0.091 J	0.091 J	0.21 U	0.18 U	0.18 U	0.2 U	0.12 J	0.074 J	0.2 U
ANTHRACENE	0.041 J	0.2 U	0.19 U	2.7	1.825 J	0.95 J	0.18 U	0.18 U	0.13 J	0.04 J	0.18 U	0.2 U
BAP EQUIVALENT	0.3251	0 U	0.1705	13.54	9.4077	5.2754	0.1813	0.2155	0.7224	0.5824	0.3585	0.7886
BENZO(A)ANTHRACENE	0.12 J	0.2 U	0.19 U	11	6.7 J	2.4 J	0.18 U	0.044 J	0.32	0.22	0.1 J	0.3
BENZO(A)PYRENE	0.25	0.2 U	0.046 J	9.1	6.65 J	4.2 J	0.069 J	0.11 J	0.54	0.44	0.27	0.6
BENZO(B)FLUORANTHENE	0.14 J	0.2 U	0.19 U	7	4.6 J	2.2 J	0.034 J	0.051 J	0.36	0.29	0.19	0.41
BENZO(G,H,I)PERYLENE	0.11 J	0.2 U	0.19 U	5.9	3.6 J	1.3 J	0.18 U	0.051 J	0.2	0.22	0.14 J	0.23
BENZO(K)FLUORANTHENE	0.12 J	0.2 U	0.19 U	11	6.4 J	1.8 J	0.045 J	0.072 J	0.25	0.2	0.12 J	0.26
BIS(2-ETHYLHEXYL)PHTHALATE	0.04 J	0.2 U	0.19 U	0.32	0.22 J	0.12 J	0.077 J	0.18 U	0.033 J	0.19 U	0.097 J	0.062 J
BUTYL BENZYL PHTHALATE	0.11 J	0.2 U	0.19 U	0.16 J	0.16 J	0.21 U	0.18 U	0.18 U	0.2 U	0.19 U	0.18 U	0.2 U
CARBAZOLE	0.19 U	0.2 U	0.19 U	1.9	1.295 J	0.69 J	0.18 U	0.18 U	0.085 J	0.19 U	0.18 U	0.2 U
CHRYSENE	0.14 J	0.2 U	0.19 U	11	6.7 J	2.4 J	0.041 J	0.054 J	0.35	0.24	0.13 J	0.34
DIBENZO(A,H)ANTHRACENE	0.038 J	0.2 U	0.19 U	1.9	1.175 J	0.45 J	0.18 U	0.18 U	0.089 J	0.067 J	0.042 J	0.089 J
DIBENZOFURAN	0.19 U	0.2 U	0.19 U	0.82	0.545 J	0.27 J	0.18 U	0.18 U	0.036 J	0.19 U	0.18 U	0.2 U
DIMETHYL PHTHALATE	0.19 U	0.2 U	0.19 U	0.2 U	0.17 J	0.17 J	0.18 U	0.18 U	0.2 U	0.19 U	0.18 U	0.2 U
FLUORANTHENE	0.22	0.2 U	0.19 U	28	17.35 J	6.7 J	0.077 J	0.089 J	0.88	0.4	0.19	0.41
FLUORENE	0.19 U	0.2 U	0.19 U	1.3	0.87 J	0.44 J	0.18 U	0.18 U	0.059 J	0.19 U	0.18 U	0.2 U
INDENO(1,2,3-CD)PYRENE	0.099 J	0.2 U	0.19 U	6.7	4.1 J	1.5 J	0.18 U	0.054 J	0.23	0.22	0.16 J	0.26
NAPHTHALENE	0.19 U	0.2 U	0.19 U	0.55	0.345 J	0.14 J	0.18 U	0.18 U	0.2 U	0.19 U	0.18 U	0.2 U
PHENANTHRENE	0.098 J	0.2 U	0.19 U	20	12.4 J	4.8 J	0.18 U	0.043 J	0.59	0.12 J	0.078 J	0.08 J
PYRENE	0.23	0.2 U	0.19 U	21	12.9 J	4.8 J	0.066 J	0.077 J	0.51	0.32	0.17 J	0.37
TOTAL PAHS	1.646	0 U	0.046	138.763	86.6645	34.566	0.332	0.645	4.556	2.854	1.59	3.469
Pesticides/PCBs (mg/kg)												
4,4'-DDD	7.3 J	0.0039 U	0.0038 U	0.0039 UJ	0.0041 J	0.0063	0.0035 U	0.0035 U	0.0038 U	0.0063 J	0.0035 U	0.0039 U
4,4'-DDE	0.12 J	0.0039 U	0.0038 U	0.022 J	0.0136 J	0.0051 J	0.0035 U	0.0035 U	0.0038 U	0.013	0.0035 U	0.0021 R
4,4'-DDT	6.5 J	0.0039 U	0.0038 U	0.055 J	0.0335 J	0.012 J	0.0035 U	0.0035 U	0.0021 UJ	0.096 J	0.031 J	0.0039 U
ALDRIN	0.009 R	0.002 U	0.0019 U	0.012 J	0.0061 J	0.0003 UJ	0.0018 U	0.0018 U	0.002 U	0.0019 U	0.0018 U	0.002 U
ALPHA-BHC	0.14 J	0.002 U	0.0019 U	0.002 UJ	0.002 UJ	0.002 U	0.0018 U	0.0018 U	0.002 U	0.0019 U	0.0018 U	0.002 U
ALPHA-CHLORDANE	0.096 R	0.002 U	0.0019 U	0.002 UJ	0.002 UJ	0.002 U	0.0018 U	0.0018 U	0.002 U	0.0019 U	0.0018 U	0.002 U
AROCLOR-1254	0.037 U	0.039 U	0.038 U	0.72 J	0.397 J	0.074 J	0.035 U	0.036 J	0.038 U	0.037 U	0.14	0.093
AROCLOR-1260	0.037 U	0.039 U	0.038 U	0.37	0.227 J	0.084 J	0.035 U	0.043 J	0.045 J	0.037 U	0.16 J	0.069 J
BETA-BHC	0.08 J	0.002 U	0.0019 U	0.002 UJ	0.002 UJ	0.002 U	0.0018 U	0.0018 U	0.002 U	0.0019 U	0.0018 U	0.002 U
DELTA-BHC	0.023 J	0.002 U	0.0019 U	0.002 UJ	0.002 UJ	0.002 U	0.0018 U	0.0018 U	0.002 U	0.0019 U	0.0018 U	0.002 U
ENDOSULFAN SULFATE	0.0037 U	0.0039 U	0.0038 U	0.04 J	0.021 J	0.004 U	0.0035 U	0.0035 U	0.0038 U	0.0037 U	0.018 J	0.0039 U
ENDRIN ALDEHYDE	0.22 J	0.0039 U	0.0038 U	0.024 J	0.013 J	0.004 U	0.0035 U	0.0035 U	0.0038 U	0.0037 U	0.0042 R	0.0039 U
GAMMA-CHLORDANE	0.0019 U	0.002 U	0.0019 U	0.02 J	0.0105 J	0.002 U	0.0018 U	0.0018 U	0.002 U	0.0019 U	0.0063	0.002 U

TABLE 2-3

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL
SITE 8 - FORMER INCINERATOR AREA
U.S. COAST GUARD YARD
BALTIMORE, MARYLAND

PARAMETER	SB8-07	SB8-08					SB8-09			SB8-10		
	(4-6)	(0.5-2)	(2-4)	(4-6)	(4-6)-AVG	(4-6)-D	(0.5-2)	(2-4)	(4-6)	(0.5-2)	(2-4)	(4-6)
HEPTACHLOR EPOXIDE	0.12 J	0.002 U	0.0019 U	0.002 UJ	0.002 UJ	0.002 U	0.0018 U	0.0018 U	0.002 U	0.0019 U	0.0018 U	0.002 U
Pesticides/PCBs - Continued (mg/kg)												
METHOXYCHLOR	0.019 U	0.02 U	0.019 U	0.02 UJ	0.02 UJ	0.02 U	0.018 U	0.018 U	0.02 U	0.019 U	0.018 U	0.021 R
TOTAL AROCLOR	0 U	0 U	0 U	1.09	0.624	0.158	0 U	0.079	0.045	0 U	0.3	0.162
TOTAL DDT POS	13.92	0 U	0 U	0.077	0.0512	0.0234	0 U	0 U	0 U	0.1153	0.031	0 U
Petroleum Hydrocarbons (mg/kg)												
DIESEL RANGE ORGANICS	30	9.8 U	21 L	74	112 J	150 J	8.7 U	8.9 U	9.6 U	53	13	16
Dioxins/Furans (ng/kg)												
1,2,3,4,6,7,8,9-OCDD	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3,4,6,7,8,9-OCDF	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3,4,6,7,8-HPCDD	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3,4,6,7,8-HPCDF	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3,4,7,8,9-HPCDF	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3,4,7,8-HXCDD	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3,4,7,8-HXCDF	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3,6,7,8-HXCDD	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3,6,7,8-HXCDF	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3,7,8,9-HXCDD	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3,7,8,9-HXCDF	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3,7,8-PECDD	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3,7,8-PECDF	-	-	-	-	-	-	-	-	-	-	-	-
2,3,4,6,7,8-HXCDF	-	-	-	-	-	-	-	-	-	-	-	-
2,3,4,7,8-PECDF	-	-	-	-	-	-	-	-	-	-	-	-
2,3,7,8-TCDF	-	-	-	-	-	-	-	-	-	-	-	-
TEQ	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL HPCDD	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL HPCDF	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL HXCDD	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL HXCDF	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL PECDD	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL PECDF	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL TCDD	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL TCDF	-	-	-	-	-	-	-	-	-	-	-	-
Inorganics (mg/kg)												
ALUMINUM	2350	5840	1650	3960	4435 J	4910 J	1090	4260	5440 J	3440 L	4590 L	1840 L
ARSENIC	2.1	7.0	1.9	6.2	6.2	6.2	0.71	4.3	6.5	3.8	2.7	2.5
BARIUM	35.4 L	35.7 L	12.6 L	53.0 L	66.1 L	79.2 L	13.1 L	33.5 L	46.7 L	29.2	56.1	22.2
BERYLLIUM	0.75	0.77	0.23 U	3.3 J	1.995 J	0.69 J	1.5	0.31	1.0 K	0.47	5.1	0.92
CADMIUM	0.6	0.33	0.23 U	1.8	2.05	2.3	0.21 U	0.27	0.38	0.26	0.47	0.23 U
CALCIUM	4460	2180	577	8980	11440 J	13900 J	829	6120	14300 J	5860	21600	2700
CHROMIUM	13.7	28.6	6.1	27.0	33.25 J	39.5 J	3.7	15.5	27.5 J	18.0	20.7	21.5
COBALT	4.1	3.9	1.8 U	5.0	4.75	4.5	2.2	2.3	5.2	3.2	9.0	2.5
COPPER	43.3	61.1 K	10.5	223	239 J	255 J	84.5	49.9	128 J	49.3 J	265 J	57.5 J

TABLE 2-3

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL
SITE 8 - FORMER INCINERATOR AREA
U.S. COAST GUARD YARD
BALTIMORE, MARYLAND

PARAMETER	SB8-07	SB8-08					SB8-09			SB8-10		
	(4-6)	(0.5-2)	(2-4)	(4-6)	(4-6)-AVG	(4-6)-D	(0.5-2)	(2-4)	(4-6)	(0.5-2)	(2-4)	(4-6)
IRON	10200	31300	3690	11900	10805 J	9710 J	4150	11900	17200 J	9670 J	14000 J	9600 J
LEAD	83.2 K	42.4 K	9.3 K	222 K	232 J	242 J	27.5 K	66.6 K	138 J	76.5	160	64.6
Inorganics - Continued (mg/kg)												
MAGNESIUM	1350	738	186	3740	4810	5880	191	1950	3880	1920	8990	1010
MANGANESE	96.9	149	38.7	571	757.5 J	944 J	57.8	89.9	294 J	149	305	126
MERCURY	0.15	0.05 U	0.048 U	0.18	0.175	0.17	0.042 U	0.24	1.4	0.6	0.089	0.047 U
NICKEL	11.6	12.9 K	2.0	21.3	24.5	27.7	6.5	4.7 K	11.0 K	6.8	63.1	10.6
POTASSIUM	309	468	202	297	330.5	364	136 U	359	602	260	646	221
SELENIUM	1.4 U	1.4 U	1.4 U	1.4 U	1.45 U	1.5 U	1.2 U	1.3 U	1.4 U	1.3 U	1.3 U	1.4 U
SILVER	0.23 U	0.24 UL	0.23 U	0.64 K	1.22 J	1.8 J	0.21 U	0.21 UL	0.23 UL	0.22 UL	0.21 UL	0.23 UL
SODIUM	167 U	174 U	169 U	178 U	135.5	182	153 U	156 U	171 U	166 U	237	172 U
VANADIUM	27.9	54.2	13.3	20.2	23.0	25.8	3.6	30.3	30.6	21.4 L	18.6 L	39.7 L
ZINC	228	98.3 K	29.0	643	473	303	555	82.8	380	120	1500	299
Miscellaneous Parameters (mg/kg)												
CYANIDE	0.24 U	0.25 U	0.24 U	0.32	0.33	0.34	0.22 U	0.28	0.24 U	0.24 U	0.23 U	0.25 U
TOTAL ORGANIC CARBON	5250	-	-	-	-	-	-	-	-	-	-	3460

B = Analyte is not detected. Result is attributed to laboratory blank contamination.
J = Value is estimated.
K = Value is qualified as biased high.
L = Value is qualified as biased low.
R = Value is not considered to be reliable.
U = Analyte not detected at the reporting limit left of the letter.
UJ = Numerical detection limit for the undetected result is estimated.
mg/kg = Milligrams per kilogram.

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL FROM TRENCHES
SITE 8 - FROMER INCINERATOR AREA
U.S. COAST GUARD YARD
BALITMORE, MARYLAND
PAGE 1 OF 10

PARAMETER	TR01-01(3)		TR01-02(5)		TR01-03(3)		TR01-04(3)		TR01-05(4)		TR01-05(6)		TR01-06(4)		TR01-06(6)	
Volatile Organics (mg/kg)																
1,1,1-TRICHLOROETHANE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
1,1,2,2-TETRACHLOROETHANE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
1,1,2-TRICHLOROETHANE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
1,1,2-TRICHLOROTRIFLUOROETHANE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
1,1-DICHLOROETHANE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
1,1-DICHLOROETHENE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
1,2,3-TRICHLOROBENZENE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
1,2,4-TRICHLOROBENZENE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
1,2-DIBROMO-3-CHLOROPROPANE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
1,2-DIBROMOETHANE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
1,2-DICHLOROBENZENE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
1,2-DICHLOROETHANE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
1,2-DICHLOROPROPANE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
1,3-DICHLOROBENZENE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
1,4-DICHLOROBENZENE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
1,4-DIOXANE	0.13	U	0.11	U	0.13	U	0.099	U	0.12	UR	0.12	UR	0.13	UR	0.12	UR
2-BUTANONE	0.013	U	0.011	U	0.013	U	0.0099	U	0.012	U	0.012	U	0.013	U	0.012	U
2-HEXANONE	0.013	U	0.011	U	0.013	U	0.0099	U	0.012	U	0.012	U	0.013	U	0.012	U
4-METHYL-2-PENTANONE	0.013	U	0.011	U	0.013	U	0.0099	U	0.012	U	0.012	U	0.013	U	0.012	U
ACETONE	0.013	U	0.011	U	0.013	U	0.0099	U	0.012	U	0.012	U	0.013	U	0.012	U
BENZENE	0.0063	U	0.0056	U	0.0063	U	0.00082	J	0.0061	U	0.0061	U	0.0063	U	0.00066	J
BROMOCHLOROMETHANE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
BROMODICHLOROMETHANE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
BROMOFORM	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
BROMOMETHANE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
CARBON DISULFIDE	0.0063	U	0.0056	U	0.0063	U	0.0025	J	0.0061	U	0.0061	U	0.0063	U	0.0061	U
CARBON TETRACHLORIDE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
CHLOROBENZENE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
CHLORODIBROMOMETHANE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
CHLOROETHANE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
CHLOROFORM	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
CHLOROMETHANE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
CIS-1,2-DICHLOROETHENE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
CIS-1,3-DICHLOROPROPENE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
CYCLOHEXANE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0011	J	0.0061	U
DICHLORODIFLUOROMETHANE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
ETHYLBENZENE	0.0063	U	0.0056	U	0.0063	U	0.17		0.0061	U	0.0061	U	0.0063	U	0.0061	U
ISOPROPYLBENZENE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
M+P-XYLENES	0.0063	U	0.0056	U	0.0063	U	0.032		0.0061	U	0.0061	U	0.0063	U	0.0061	U
METHYL ACETATE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
METHYL CYCLOHEXANE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
METHYL TERT-BUTYL ETHER	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
METHYLENE CHLORIDE	0.075	J	0.055	J	0.071	J	0.065	J	0.038	J	0.033	B	0.046	J	0.021	B
O-XYLENE	0.0063	U	0.0056	U	0.0063	U	0.0052		0.0061	U	0.0061	U	0.0063	U	0.0061	U
STYRENE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
TETRACHLOROETHENE	0.0063	U	0.0056	U	0.0063	U	0.00081	J	0.0061	U	0.00099	J	0.0059	J	0.0061	U

TABLE 2-4

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL FROM TRENCHES
SITE 8 - FROMER INCINERATOR AREA
U.S. COAST GUARD YARD
BALITMORE, MARYLAND

PARAMETER	TR01-01(3)		TR01-02(5)		TR01-03(3)		TR01-04(3)		TR01-05(4)		TR01-05(6)		TR01-06(4)		TR01-06(6)	
Volatile Organics (mg/kg)																
TOLUENE	0.0063	U	0.0056	U	0.0063	U	0.0022	J	0.0061	U	0.0061	U	0.0063	U	0.0061	U
TRANS-1,2-DICHLOROETHENE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
TRANS-1,3-DICHLOROPROPENE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
TRICHLOROETHENE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
TRICHLOROFLUOROMETHANE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	U	0.0061	U	0.0063	U	0.0061	U
VINYL CHLORIDE	0.0063	U	0.0056	U	0.0063	U	0.0049	U	0.0061	UJ	0.0061	UJ	0.0063	UJ	0.0061	UJ
Semivolatile Organics (mg/kg)																
1,1-BIPHENYL	0.2	U	0.19	UJ	0.21	U	0.2	U	0.23	UJ	0.2	U	0.2	U	0.2	UJ
1,2,4,5-TETRACHLOROBENZENE	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	U
2,2'-OXYBIS(1-CHLOROPROPANE)	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	U
2,3,4,6-TETRACHLOROPHENOL	0.2	UJ	0.19	UJ	0.21	UJ	0.2	UJ	0.23	UJ	0.2	UJ	0.2	UJ	0.2	UJ
2,4,5-TRICHLOROPHENOL	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	U
2,4,6-TRICHLOROPHENOL	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	U
2,4-DICHLOROPHENOL	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	U
2,4-DIMETHYLPHENOL	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	U
2,4-DINITROPHENOL	0.38	U	0.37	U	0.41	U	0.38	U	0.44	U	0.38	U	0.39	U	0.39	U
2,4-DINITROTOLUENE	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	U
2,6-DINITROTOLUENE	0.2	UJ	0.19	UJ	0.21	UJ	0.2	UJ	0.23	UJ	0.2	UJ	0.2	UJ	0.2	UJ
2-CHLORONAPHTHALENE	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	U
2-CHLOROPHENOL	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	U
2-METHYLNAPHTHALENE	0.044	J	0.19	U	0.21	U	0.22		0.23	U	0.2	U	0.2	U	0.2	U
2-METHYLPHENOL	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	U
2-NITROANILINE	0.38	U	0.37	U	0.41	U	0.38	U	0.44	U	0.38	U	0.39	U	0.39	U
2-NITROPHENOL	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	U
3,3'-DICHLOROBENZIDINE	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	U
3-NITROANILINE	0.38	U	0.37	U	0.41	U	0.38	U	0.44	U	0.38	U	0.39	U	0.39	U
4,6-DINITRO-2-METHYLPHENOL	0.38	U	0.37	U	0.41	U	0.38	U	0.44	U	0.38	U	0.39	U	0.39	U
4-BROMOPHENYL PHENYL ETHER	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	U
4-CHLORO-3-METHYLPHENOL	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	UJ
4-CHLOROANILINE	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	U
4-CHLOROPHENYL PHENYL ETHER	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	U
4-METHYLPHENOL	0.2	U	0.19	U	0.21	UJ	0.2	UJ	0.23	U	0.2	U	0.2	UJ	0.2	UJ
4-NITROANILINE	0.38	U	0.37	U	0.41	U	0.38	U	0.44	U	0.38	U	0.39	U	0.39	U
4-NITROPHENOL	0.38	U	0.37	U	0.41	U	0.38	U	0.44	U	0.38	U	0.39	U	0.39	U
ACENAPHTHENE	0.2	U	0.19	U	0.21	U	0.2		0.23	U	0.2	U	0.2	U	0.2	UJ
ACENAPHTHYLENE	0.043	J	0.19	U	0.21	U	0.043	J	0.082	J	0.062	J	0.2	U	0.2	U
ACETOPHENONE	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	U
ANTHRACENE	0.2	U	0.19	U	0.051	J	0.4		0.23	U	0.07	J	0.2	U	0.2	U
ATRAZINE	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	U
BAP EQUIVALENT	0.15093		0.137873		0.4162		2.4322		0.43773		0.38151		0.02162		0.00933	
BENZALDEHYDE	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	U
BENZO(A)ANTHRACENE	0.1	J	0.058	J	0.18	J	1.2		0.22	J	0.21		0.12	J	0.092	J
BENZO(A)PYRENE	0.12	J	0.12	J	0.36		2.2		0.38		0.33		0.2	UJ	0.2	UJ
BENZO(B)FLUORANTHENE	0.1	J	0.065	J	0.22	J	1	J	0.19	J	0.16	J	0.084	J	0.2	UJ
BENZO(G,H,I)PERYLENE	0.088	J	0.047	J	0.15	J	0.2	U	0.12	J	0.2	U	0.2	UJ	0.2	UJ
BENZO(K)FLUORANTHENE	0.19	J	0.08	J	0.2	J	1.1		0.25		0.23		0.11	J	0.2	

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL FROM TRENCHES
SITE 8 - FROMER INCINERATOR AREA
U.S. COAST GUARD YARD
BALITMORE, MARYLAND

PARAMETER	TR01-01(3)		TR01-02(5)		TR01-03(3)		TR01-04(3)		TR01-05(4)		TR01-05(6)		TR01-06(4)		TR01-06(6)	
Semivolatile Organics (mg/kg)																
BIS(2-CHLOROETHOXY)METHANE	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	U
BIS(2-CHLOROETHYL)ETHER	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	U
BIS(2-ETHYLHEXYL)PHTHALATE	0.048	J	0.19	UJ	0.21	U	0.85		0.23	UJ	0.046	J	0.36		0.2	UJ
BUTYL BENZYL PHTHALATE	0.2	U	0.19	UJ	0.21	U	3.1		0.23	UJ	0.2	U	0.2	U	0.2	UJ
CAPROLACTAM	0.2	U	0.19	UJ	0.21	U	0.2	U	0.23	UJ	0.2	U	0.2	U	0.2	UJ
CARBAZOLE	0.2	U	0.19	U	0.21	U	0.22		0.23	U	0.2	U	0.2	U	0.2	U
CHRYSENE	0.13	J	0.073	J	0.2	J	1.2		0.23	J	0.21		0.12	J	0.13	J
DI-N-BUTYL PHTHALATE	0.2	U	0.19	UJ	0.21	U	0.13	J	0.23	UJ	0.2	U	0.2	U	0.2	UJ
DI-N-OCTYL PHTHALATE	0.2	U	0.19	UJ	0.21	U	0.2	U	0.23	UJ	0.2	U	0.2	U	0.2	UJ
DIBENZO(A,H)ANTHRACENE	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	UJ	0.2	UJ
DIBENZOFURAN	0.2	U	0.19	U	0.21	U	0.17	J	0.23	U	0.2	U	0.2	U	0.2	U
DIETHYL PHTHALATE	0.2	U	0.19	UJ	0.21	U	0.2	U	0.23	UJ	0.2	U	0.2	U	0.2	UJ
DIMETHYL PHTHALATE	0.2	U	0.19	UJ	0.21	U	0.2	U	0.23	UJ	0.2	U	0.2	U	0.2	UJ
FLUORANTHENE	0.17	J	0.11	J	0.29	J	2	J	0.48	J	0.48	J	0.27	J	0.26	J
FLUORENE	0.2	U	0.19	U	0.21	U	0.25		0.23	U	0.053	J	0.2	U	0.2	U
HEXACHLOROBENZENE	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	U
HEXACHLOROBUTADIENE	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	U
HEXACHLOROCYCLOPENTADIENE	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	U
HEXACHLOROETHANE	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	U
INDENO(1,2,3-CD)PYRENE	0.089	J	0.047	J	0.14	J	0.2	U	0.14	J	0.12	J	0.2	UJ	0.2	UJ
ISOPHORONE	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	U
N-NITROSO-DI-N-PROPYLAMINE	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	U
N-NITROSODIPHENYLAMINE	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	U
NAPHTHALENE	0.051	J	0.19	U	0.21	U	0.19	J	0.23	U	0.2	U	0.2	U	0.2	U
NITROBENZENE	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	U
PENTACHLOROPHENOL	0.38	U	0.37	U	0.41	U	0.38	U	0.44	U	0.38	U	0.39	U	0.39	U
PHENANTHRENE	0.082	J	0.19	U	0.13	J	1.3		0.12	J	0.24		0.066	J	0.052	J
PHENOL	0.2	U	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	UJ
PYRENE	0.16	J	0.097	J	0.26		1.6		0.38	J	0.35		0.26		0.21	J
TOTAL PAHS	1.367		0.697		2.181		12.903		2.592		2.515		1.03		0.744	
Pesticides/PCBs (mg/kg)																
4,4'-DDD	4.7		0.0037	U	0.34	J	0.44		0.0044	U	0.0038	U	0.56	J	0.56	
4,4'-DDE	0.2	J	0.0037	U	0.0041	U	0.0038	U	0.0044	U	0.0038	U	0.46	J	0.36	
4,4'-DDT	0.0038	U	0.019	J	0.59	J	2.9		0.0044	U	0.0038	U	0.7	J	0.29	J
ALDRIN	0.002	U	0.0019	U	0.0021	U	0.002	U	0.0023	U	0.002	U	0.002	U	0.002	U
ALPHA-BHC	0.034	J	0.0087		0.0021	U	0.002	U	0.0023	U	0.002	U	0.002	U	0.002	U
ALPHA-CHLORDANE	0.091	R	0.0021	J	0.0021	U	0.002	U	0.0023	U	0.002	U	0.002	U	0.002	U
AROCLOR-1016	0.038	U	0.037	U	0.041	U	0.038	U	0.044	U	0.038	U	0.039	U	0.039	U
AROCLOR-1221	0.038	U	0.037	U	0.041	U	0.038	U	0.044	U	0.038	U	0.039	U	0.039	U
AROCLOR-1232	0.038	U	0.037	U	0.041	U	0.038	U	0.044	U	0.038	U	0.039	U	0.039	U
AROCLOR-1242	0.038	U	0.037	U	0.041	U	0.038	U	0.044	U	0.038	U	0.039	U	0.039	U
AROCLOR-1248	0.038	U	0.037	U	0.041	U	0.038	U	0.044	U	0.038	U	0.039	U	0.039	U
AROCLOR-1254	7.1	J	2.4	J	0.041	U	3.6	J	0.044	U	0.038	U	0.039	U	0.039	U
AROCLOR-1260	0.038	U	0.037	U	0.041	U	0.69	J	0.044	U	0.038	U	0.039	U	0.039	U
AROCLOR-1262	0.038	U	0.037	U	0.041	U	0.038	U	0.044	U	0.038	U	0.039	U	0.039	U
AROCLOR-1268	0.038	U	0.037	U	0.041	U	0.038	U	0.044	U	0.038	U	0.039	U	0.039	U

TABLE 2-4

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL FROM TRENCHES
SITE 8 - FROMER INCINERATOR AREA
U.S. COAST GUARD YARD
BALITMORE, MARYLAND

PARAMETER	TR01-01(3)		TR01-02(5)		TR01-03(3)		TR01-04(3)		TR01-05(4)		TR01-05(6)		TR01-06(4)		TR01-06(6)	
Pesticides/PCBs (mg/kg)																
BETA-BHC	0.043	J	0.0019	U	0.0021	U	0.002	U	0.0023	U	0.002	U	0.002	U	0.002	U
DELTA-BHC	0.002	U	0.0019	U	0.0021	U	0.002	U	0.0023	U	0.002	U	0.002	U	0.002	U
DIELDRIN	0.83	R	0.0037	U	0.014	R	0.045		0.0044	U	0.0038	U	0.074	J	0.051	J
ENDOSULFAN I	0.002	U	0.0019	U	0.0021	U	0.002	U	0.0023	U	0.002	U	0.002	U	0.37	J
ENDOSULFAN II	2	R	0.0037	U	0.0041	U	0.12	R	0.0044	U	0.0038	U	0.19	U	0.0039	U
ENDOSULFAN SULFATE	0.0038	U	0.0037	U	0.0041	U	0.0038	U	0.0044	U	0.0059	J	0.0039	U	0.0039	U
ENDRIN	0.79		0.0037	U	0.08	R	0.0038	U	0.0044	U	0.0038	UR	0.12	J	0.065	J
ENDRIN ALDEHYDE	0.12	R	0.0049	J	0.0041	U	0.045	J	0.0044	U	0.0038	U	0.0039	U	0.0039	U
ENDRIN KETONE	0.0038	U	0.0037	U	0.0041	U	0.0038	U	0.0044	U	0.0061	J	0.0039	U	0.0039	U
GAMMA-BHC (LINDANE)	0.002	U	0.0019	U	0.0021	U	0.002	U	0.0023	U	0.002	U	0.002	U	0.002	U
GAMMA-CHLORDANE	0.002	U	0.013	J	0.0021	U	0.002	U	0.0023	U	0.002	U	0.026	J	0.03	J
HEPTACHLOR	0.11	R	0.0019	U	0.0021	U	0.002	U	0.0023	U	0.002	U	0.002	U	0.002	U
HEPTACHLOR EPOXIDE	0.002	U	0.0019	U	0.0021	U	0.002	U	0.0023	U	0.002	U	0.002	U	0.002	U
METHOXYCHLOR	0.27	R	0.019	U	0.021	U	0.092	J	0.023	U	0.032	J	0.02	U	0.02	U
TOTAL AROCLOR	7.1		2.4		0	U	4.29		0	U	0	U	0	U	0	U
TOTAL DDT POS	4.9		0.019		0.93		3.34		0	U	0	U	1.72		1.21	
TOXAPHENE	2.6	J	0.19	U	0.21	U	0.2	U	0.23	U	0.2	U	0.2	U	0.2	U
Petroleum Hydrocarbons (mg/kg)																
DIESEL RANGE ORGANICS	14	J	9.5		29		93		11	U	9.6	U	40		15	
GASOLINE RANGE ORGANICS	0.25	U	0.26	U	0.29	U	0.41		0.13	J	0.26	U	0.28	U	0.29	U
Dioxins (ng/kg)																
1,2,3,4,6,7,8,9-OCDD	-		-		-		-		-		-		-		-	
1,2,3,4,6,7,8,9-OCDF	-		-		-		-		-		-		-		-	
1,2,3,4,6,7,8-HPCDD	-		-		-		-		-		-		-		-	
1,2,3,4,6,7,8-HPCDF	-		-		-		-		-		-		-		-	
1,2,3,4,7,8,9-HPCDF	-		-		-		-		-		-		-		-	
1,2,3,4,7,8-HXCDD	-		-		-		-		-		-		-		-	
1,2,3,4,7,8-HXCDF	-		-		-		-		-		-		-		-	
1,2,3,6,7,8-HXCDD	-		-		-		-		-		-		-		-	
1,2,3,6,7,8-HXCDF	-		-		-		-		-		-		-		-	
1,2,3,7,8,9-HXCDD	-		-		-		-		-		-		-		-	
1,2,3,7,8,9-HXCDF	-		-		-		-		-		-		-		-	
1,2,3,7,8-PECDD	-		-		-		-		-		-		-		-	
1,2,3,7,8-PECDF	-		-		-		-		-		-		-		-	
2,3,4,6,7,8-HXCDF	-		-		-		-		-		-		-		-	
2,3,4,7,8-PECDF	-		-		-		-		-		-		-		-	
2,3,7,8-TCDD	-		-		-		-		-		-		-		-	
2,3,7,8-TCDF	-		-		-		-		-		-		-		-	
TEQ	-		-		-		-		-		-		-		-	
TOTAL HPCDD	-		-		-		-		-		-		-		-	
TOTAL HPCDF	-		-		-		-		-		-		-		-	
TOTAL HXCDD	-		-		-		-		-		-		-		-	
TOTAL HXCDF	-		-		-		-		-		-		-		-	
TOTAL PECDD	-		-		-		-		-		-		-		-	
TOTAL PECDF	-		-		-		-		-		-		-		-	
TOTAL TCDD	-		-		-		-		-		-		-		-	

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL FROM TRENCHES
SITE 8 - FROMER INCINERATOR AREA
U.S. COAST GUARD YARD
BALITMORE, MARYLAND
PAGE 5 OF 10

PARAMETER	TR01-01(3)		TR01-02(5)		TR01-03(3)		TR01-04(3)		TR01-05(4)		TR01-05(6)		TR01-06(4)		TR01-06(6)	
Dioxins (ng/kg)																
TOTAL TCDF	-		-		-		-		-		-		-		-	
Inorganics (mg/kg)																
ALUMINUM	2400		2560		3540		6190		3080		2590		3910		3810	
ANTIMONY	2.1	UL	2	UL	6.3	B	5.1	B	9.1	B	2.1	UL	5.1	B	5.6	B
ARSENIC	2.7	L	2.4	L	5.8	L	27.8	L	7.3	L	2.2	L	3.7	L	3.7	L
BARIUM	44.8		54.9		967		631		117		45.7		62.7		117	
BERYLLIUM	0.43		0.62		0.4		3.5		0.62		0.75		1.3		0.78	
CADMIUM	0.33	K	0.39	K	6	K	4.1	K	0.97	K	0.31	K	0.54	K	0.6	K
CALCIUM	4900		11500		14400		20300		4360		3500		10700		6770	
CHROMIUM	15	K	20.1	K	29.4	K	38.8	K	37.8	K	15.7	K	25.4	K	18.4	K
COBALT	3.6		2.6		8.9		10.1		4.9		4		5.4		5.2	
COPPER	60.3	K	75.4	K	1230	K	636	K	382	K	114	K	206	K	197	K
IRON	9340		8380		49400		21100		13000		10100		15500		8550	
LEAD	99.3		125		4960		783		385		116		150		591	
MAGNESIUM	2810		2360		3370		5860		1370		1270		3080		1670	
MANGANESE	98	K	146	K	970	K	670	K	317	K	142	K	644	K	1270	K
MERCURY	0.14		0.31		0.19		2.3		0.42		0.16		0.17		0.14	
NICKEL	28.9		10.6	K	89.3	K	46.8	K	26.4	K	23.9	K	26.8	K	27.6	
POTASSIUM	285		392		246		666		208		235		386		308	
SELENIUM	1.4	U	1.4	U	1.7		1.5		1.6	U	1.4	U	1.4	U	1.4	U
SILVER	0.23	U	0.23	U	2		1.3	K	0.95	K	0.23	U	0.25	K	0.8	J
SODIUM	170	U	167	U	183	U	253		195	U	172	U	182		173	U
THALLIUM	0.92	U	0.9	U	0.99	U	0.91	U	1.1	U	0.93	U	0.92	U	0.94	U
VANADIUM	27.7		30		48.1		39.6		20.9		24.3		29.4		36.1	
ZINC	172		249		3680		2200		682		309		578		526	
Miscellaneous Parameters (mg/kg)																
CYANIDE	0.24	U	0.24	U	0.47		0.24	U	0.28	U	0.24	U	0.25	U	0.25	U

TABLE 2-4

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL FROM TRENCHES
SITE 8 - FROMER INCINERATOR AREA
U.S. COAST GUARD YARD
BALITMORE, MARYLAND

PARAMETER	TR01-06(6)-D		TR02-01(4)		TR02-02(3)		TR02-02(5)		TR02-03(3)	TR02-03(6)		TR03-01(3)	
Volatile Organics (mg/kg)													
1,1,1-TRICHLOROETHANE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
1,1,2,2-TETRACHLOROETHANE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
1,1,2-TRICHLOROETHANE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
1,1,2-TRICHLOROTRIFLUOROETHANE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
1,1-DICHLOROETHANE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
1,1-DICHLOROETHENE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
1,2,3-TRICHLOROBENZENE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
1,2,4-TRICHLOROBENZENE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
1,2-DIBROMO-3-CHLOROPROPANE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
1,2-DIBROMOETHANE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
1,2-DICHLOROBENZENE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
1,2-DICHLOROETHANE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
1,2-DICHLOROPROPANE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
1,3-DICHLOROBENZENE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
1,4-DICHLOROBENZENE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
1,4-DIOXANE	0.11	UR	0.13	U	0.1	UR	0.12	UR	-	0.11	UR	0.12	UR
2-BUTANONE	0.011	U	0.013	U	0.01	U	0.012	U	-	0.011	U	0.012	U
2-HEXANONE	0.011	U	0.013	U	0.01	U	0.012	U	-	0.011	U	0.012	U
4-METHYL-2-PENTANONE	0.011	U	0.013	U	0.01	U	0.012	U	-	0.011	U	0.012	U
ACETONE	0.011	U	0.013	U	0.01	U	0.012	U	-	0.011	U	0.012	U
BENZENE	0.00057	J	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.00076	J
BROMOCHLOROMETHANE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
BROMODICHLOROMETHANE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
BROMOFORM	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
BROMOMETHANE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
CARBON DISULFIDE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
CARBON TETRACHLORIDE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
CHLOROBENZENE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
CHLORODIBROMOMETHANE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
CHLOROETHANE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
CHLOROFORM	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
CHLOROMETHANE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
CIS-1,2-DICHLOROETHENE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
CIS-1,3-DICHLOROPROPENE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
CYCLOHEXANE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
DICHLORODIFLUOROMETHANE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
ETHYLBENZENE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
ISOPROPYLBENZENE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
M+P-XYLENES	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0016	J
METHYL ACETATE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
METHYL CYCLOHEXANE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
METHYL TERT-BUTYL ETHER	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
METHYLENE CHLORIDE	0.029	B	0.065	J	0.043	J	0.064	J	-	0.044	J	0.033	B
O-XYLENE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0013	J
STYRENE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
TETRACHLOROETHENE	0.00097	J	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.00075	J

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL FROM TRENCHES
SITE 8 - FROMER INCINERATOR AREA
U.S. COAST GUARD YARD
BALITMORE, MARYLAND
PAGE 7 OF 10

PARAMETER	TR01-06(6)-D		TR02-01(4)		TR02-02(3)		TR02-02(5)		TR02-03(3)	TR02-03(6)		TR03-01(3)	
Volatile Organics (mg/kg)													
TOLUENE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0031	J
TRANS-1,2-DICHLOROETHENE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
TRANS-1,3-DICHLOROPROPENE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
TRICHLOROETHENE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
TRICHLOROFLUOROMETHANE	0.0056	U	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	U
VINYL CHLORIDE	0.0056	UJ	0.0065	U	0.0051	U	0.006	U	-	0.0055	U	0.0062	UJ
Semivolatile Organics (mg/kg)													
1,1-BIPHENYL	0.2	U	0.19	U	0.19	U	0.21	UJ	-	0.19	U	0.21	U
1,2,4,5-TETRACHLOROBENZENE	0.2	U	0.19	U	0.19	U	0.21	U	-	0.19	U	0.21	U
2,2'-OXYBIS(1-CHLOROPROPANE)	0.2	U	0.19	U	0.19	U	0.21	U	-	0.19	U	0.21	U
2,3,4,6-TETRACHLOROPHENOL	0.2	UJ	0.19	UJ	0.19	UJ	0.21	UJ	-	0.19	UJ	0.21	UJ
2,4,5-TRICHLOROPHENOL	0.2	U	0.19	U	0.19	U	0.21	U	-	0.19	U	0.21	U
2,4,6-TRICHLOROPHENOL	0.2	U	0.19	U	0.19	U	0.21	U	-	0.19	U	0.21	U
2,4-DICHLOROPHENOL	0.2	U	0.19	U	0.19	U	0.21	U	-	0.19	U	0.21	U
2,4-DIMETHYLPHENOL	0.2	U	0.19	U	0.19	U	0.21	U	-	0.19	U	0.21	U
2,4-DINITROPHENOL	0.38	U	0.38	U	0.36	U	0.41	U	-	0.37	U	0.41	U
2,4-DINITROTOLUENE	0.2	U	0.19	U	0.19	U	0.21	U	-	0.19	U	0.21	U
2,6-DINITROTOLUENE	0.2	UJ	0.19	UJ	0.19	UJ	0.21	UJ	-	0.19	UJ	0.21	UJ
2-CHLORONAPHTHALENE	0.2	U	0.19	U	0.19	U	0.21	U	-	0.19	U	0.21	U
2-CHLOROPHENOL	0.2	U	0.19	U	0.19	U	0.21	U	-	0.19	U	0.21	U
2-METHYLNAPHTHALENE	0.2	U	0.19	U	0.19	U	0.045	J	-	0.1	J	0.21	U
2-METHYLPHENOL	0.2	U	0.19	U	0.19	U	0.21	U	-	0.19	U	0.21	U
2-NITROANILINE	0.38	U	0.38	U	0.36	U	0.41	U	-	0.37	U	0.41	U
2-NITROPHENOL	0.2	U	0.19	U	0.19	U	0.21	U	-	0.19	U	0.21	U
3,3'-DICHLOROBENZIDINE	0.2	U	0.19	U	0.19	U	0.21	U	-	0.19	U	0.21	U
3-NITROANILINE	0.38	U	0.38	U	0.36	U	0.41	U	-	0.37	U	0.41	U
4,6-DINITRO-2-METHYLPHENOL	0.38	U	0.38	U	0.36	U	0.41	U	-	0.37	U	0.41	U
4-BROMOPHENYL PHENYL ETHER	0.2	U	0.19	U	0.19	U	0.21	UJ	-	0.19	U	0.21	U
4-CHLORO-3-METHYLPHENOL	0.2	U	0.19	U	0.19	U	0.21	U	-	0.19	U	0.21	U
4-CHLOROANILINE	0.2	U	0.19	U	0.19	U	0.21	U	-	0.19	U	0.21	U
4-CHLOROPHENYL PHENYL ETHER	0.2	U	0.19	U	0.19	U	0.21	UJ	-	0.19	U	0.21	U
4-METHYLPHENOL	0.2	UJ	0.19	UJ	0.19	U	0.21	UJ	-	0.19	U	0.21	UJ
4-NITROANILINE	0.38	U	0.38	U	0.36	U	0.41	U	-	0.37	U	0.41	U
4-NITROPHENOL	0.38	U	0.38	U	0.36	U	0.41	U	-	0.37	U	0.41	U
ACENAPHTHENE	0.2	U	0.19	U	0.19	U	0.21	U	-	0.19	U	0.21	U
ACENAPHTHYLENE	0.2	U	0.19	U	0.19	U	0.21	U	-	0.19	U	0.21	U
ACETOPHENONE	0.2	U	0.19	U	0.19	U	0.21	U	-	0.19	U	0.21	U
ANTHRACENE	0.2	U	0.038	J	0.19	U	0.05	J	-	0.19	U	0.21	U
ATRAZINE	0.2	U	0.19	U	0.19	U	0.21	U	-	0.19	U	0.21	U
BAP EQUIVALENT	0.0154		0.68708		0.02851		0.15028		-	0.156777		0.04002	
BENZALDEHYDE	0.2	U	0.19	U	0.19	U	0.21	U	-	0.19	U	0.21	U
BENZO(A)ANTHRACENE	0.073	J	0.24		0.096	J	0.2	J	-	0.053	J	0.18	J
BENZO(A)PYRENE	0.2	UJ	0.63		0.19	U	0.13	J	-	0.14	J	0.21	UJ
BENZO(B)FLUORANTHENE	0.071	J	0.29	J	0.088	J	0.21	UJ	-	0.046	J	0.2	J
BENZO(G,H,I)PERYLENE	0.2	UJ	0.25		0.085	J	0.21	UJ	-	0.061	J	0.21	UJ
BENZO(K)FLUORANTHENE	0.086	J	0.39		0.16	J	0.21	UJ	-	0.11	J	0.17	J

TABLE 2-4

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL FROM TRENCHES
SITE 8 - FROMER INCINERATOR AREA
U.S. COAST GUARD YARD
BALITMORE, MARYLAND

PARAMETER	TR01-06(6)-D		TR02-01(4)		TR02-02(3)		TR02-02(5)		TR02-03(3)	TR02-03(6)		TR03-01(3)	
Semivolatile Organics (mg/kg)													
BIS(2-CHLOROETHOXY)METHANE	0.2	U	0.19	U	0.19	U	0.21	U	-	0.19	U	0.21	U
BIS(2-CHLOROETHYL)ETHER	0.2	U	0.19	U	0.19	U	0.21	U	-	0.19	U	0.21	U
BIS(2-ETHYLHEXYL)PHTHALATE	0.2	U	0.069	J	0.047	J	0.21	UJ	-	0.61		1.2	
BUTYL BENZYL PHTHALATE	0.2	U	0.19	U	0.19	U	0.21	UJ	-	0.19	U	0.41	
CAPROLACTAM	0.2	U	0.19	U	0.19	U	0.21	UJ	-	0.19	U	0.21	U
CARBAZOLE	0.2	U	0.19	U	0.19	U	0.21	UJ	-	0.19	U	0.21	U
CHRYSENE	0.14	J	0.18	J	0.11	J	0.28	J	-	0.077	J	0.32	
DI-N-BUTYL PHTHALATE	0.2	U	0.19	U	0.19	U	0.21	UJ	-	0.19	U	0.17	J
DI-N-OCTYL PHTHALATE	0.2	U	0.19	U	0.19	U	0.21	UJ	-	0.19	U	0.21	U
DIBENZO(A,H)ANTHRACENE	0.2	UJ	0.19	U	0.19	U	0.21	UJ	-	0.19	U	0.21	UJ
DIBENZOFURAN	0.2	U	0.19	U	0.19	U	0.21	UJ	-	0.19	U	0.21	U
DIETHYL PHTHALATE	0.2	U	0.19	U	0.19	U	0.21	UJ	-	0.19	U	0.21	U
DIMETHYL PHTHALATE	0.2	U	0.19	U	0.19	U	0.21	UJ	-	0.19	U	0.21	U
FLUORANTHENE	0.27	J	0.31	J	0.15	J	0.48	J	-	0.091	J	0.45	J
FLUORENE	0.2	U	0.19	U	0.19	U	0.21	UJ	-	0.19	U	0.21	U
HEXACHLOROBENZENE	0.2	U	0.19	U	0.19	U	0.21	U	-	0.19	U	0.21	U
HEXACHLOROBUTADIENE	0.2	U	0.19	U	0.19	U	0.21	U	-	0.19	U	0.21	U
HEXACHLOROCYCLOPENTADIENE	0.2	U	0.19	U	0.19	U	0.21	U	-	0.19	U	0.21	U
HEXACHLOROETHANE	0.2	U	0.19	U	0.19	U	0.21	U	-	0.19	U	0.21	U
INDENO(1,2,3-CD)PYRENE	0.2	UJ	0.19	U	0.084	J	0.21	UJ	-	0.057	J	0.21	UJ
ISOPHORONE	0.2	U	0.19	U	0.19	U	0.21	U	-	0.19	U	0.21	U
N-NITROSO-DI-N-PROPYLAMINE	0.2	U	0.19	U	0.19	U	0.21	U	-	0.19	U	0.21	U
N-NITROSODIPHENYLAMINE	0.2	U	0.19	U	0.19	U	0.21	U	-	0.19	U	0.21	U
NAPHTHALENE	0.2	U	0.19	U	0.19	U	0.21	U	-	0.092	J	0.21	U
NITROBENZENE	0.2	U	0.19	U	0.19	U	0.21	U	-	0.19	U	0.21	U
PENTACHLOROPHENOL	0.38	U	0.38	U	0.36	U	0.41	U	-	0.37	U	0.41	U
PHENANTHRENE	0.077	J	0.11	J	0.046	J	0.24		-	0.087	J	0.2	J
PHENOL	0.2	U	0.19	U	0.19	U	0.21	U	-	0.19	U	0.21	U
PYRENE	0.22		0.29		0.13	J	0.48	J	-	0.081	J	0.45	
TOTAL PAHS	0.937		2.728		0.949		1.905		-	0.995		1.97	
Pesticides/PCBs (mg/kg)													
4,4'-DDD	0.87		0.0037	U	0.0036	U	0.0042	U	-	0.0037	U	0.0041	U
4,4'-DDE	0.53		0.0009	R	0.0061	J	0.0042	U	-	0.0037	U	0.98	J
4,4'-DDT	0.52	J	0.0044	R	0.0036	U	0.0052	R	-	0.0037	U	2	J
ALDRIN	0.002	U	0.0019	U	0.0019	U	0.0021	U	-	0.0019	U	0.0021	U
ALPHA-BHC	0.002	U	0.0019	U	0.0019	U	0.0021	U	-	0.0019	U	0.0021	U
ALPHA-CHLORDANE	0.002	U	0.0014	J	0.015	J	0.0021	U	-	0.0019	U	0.0021	U
AROCLOR-1016	0.039	U	0.037	U	0.036	U	0.042	U	-	0.037	U	0.041	U
AROCLOR-1221	0.039	U	0.037	U	0.036	U	0.042	U	-	0.037	U	0.041	U
AROCLOR-1232	0.039	U	0.037	U	0.036	U	0.042	U	-	0.037	U	0.041	U
AROCLOR-1242	0.039	U	0.037	U	0.036	U	0.042	U	-	0.037	U	0.041	U
AROCLOR-1248	0.039	U	0.037	U	0.036	U	0.042	U	-	0.037	U	0.041	U
AROCLOR-1254	0.039	U	0.042	J	0.036	U	0.44	J	-	0.2	J	25	
AROCLOR-1260	0.039	U	0.06	J	0.036	U	0.17		-	0.16	J	23	J
AROCLOR-1262	0.039	U	0.037	U	0.036	U	0.042	U	-	0.037	U	0.041	U
AROCLOR-1268	0.039	U	0.037	U	0.036	U	0.042	U	-	0.037	U	0.041	U

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL FROM TRENCHES
SITE 8 - FROMER INCINERATOR AREA
U.S. COAST GUARD YARD
BALITMORE, MARYLAND
PAGE 9 OF 10

PARAMETER	TR01-06(6)-D	TR02-01(4)	TR02-02(3)	TR02-02(5)	TR02-03(3)	TR02-03(6)	TR03-01(3)
Pesticides/PCBs (mg/kg)							
BETA-BHC	0.002 U	0.0019 U	0.0019 U	0.0021 U	-	0.0019 U	0.0021 U
DELTA-BHC	0.002 U	0.0019 U	0.0019 U	0.0021 U	-	0.0019 U	0.002 U
DIELDRIN	0.07 J	0.0011 R	0.0036 U	0.0042 U	-	0.0037 U	0.67 R
ENDOSULFAN I	0.53	0.0019 U	0.0019 U	0.0021 U	-	0.0019 U	0.0021 U
ENDOSULFAN II	0.0039 U	0.0012 R	0.0036 U	0.0042 U	-	0.0037 U	0.55 R
ENDOSULFAN SULFATE	0.0039 U	0.0037 U	0.0036 U	0.0045 J	-	0.0037 U	0.0041 U
ENDRIN	0.079 J	0.0037 U	0.0036 U	0.0042 U	-	0.0037 U	0.14 R
ENDRIN ALDEHYDE	0.0039 U	0.0037 U	0.0036 U	0.0042 U	-	0.0037 U	0.9 J
ENDRIN KETONE	0.0039 U	0.0037 U	0.0036 U	0.0029 J	-	0.0037 U	0.53 J
GAMMA-BHC (LINDANE)	0.002 U	0.0019 U	0.0019 U	0.0021 U	-	0.0019 U	0.0021 U
GAMMA-CHLORDANE	0.04 J	0.0017 J	0.0069 J	0.0021 U	-	0.0019 U	1.3
HEPTACHLOR	0.002 U	0.0019 U	0.0019 U	0.0021 U	-	0.0019 U	0.0021 U
HEPTACHLOR EPOXIDE	0.002 U	0.0019 U	0.0019 U	0.0021 U	-	0.0019 U	0.32 R
METHOXYCHLOR	0.02 U	0.019 U	0.019 U	0.021 U	-	0.019 U	0.61 J
TOTAL AROCLOR	0 U	0.102	0 U	0.61	-	0.36	48
TOTAL DDT POS	1.92	0 U	0.0061	0 U	-	0 U	2.98
TOXAPHENE	0.2 U	0.19 U	0.19 U	0.21 U	-	0.19 U	0.21 U
Petroleum Hydrocarbons (mg/kg)							
DIESEL RANGE ORGANICS	11	9.4 U	9.1 U	15	-	9.2 J	80
GASOLINE RANGE ORGANICS	0.25 U	0.24 U	0.27 U	0.3 U	-	0.27 U	0.17 J
Dioxins (ng/kg)							
1,2,3,4,6,7,8,9-OCDD	-	-	-	5590 J	1320	7280 J	-
1,2,3,4,6,7,8,9-OCDF	-	-	-	448	208	169	-
1,2,3,4,6,7,8-HPCDD	-	-	-	452	57.3	456	-
1,2,3,4,6,7,8-HPCDF	-	-	-	155	184	131	-
1,2,3,4,7,8,9-HPCDF	-	-	-	10.4	4.99 J	7.83	-
1,2,3,4,7,8-HXCDD	-	-	-	8.78	1.15 J	3 J	-
1,2,3,4,7,8-HXCDF	-	-	-	9.03	9.25	14.1	-
1,2,3,6,7,8-HXCDD	-	-	-	19.2	3.38 J	16.4	-
1,2,3,6,7,8-HXCDF	-	-	-	15.4	44.5	6.32 J	-
1,2,3,7,8,9-HXCDD	-	-	-	8.02	2.08 J	5.27 J	-
1,2,3,7,8,9-HXCDF	-	-	-	3.22 J	1.78 J	1.88 J	-
1,2,3,7,8-PECDD	-	-	-	4.36 J	0.963 J	1.54 U	-
1,2,3,7,8-PECDF	-	-	-	4.57 J	6.55	2.67 J	-
2,3,4,6,7,8-HXCDF	-	-	-	8.44	5.29	8.46	-
2,3,4,7,8-PECDF	-	-	-	8.26	7.33	8.87	-
2,3,7,8-TCDD	-	-	-	0.956 U	0.398 J	0.639 J	-
2,3,7,8-TCDF	-	-	-	5.17	2.09	2.53	-
TEQ	-	-	-	22.6865	13.6298	17.3591	-
TOTAL HPCDD	-	-	-	842	152	1330	-
TOTAL HPCDF	-	-	-	466	222	387	-
TOTAL HXCDD	-	-	-	137	48.1	128	-
TOTAL HXCDF	-	-	-	220	163	217 J	-
TOTAL PECDD	-	-	-	33.9 J	16.3	9.36 J	-
TOTAL PECDF	-	-	-	116 J	108	96.9	-
TOTAL TCDD	-	-	-	20.1	11	14.7	-

TABLE 2-4

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL FROM TRENCHES
SITE 8 - FROMER INCINERATOR AREA
U.S. COAST GUARD YARD
BALITMORE, MARYLAND

PARAMETER	TR01-06(6)-D		TR02-01(4)		TR02-02(3)		TR02-02(5)		TR02-03(3)	TR02-03(6)		TR03-01(3)	
Dioxins (ng/kg)													
TOTAL TCDF	-		-		-		78.1		44.1	50.6		-	
Inorganics (mg/kg)													
ALUMINUM	3320		3770		2190		7520		-	4190		9490	
ANTIMONY	4.3	B	2	UL	2	UL	3	B	-	7.1	B	39.9	
ARSENIC	3.7	L	1.4	L	1.8	L	5.9	L	-	4	L	19.9	L
BARIUM	136		43.1		24.8		139		-	67.3		186	
BERYLLIUM	0.43		2.4		0.82		1.1		-	1.5		7.4	
CADMIUM	1	K	0.44	K	0.25	K	1.2	K	-	0.52	K	8.2	K
CALCIUM	6400		26800		3920		28300		-	10600		18100	
CHROMIUM	15	K	20.6	K	13.3	K	23.4	K	-	27.2	K	132	K
COBALT	6		6.4		2.9		10.5		-	5.3		22.1	
COPPER	250	K	145	K	54.8	K	148	K	-	205	K	918	K
IRON	10100		12500		8930		8220		-	18400		57800	
LEAD	437		173		78.3		107		-	171		765	
MAGNESIUM	1730		3780		1510		7490		-	3340		4620	
MANGANESE	1940	K	461	K	120	K	4120	K	-	337	K	1700	K
MERCURY	0.12		0.099		0.052		0.34		-	0.094		1.8	
NICKEL	30.7		24	K	14.8	K	15.1	K	-	29.6	K	169	
POTASSIUM	523		382		249		425		-	400		801	
SELENIUM	1.7		1.4	U	1.3	U	3.5		-	1.3	U	1.8	
SILVER	5.6	J	0.23	U	0.22	U	1.8		-	0.22	U	1.1	K
SODIUM	173	U	168	U	162	U	205		-	212		460	
THALLIUM	0.93	U	0.91	U	0.87	U	1.2		-	0.9	U	1	U
VANADIUM	24.5		17.9		29.4		35.5		-	34.8		23.2	
ZINC	821		788		246		249		-	679		3920	
Miscellaneous Parameters (mg/kg)													
CYANIDE	0.24	U	1.1		0.23	U	0.73		-	0.24	U	0.34	

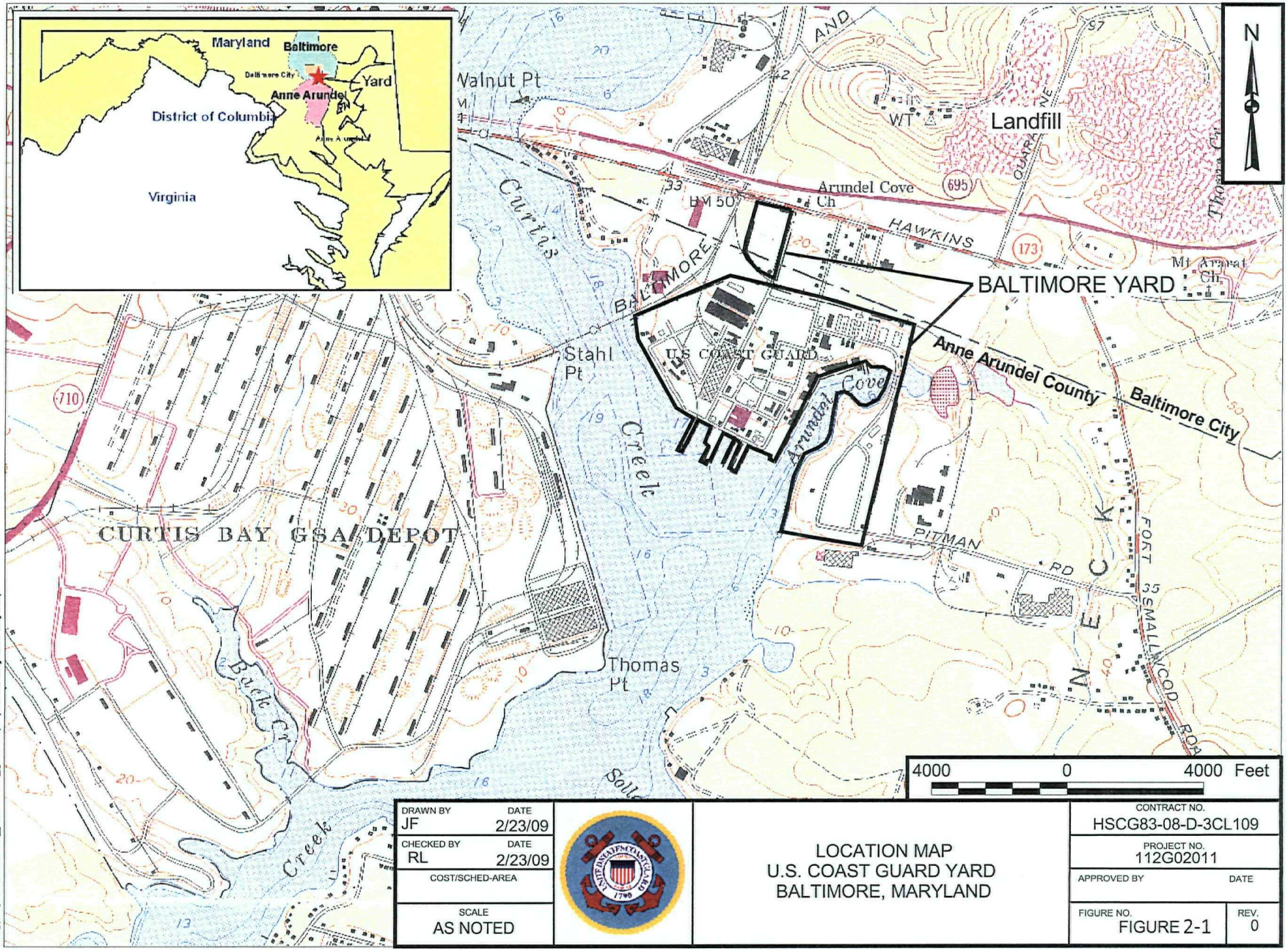
B = Analyte is not detected. Result is attributed to laboratory blank contamination.
J = Value is estimated.
K = Value is qualified as biased high.
L = Value is qualified as biased low.
R = Value is not considered to be reliable.
U = Analyte not detected at the reporting limit left of the letter.
UJ = Numerical detection limit for the undetected result is estimated.
mg/kg = Milligrams per kilogram.

TABLE 2-5

SUMMARY OF DETECTED CONCENTRATIONS IN GROUNDWATER
SITE 8 - FORMER INCINERATOR AREA
U.S. COAST GUARD YARD
BALTIMORE, MARYLAND

PARAMETER	GW8-1	GW8-2	GW8-3
Semivolatile Organics (µg/L)			
BIS(2-ETHYLHEXYL)PHTHALATE	5 U	1.6 J	1.3 J
Pesticides/PCBs (ug/L)			
ALPHA-BHC	0.05 U	0.05 U	0.19 J
BETA-BHC	0.05 U	0.05 U	0.46
DELTA-BHC	0.05 U	0.05 U	0.062 J
DIELDRIN	0.1 U	0.1 U	0.099 J
Dioxins/Furans (ng/L)			
TOTAL TCDF	0.0167	0.0094 U	0.348
Inorganics (µg/L)			
ALUMINUM	67.2	200 U	72.0
BARIUM	126	178	97.2
CALCIUM	39900	108000	60300
COPPER	25.0 U	25.0 U	13.4
IRON	207	373	267
MAGNESIUM	8990	24200	13600
MANGANESE	256	257	867
NICKEL	32.7	40.0 U	40.0 U
POTASSIUM	7540	14300	6480
SODIUM	10600	478000	16300
ZINC	44.7	24.8	64.8
Filtered Inorganics (µg/L)			
ALUMINUM	106	200 U	200 U
BARIUM	136	182	88.5
CALCIUM	43600	109000	55900
COPPER	25 U	25 U	10.6
IRON	157	912	160
MAGNESIUM	10000	25000	12800
MANGANESE	266	305	669
NICKEL	28.3	40 U	40 U
POTASSIUM	7820	14600	5730
SODIUM	11500	484000	16000
ZINC	42.5	23.7	61.9

B = Analyte is not detected. Result is attributed to laboratory blank contamination.
J = Value is estimated.
K = Value is qualified as biased high.
L = Value is qualified as biased low.
R = Value is not considered to be reliable.
U = Analyte not detected at the reporting limit left of the letter.
UJ = Numerical detection limit for the undetected result is estimated.
µg/L = Micrograms per liter.

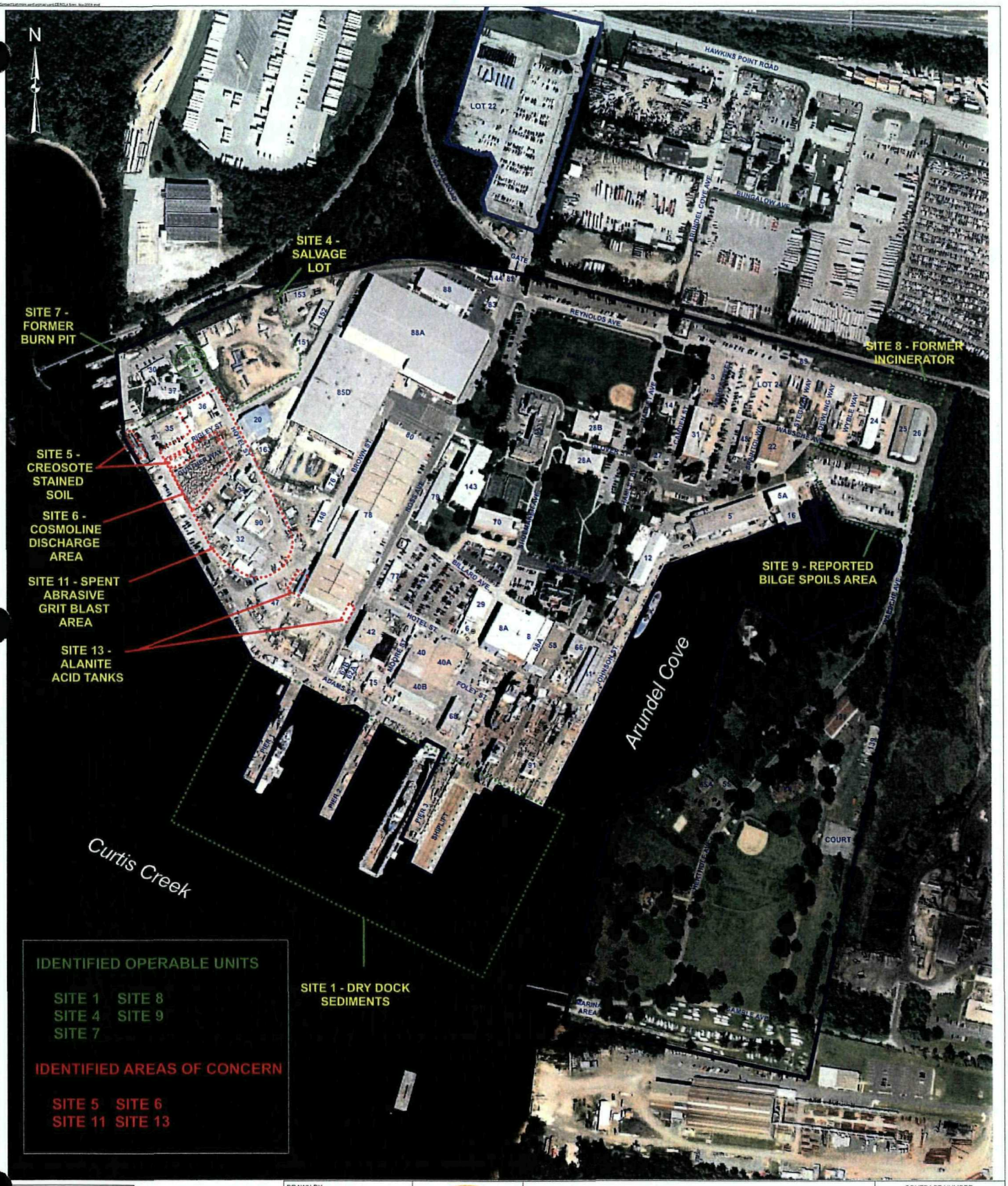


DRAWN BY	JF
DATE	2/23/09
CHECKED BY	RL
DATE	2/23/09
COST/SCHED-AREA	
SCALE	AS NOTED

LOCATION MAP
U.S. COAST GUARD YARD
BALTIMORE, MARYLAND

CONTRACT NO.	HSCG83-08-D-3CL109
PROJECT NO.	112G02011
APPROVED BY	DATE
FIGURE NO.	FIGURE 2-1
REV.	0

k:\gproject\baltimore_yard\coast_guard.apr (Curtis Bay Site Layout)



LEGEND
40B BUILDING NUMBER
YARD BOUNDARY

NOTE: Highlighted areas only illustrate site locations and may not depict areal extent of investigations.

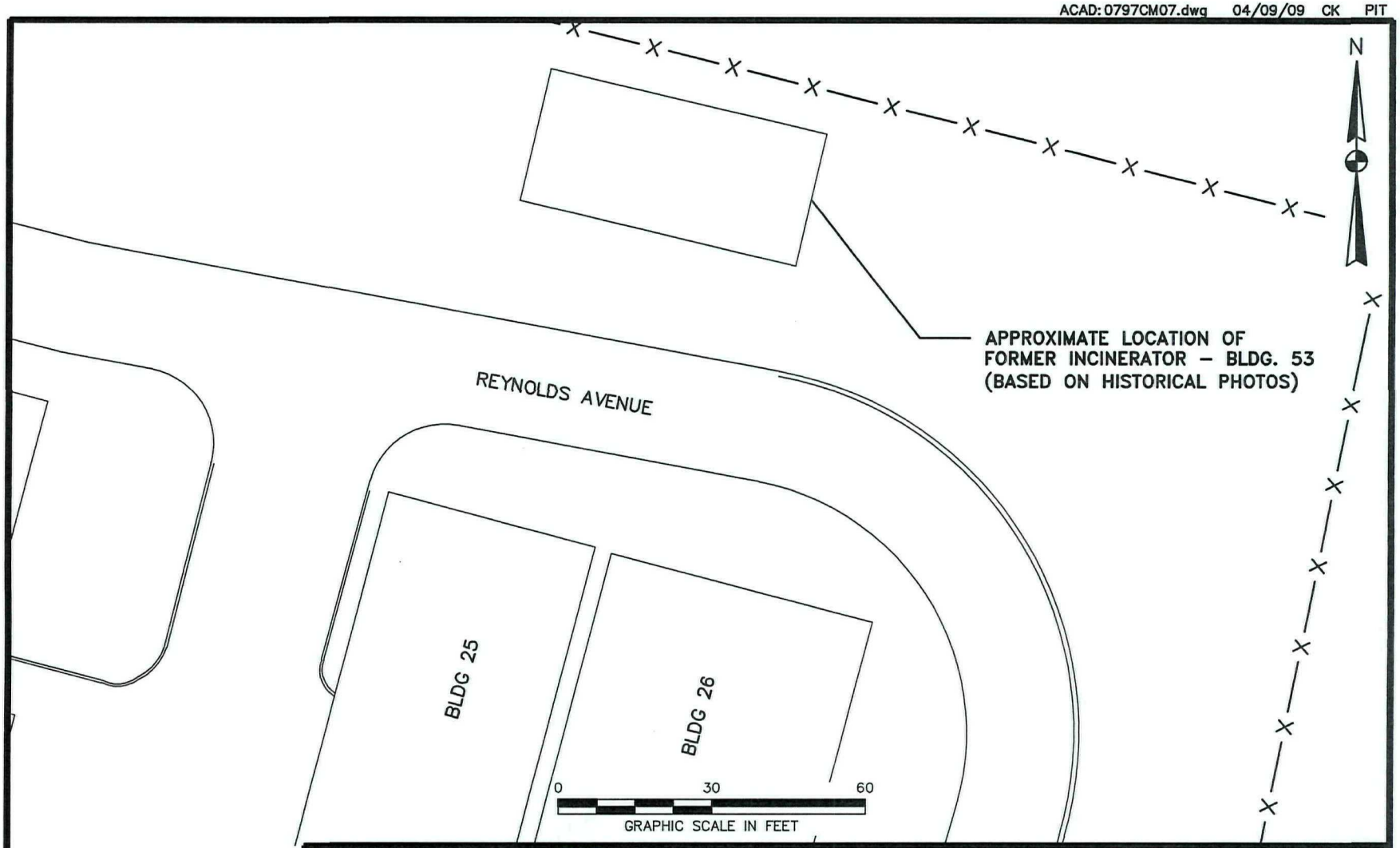
DRAWN BY	JF 5/1/08
CHECKED BY	FK 5/1/08
COST SCHEDULE AREA	
SCALE	NOT TO SCALE

FACILITY MAP WITH CERCLA SITES

UNITED STATES COAST GUARD YARD
BALTIMORE, MARYLAND

CONTRACT NUMBER	HSCG83-08-D-3CL109
PROJECT NO.	112G02011
APPROVED BY	RAC 5/1/08
FIGURE	FIGURE 2-2
REV	0

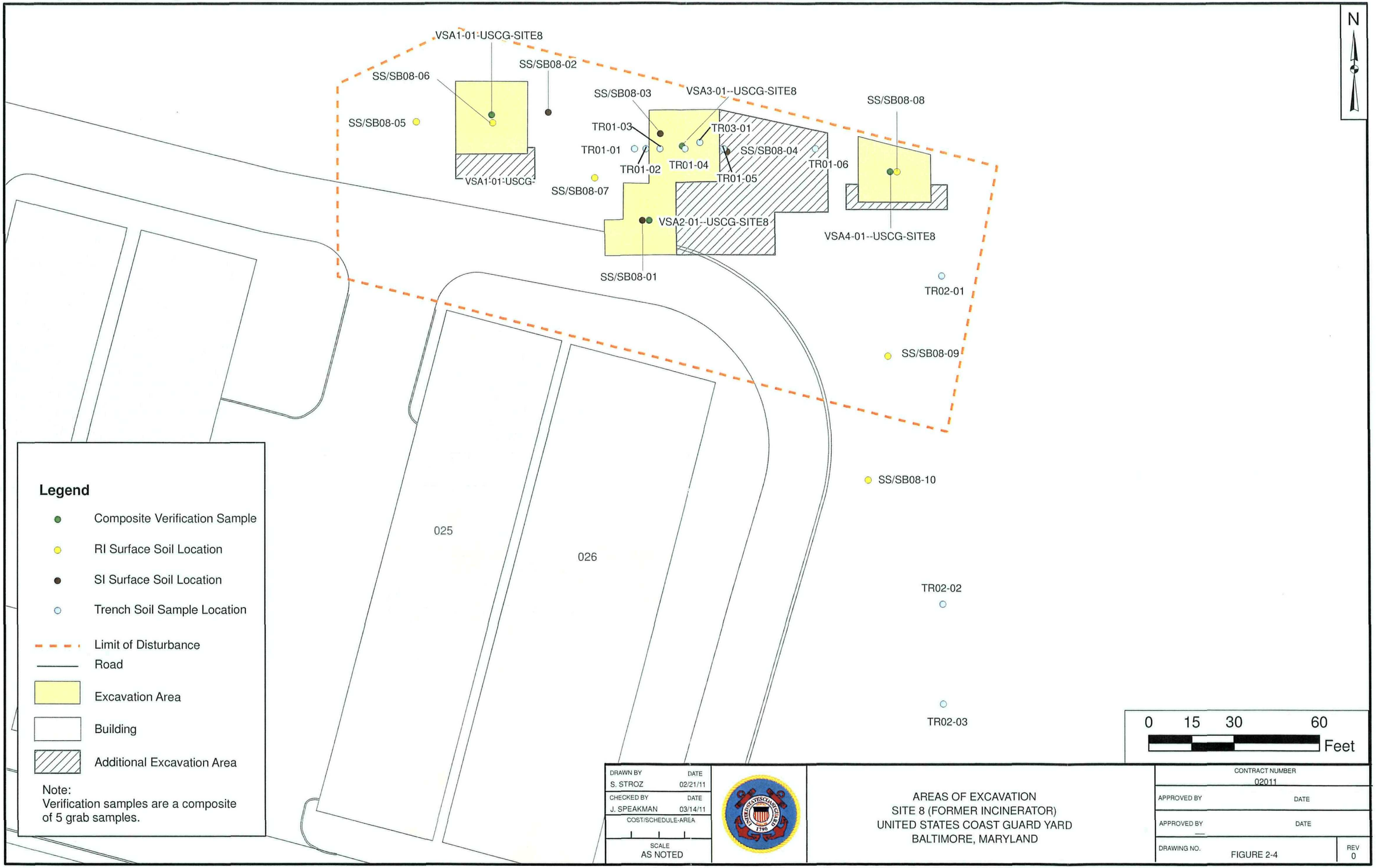
ACAD: 0797CM07.dwg 04/09/09 CK PIT



DRAWN BY CK DATE 4/09/09		SITE LAYOUT MAP SITE 8 - FORMER INCINERATOR AREA UNITED STATES COAST GUARD YARD BALTIMORE, MARYLAND	CONTRACT NO. HSCG83-08-D-3CL109
CHECKED BY DATE			OWNER NO.
REVISED BY DATE			APPROVED BY DATE
SCALE AS NOTED			DRAWING NO. FIGURE 2-3 / REV. 0

FORM CADD NO. SDIV–AH.DWG – REV 1 – 9/10/98

P:\GIS\BALTIMORE_YARD_USCG\MXD\SITE08_EXCAVATION_AREAS.MXD 03/14/11 SS



Legend

- Composite Verification Sample
- RI Surface Soil Location
- SI Surface Soil Location
- Trench Soil Sample Location
- Limit of Disturbance
- Road
- Excavation Area
- Building
- Additional Excavation Area

Note:
Verification samples are a composite of 5 grab samples.

DRAWN BY S. STROZ	DATE 02/21/11
CHECKED BY J. SPEAKMAN	DATE 03/14/11
COST/SCHEDULE-AREA	
SCALE AS NOTED	

AREAS OF EXCAVATION
SITE 8 (FORMER INCINERATOR)
UNITED STATES COAST GUARD YARD
BALTIMORE, MARYLAND

CONTRACT NUMBER 02011	
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO. FIGURE 2-4	REV 0

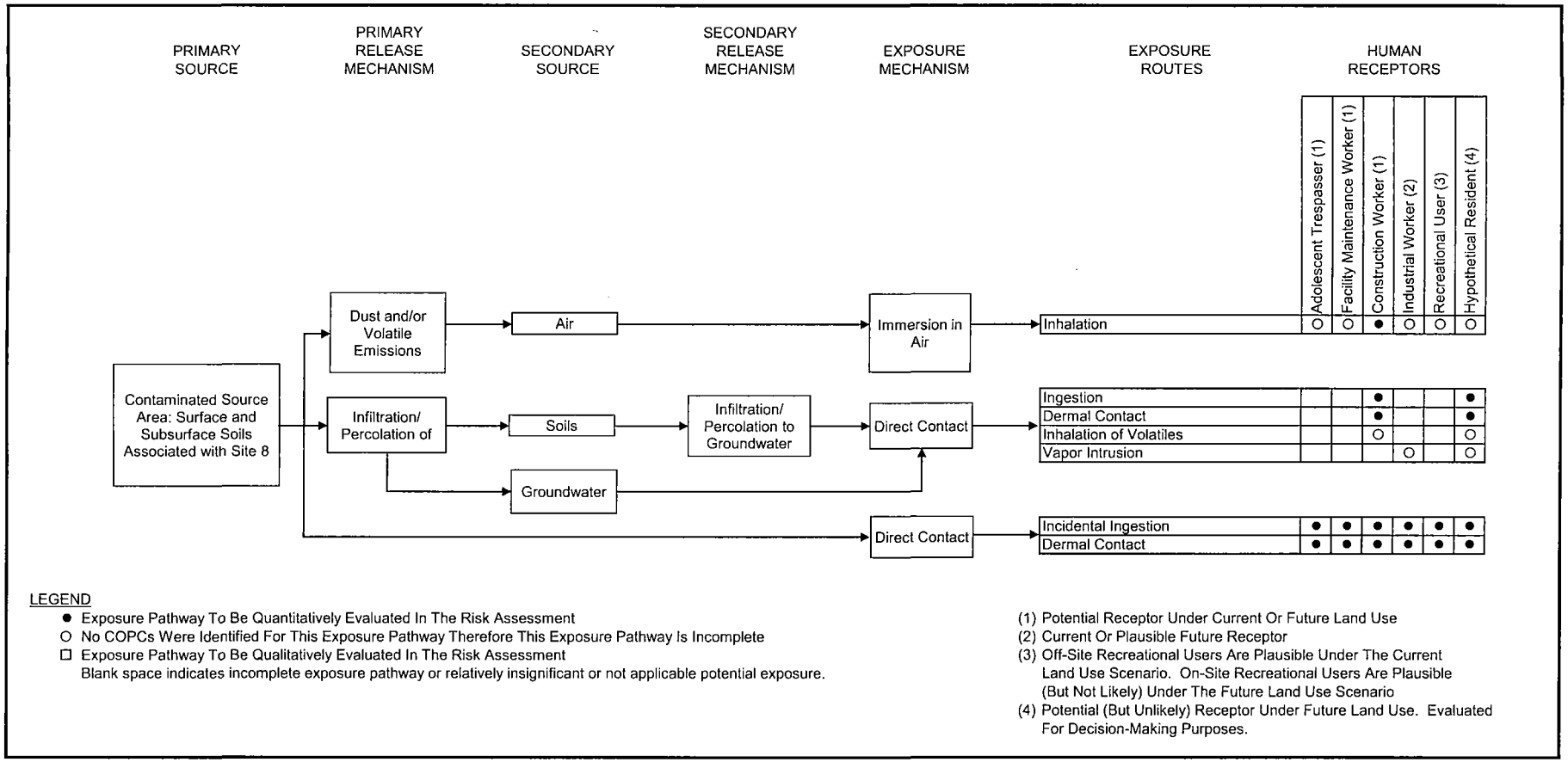


FIGURE 2-5

HUMAN HEALTH CONCEPTUAL SITE MODEL
SITE 8 - FORMER INCINERATOR
US COAST GUARD YARD, BALTIMORE, MARYLAND

3.0 RESPONSIVENESS SUMMARY

3.1 OVERVIEW

This Responsiveness Summary provides a summary of comments received during the public comment period for Site 8. The public comment period for the proposed remedy for Site 8 began on May 23, 2011, and ended on June 22, 2011. A public meeting was held on June 2, 2011, at the YARD to describe the selected remedy and to solicit and accept either written comments or oral comments. This Responsiveness Summary was prepared in accordance with guidance in Community Relations in Superfund: A Handbook (Office of Solid Waste and Emergency Response Directive 9320.3B) (USEPA, 1992).

3.2 BACKGROUND ON COMMUNITY INVOLVEMENT

USCG has a comprehensive community relations program for the YARD. Recent community relations activities have been conducted in accordance with the YARD Community Involvement Plan, originally developed in 2003. These activities have included regular technical and Community Advisory Group (CAG) meetings with the community and local officials and the establishment of the Information Repository at two local libraries for dissemination of information to the community.

USCG organized a CAG in 2003 to review and discuss YARD environmental issues with local community officials and concerned citizens. The CAG consists of representatives of USCG, USEPA, MDE and members of the community. The CAG has met frequently since its inception and now meets on an as needed basis. The results of ongoing investigations are discussed at the CAG meetings.

Reports presenting the findings of the Site 8 investigations are maintained at the local information repositories. The repositories are located at the Anne Arundel County Public Library, North County Area Branch, 1010 Eastway, Glen Burnie, MD and the Anne Arundel County Public Library Brooklyn Park Branch, 1 East 11th Avenue, Baltimore, Maryland. The Administrative Record for the YARD is located at 2401 Hawkins Point Road, Baltimore, Maryland, 21226.

Community relations activities for the final selected remedies include the following:

- The documents concerning the investigation and analysis of Site 8 were presented at CAG meetings.
- The documents concerning the investigation and analysis of Site 8, as well as copies of the Proposed Plan, were placed in the Information Repository.

- Newspaper announcements on the availability of documents and the public meeting and comment period were published in the Maryland Gazette on May 21, 2011.

- USCG established a 30-day public comment period for the Site 8 Proposed Plan from May 23, 2011, to June 22, 2011.

- A meeting was publicized for June 2, 2011 to present the Proposed Plan, but no one from the public or YARD employees were in attendance.

3.3 SUMMARY OF COMMENTS RECEIVED DURING THE PUBLIC COMMENT PERIOD AND COAST GUARD RESPONSES

No written or oral questions were received during the public comment period or during the public meeting on June 2, 2011.

REFERENCES

USCG (United States Coast Guard) Research and Development Center (RDC), 1990. Site Studies, U.S. Coast Guard Yard, Baltimore, Maryland, November.

USCG, 2000. Site Inspection Report, United States Coast Guard Yard, Hawkins Point Road, Baltimore, Maryland, Consultant's report prepared by Tetra Tech NUS, Inc. Pittsburgh, Pennsylvania for the U.S. Coast Guard, Baltimore, Maryland, May.

USEPA (United States Environmental Protection Agency), 1989. Risk Assessment Guidance for Superfund: Volume I, Human Health Evaluation Manual (Part A). Office of Emergency and Remedial Response, Washington, D.C. EPA 540/1-89/002. December.

USEPA, 1991. Human Health Evaluation Manual, Supplemental Guidance: Standard Default Exposure Factors. Washington, D.C. OSWER Directive 9285.6-03. March.

USEPA, 1992. Community Relations in Superfund, a Handbook, USEPA Office of Solid Waste and Emergency Response, Directive 9320.3B, January.

USEPA, 2004. Risk Assessment Guidance for Superfund, Volume 1: 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, Washington, DC, July.

USEPA, 2005. Superfund Community Involvement Handbook. USEPA Office of and Emergency and Remedial Response, Directive 9320.3B, April.

Tetra Tech (Tetra Tech NUS, Inc.), 2010a. Remedial Investigation Report for Site 8 – Former Incinerator Area, United States Coast Guard Yard, Hawkins Point Road, Baltimore, Maryland. June.

Tetra Tech, 2010b. Engineering Evaluation/Cost Analysis for Site 8 – Former Incinerator Area, United States Coast Guard Yard, Hawkins Point Road, Baltimore, Maryland. March.

Tetra Tech, 2011a. Removal Action Completion Report for Site 8, Former Incinerator Area, United States Coast Guard YARD, Hawkins Point Road, Baltimore, Maryland. May.

Tetra Tech, 2011b. Proposed Remedial Action Plan Site 8, Former Incinerator Area, United States Coast Guard YARD, Hawkins Point Road, Baltimore, Maryland. May.

APPENDIX A

MARYLAND DEPARTMENT OF ENVIRONMENT CONCURRENCE LETTER

MDE
MARYLAND DEPARTMENT OF THE ENVIRONMENT
1800 Washington Boulevard • Baltimore MD 21230
410-537-3000 • 1-800-633-6101• www.mde.state.md.us

Martin O'Malley
Governor

Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D.
Secretary

Kathy M. Kinsey
Deputy Secretary

August 4, 2011

Mr. Robert A. DeMarco
U.S. Coast Guard Yard
2401 Hawkins Point Road
Baltimore, MD 21226-1797

RE: Final Record of Decision for Site 8, Former Incinerator Area, United States Coast Guard Yard, Baltimore, Maryland (July 28, 2011).

Dear Mr. DeMarco:

The Federal Facilities Division (FFD) of the Land Restoration Program, Maryland Department of the Environment has reviewed the above referenced Record of Decision (ROD), which documents the joint agreement between the Environmental Protection Agency (EPA) and the U.S. Coast Guard. This ROD presents the decision that "No Further Action" is needed to protect human health and the environment at Site 8. The FFD concurs with this ROD determination, and supports the EPA and the Coast Guard in this decision. To address the potential risk posed by contaminated soil in the vicinity of the former incinerator's footprint, a Time Critical Removal Action (TCRA) was performed, which included excavation and off-site disposal of surface and subsurface soil containing carcinogenic Polycyclic Aromatic Hydrocarbons (PAH), dioxins/furans, Polychlorinated Biphenyls (PCB), and arsenic. The verification sampling after completion of the TCRA confirmed that remaining levels of contamination in site soils were below regulatory levels, and did not pose a risk to human health or the environment.

A public meeting was held on June 2, 2011 to present the "No Further Action" ROD determination for Site 8, and to answer any questions concerning implementation of this ROD. The 30-day public comment period (May 23 through June 22, 2011) provided additional opportunity for public comment on the proposed ROD. No written or verbal comments were received by the Coast Guard, EPA or the FFD during the 30-day public comment period, or during the June 2, 2011 public meeting.

If you have any questions concerning this document review, please contact me at (410) 537-3398.

Sincerely,

Rick Grills
Geologist Program Consultant
Federal Facilities Division

RG:rg
cc: Mr. Gerald Hoover
Mr. Horacio Tablada
Mr. James Carroll