Environment

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Harbor Island Soil and Groundwater
Operable Unit Steering Committee
Seattle, WA

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2018 Annual Groundwater Monitoring Report

Harbor Island Superfund Site – Soil and Groundwater Operable Unit Seattle, Washington

September 4, 2018

AECOM Environment

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Harbor Island Superfund Site – Soil and Groundwater Operable Unit Seattle, Washington

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AECOM Environment

PROFESSIONAL CERTIFICATION

2018 Annual Groundwater Monitoring Report
Harbor Island Soil and Groundwater Operable Unit
Seattle, Washington

60148169-350
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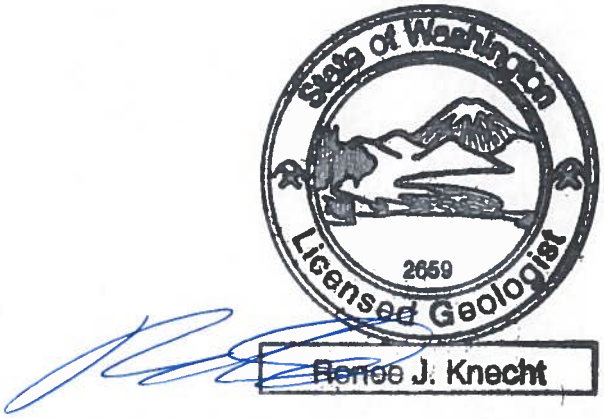
This report has been prepared by the staff of AECOM Environment under the professional supervision of the person whose seal and signature appear hereon.



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List of Abbreviations and Acronyms

µg/L	micrograms per liter
CD	Consent Decree
COC	contaminant of concern
EPA	U.S. Environmental Protection Agency
ICP/MS	inductively coupled plasma mass spectrometry
KCIW	King County Industrial Waste
LNAPL	non-aqueous phase liquid
OU	operable unit
PRP	potentially responsible party
QA/QC	quality assurance/quality control
RAO	remedial action objective
redox	oxidation/reduction
RI/FS	remedial investigation and feasibility study
ROD	Record of Decision
S&G OU	Soil and Groundwater Operable Unit
VOC	volatile organic compound

1.0 Introduction

This 2018 Annual Groundwater Monitoring Report summarizes the results of the thirteenth year of the groundwater sampling program conducted for the Harbor Island Soil and Groundwater Operable Unit (S&G OU; Figure 1). The report presents a synopsis of the long-term monitoring program, details of the groundwater monitoring program, and results of the May 2018 annual monitoring event. The monitoring has been conducted in accordance with the Record of Decision (ROD) that U.S. Environmental Protection Agency (EPA) completed for the S&G OU in 1993 (USEPA 1993) and the subsequent 1996 amended ROD (USEPA 1996a).

Harbor Island, located in Seattle, Washington, was included on the National Priorities List in 1983. EPA subsequently completed a remedial investigation and feasibility study (RI/FS) (Weston 1993) and developed the ROD, which described the remedial actions and monitoring requirements for the S&G OU. A number of S&G OU potentially responsible parties (PRPs) entered into a Consent Decree (CD) with EPA in 1996 for implementing the actions outlined in the ROD (this group of PRPs is hereafter referred to as "the Steering Committee" for the Settling Defendants)[1]. The specified remedial actions for the S&G OU were essentially completed in 2004, and associated long-term groundwater monitoring was initiated in 2005 per EPA-approved monitoring plans, revisions, and addendum described further below. The groundwater monitoring activities conducted by the Steering Committee have been completed per agreements with EPA and comply with the requirements established by EPA, as further described in the following sections.

Groundwater monitoring is being completed in accordance with the Statement of Work in CD No. C95-1495-Z, which was initiated on August 6, 1996. AECOM Environment (AECOM, formerly ENSR/RETEC) is conducting the groundwater monitoring activities on behalf of the Steering Committee. The monitoring described in this report is only for the S&G OU and does not cover the two additional upland OUs, Lockheed or Tank Farm (Figure 1). In addition, this report does not include light non-aqueous phase liquid (LNAPL) recovery operations conducted at Vigor Shipyards (formerly Todd Pacific Shipyards), as these activities are addressed separately by EPA.

Groundwater monitoring between September 2005 and December 2008 was conducted in accordance with the initial Groundwater Monitoring Plan, Revision 1 (Revision 1 Plan; RETEC 2004). Based on the monitoring results from 2005 through 2008 and additional discussions and comments to Revision 2 of the Groundwater Monitoring Plan, EPA approved Revision 3 of the Groundwater Monitoring Plan in 2008 (Revision 3 Plan; ENSR 2008). Addendum 1 to the Revision 3 Plan (Revision 3 Plan Addendum) documents changes to the Groundwater Monitoring Plan and was approved by EPA on October 8, 2015 (AECOM 2016; USEPA 2015a), and included a reduced number of analytes, wells, and frequency (i.e., semiannual sampling reduced to annual sampling in the dry season).

The objective of the long-term groundwater monitoring program is to ensure that the remedial actions completed for the S&G OU (which included soil capping) meet the cleanup goals established in the ROD for protecting marine organisms in the adjacent surface water. The ROD concluded that the cleanup goals for groundwater "apply at the shoreline" and that groundwater quality would be monitored to ensure that dissolved contaminants, if present, do not migrate to the shoreline at concentrations greater than the cleanup goals.

Monitoring results to date indicate that the Harbor Island S&G OU remediation has been effective and that higher metals concentrations in the vicinity of the former smelter and other industrial operations are localized and not migrating shoreward. This is consistent with EPA's fourth 5-year review (USEPA

[1]The Steering Committee comprises all the CD Settling Defendants or their successors who continue to own and/or conduct operations at the S&G OU (USEPA 1996b).

2015b), which found that the remedy appears to be functioning as intended by the ROD, and the hot spot removals and caps are successful in limiting contaminant migration.

1.1 Monitoring Objectives

Groundwater monitoring objectives are presented in the ROD, which required up to 30 years of semiannual monitoring of groundwater contaminant concentrations at selected monitoring wells across Harbor Island. The ROD also required that groundwater quality trends be reviewed every 5 years. The S&G OU monitoring program surpassed the ROD requirements in that quarterly monitoring rather than semiannual monitoring was completed for the first 2 years; new and deep replacement wells were sampled quarterly for 1 year; and groundwater quality trends were reviewed every year. On October 8, 2015, EPA approved the reduction of monitoring to annual sampling (USEPA 2015a) based on AECOM's data evaluation, which included a statistical trend analysis, seasonality assessment, and spatial gradient assessment (AECOM 2015).

The focus of the groundwater monitoring is to protect surface water receptors. The monitoring program is designed to confirm that existing groundwater conditions are meeting the following two remedial action objectives (RAOs) specified in the ROD:

1. A groundwater RAO, to protect surface water: *"Prevent migration of contaminants to the shoreline where marine organisms could be exposed. Protect human health from consuming contaminated marine organisms that pose a risk greater than 1×10^{-6}."*
2. A soil RAO, to provide information on the performance of the soil remedial action: *"Prevent release of contaminants into the groundwater where they can be transported to the shoreline, where marine organisms could be exposed."*

The ROD-specified cleanup goals for ROD contaminants of concern (COCs) in groundwater are listed in Table 1. Where groundwater contaminant concentrations in shoreline wells meet the cleanup goals, compliance with the RAOs is clear. The ROD specifies that in the event concentrations exceed cleanup goals, additional considerations are to be evaluated to assess compliance with RAOs as part of the 5-year reviews (or sooner, depending on the magnitude of the exceedance).

1.2 Site Description

The S&G OU is bordered to the north by Elliott Bay; to the east by the Duwamish East Waterway; to the south by the Lower Duwamish Waterway, the Harbor Island Marina, and Harbor Marina Corporate Center; and to the west by the Duwamish West Waterway. The size of Harbor Island is approximately 420 acres, and the S&G OU is approximately 340 acres. Most of the site is paved with asphaltic concrete or covered with buildings.

1.3 S&G OU Regulatory Setting

The remedial actions EPA selected for the S&G OU are provided in the original ROD issued on September 30, 1993 (USEPA 1993), which was subsequently amended by EPA in January 1996 (USEPA 1996a). The term "ROD," as used in this report, refers to the amended ROD. This groundwater monitoring program fulfills the ROD's groundwater remedial action requirement; this requirement includes groundwater monitoring for 30 years, with review of groundwater quality trends every 5 years to assess the effectiveness of the selected remedy. Additional details on the required remedial actions for the S&G OU are presented in the 2013-2014 Annual Groundwater Monitoring Report (AECOM 2015).

2.0 Groundwater Monitoring Program

The S&G OU monitoring network consists of a total of 26 active wells[2] located on various properties throughout Harbor Island (Figure 2). Wells HI-1 through HI-5, HI-12 through HI-16, and AC-06A are located on Port of Seattle property (Terminal 18). Wells FW-13 (replaced TD-06A per EPA approval on June 26, 2015) and MW-01 are located on Vigor Shipyards property (FW-1 was abandoned on January 13, 2014 per EPA approval [USEPA 2014a]), and well MW-213 is located on Shell property. The remaining wells (HI-6 through HI-11, HI-17, and HI-18) are located elsewhere around the island. The monitoring wells are screened across the main island-wide freshwater zone (or second low salinity zone) at approximately 25 to 40 feet below ground surface where island-related impacts, if present, would have the greatest potential to discharge to the adjacent surface waters of Elliot Bay (AECOM 2015). The network consists of point of compliance (compliance) wells (located near the perimeter of the island), early warning wells (located upgradient of compliance wells along similar groundwater flow paths), boundary wells (located at the boundary between the S&G OU and other island OUs), and interior wells (located near the middle of the southern portion of the island).

Fifteen (15) of the 26 total wells are actively monitored during annual sampling; the remaining eleven wells are sampled every 5 years. Well locations and construction details are presented in Appendix A. Monitoring objectives for the wells are further described in Subsection 2.1.1.

2.1 Annual Sampling Event Program

2.1.1 Monitoring Program Well Locations

Because the focus of monitoring is the protection of receptors in surface water, monitoring wells are located primarily around the perimeter of the entire island. The current annual network of actively monitored wells includes 1 interior well and 14 compliance wells. Well locations are shown on Figure 2. Well locations and types (i.e., compliance, early warning, boundary, and interior wells) are further described by area in the text below.

Compliance Wells

The compliance wells are located around the perimeter of the S&G OU as close as practical to the groundwater discharge to surface water, and are intended to monitor the groundwater for the protection of marine organisms in the adjacent surface water. The 14 compliance wells are: HI-1, HI-2, HI-3, HI-4, HI-5, HI-6A, HI-9A, HI-10, HI-11, HI-12, HI-16, MW-01R[3], MW-213, and FW-13. FW-13 replaced TD-06A in the monitoring program starting in November 2015. However, during the May 2018 event, TD-06A was sampled instead of FW-13 due to increased turbidity and biofouling in FW-13. All of these wells are sampled during the annual and 5-year review sampling events. Well locations are shown on Figure 2.

Early Warning Perimeter Wells

Early warning monitoring wells (HI-13, HI-14, HI-15, and AC-06A) are positioned upgradient of and along the same groundwater flow paths as compliance monitoring wells (HI-1, HI-2, HI-3, and HI-4, respectively) located along the eastern side of the island. These wells are screened to intercept upgradient groundwater before it reaches the shoreline compliance wells and therefore monitor for potential migration and impacts from sources of contaminants, if present. In October 2015, EPA approved the reduction in sampling of these wells to the 5-year review monitoring events (USEPA 2015a).

[2] Installation of the original wells is described in the first annual groundwater monitoring report (RETEC 2006); installation of the additional wells is described in the 2008–2009 annual monitoring report (AECOM 2009).

[3] Monitoring well MW-01R replaced MW-01.

Boundary Wells

Two boundary wells (HI-7 and HI-8) are located at the border between the S&G OU and the Lockheed OU located in the center portion of the western edge of the island. These wells monitor groundwater quality between the Lockheed and S&G OUs. In October 2015, EPA approved the reduction of the sampling frequency for these wells to the 5-year review monitoring events (USEPA 2015a).

Interior Wells

Two interior wells, HI-17 and HI-18, were installed as part of the Revision 3 Plan to assess the groundwater low identified during the RI in the south-central part of the island and to monitor trends in groundwater quality likely infiltrating into the sanitary sewer collection and conveyance system (ENSR 2008; Figure 2). Interior monitoring well HI-18 will be actively monitored during annual sampling. HI-18 is located downgradient of interior well HI-17 (located in a former battery recycling area) and will continue to be monitored to assess groundwater quality downgradient of HI-17. However, annual monitoring at HI-17 was discontinued because it is known to be a hot spot with regular exceedances; it will be sampled during the 5-year review monitoring events (USEPA 2015a).

2.1.2 Analytical Methods – Chemicals Monitored Annually

Analytical parameters and methods for the 2018 groundwater sampling event are summarized in Table 2. Chemical analytes for each monitoring well are listed in Table 3. Additional details regarding specific analyses are provided in the following subsections.

Total Metals

Metals are a primary COC for the site. In accordance with the Revision 3 Plan Addendum, total metals (copper, lead, and zinc) continue to be analyzed at 15 wells during annual sampling. EPA Method 1640 was used to prepare brackish groundwater samples[4] for metals analysis, and the samples were analyzed by inductively coupled plasma mass spectrometry (ICP/MS) according to EPA Method 200.8. For consistency, metals in non-brackish samples were also analyzed by ICP/MS. Dissolved metals were only analyzed during the first monitoring year (2005). In subsequent monitoring years, only total metals were analyzed. All total metals analyses were performed by ALS Laboratory in Kelso, Washington, a Washington State certified laboratory. Reporting limits for all analyses were less than the ROD-specified cleanup goals.

Cyanide

With approval from EPA, the method for analyzing cyanide has been revised since the beginning of the monitoring program. Groundwater samples collected through September 2010 were analyzed for total and available cyanide by Methods for Chemical Analysis of Water and Wastes using EPA Method 335.2 and EPA Method OIA-1677, respectively. In February 2011, EPA approved replacement of total cyanide analysis with available cyanide. Thus, only the available cyanide analysis has been conducted since the June 2011 sampling event. Cyanide speciation details and rationale for analyzing available cyanide are presented in the 2013-2014 Annual Groundwater Monitoring Report (AECOM 2015).

The cleanup goal for cyanide as specified in the ROD is 1 microgram per liter (µg/L). The method reporting limit for total cyanide analysis (EPA Method 335.2) is typically 5 µg/L. During the first monitoring year, the analytical laboratory attempted to achieve a method reporting limit of 1 µg/L, but was unsuccessful (RETEC 2006). Thus, the reporting limit of 5 µg/L was used for total cyanide in subsequent monitoring years. The method reporting limit for available cyanide (2 µg/L) is closer to the cleanup goal of 1 µg/L. The method detection limit for available cyanide changed from 1.1 µg/L to 0.36 µg/L in 2017 and

[4]Determined based on laboratory conductivity measurement testing as noted in the laboratory reports. The reductive precipitation method is considered to be required if sodium above 500 parts per million is detected in the groundwater sample.

2018, which is below the cleanup goal of 1 µg/L. Groundwater samples for available cyanide were analyzed by TestAmerica Laboratories in Pittsburgh, Pennsylvania.

Benzene

Groundwater samples collected at monitoring well TD-06A are analyzed for benzene. Vigor Industrial requested that benzene be added to the analytes because of well TD-06A's location downgradient of LNAPL recovery operations at the Vigor Shipyards, part of the S&G OU. Samples are analyzed using EPA method SW 8260C.

2.2 Groundwater Sampling Methods

At the continued request of EPA[5], the Harbor Island S&G OU and the Lockheed S&G OU synchronized groundwater sampling events and sampled during the dry season in accordance with the approved monitoring plans (ENSR 2008). To achieve coinciding events, this year's sampling was initiated on May 15 and was completed by May 17, 2018. Prior to sampling, water levels were measured in all monitoring wells on site. Low-flow sampling was then accomplished using a peristaltic pump and disposable tubing. The disposable tubing was lowered to the approximate middle of the saturated screen interval and the well purged at a rate of 0.1 to 0.5 liter per minute. Water quality field measurements, including pH, conductivity, oxidation/reduction (redox) potential, turbidity, temperature, and dissolved oxygen, were collected during purging of each well. Purge volumes were based on obtaining stability, as determined by having three consecutive measurements at least 3 to 5 minutes apart within 10 percent of the previous measurements for turbidity and dissolved oxygen, 3 percent for specific conductance and temperature, plus or minus 10 millivolts for redox potential, and plus or minus 0.1 standard unit for pH, according to EPA protocols (USEPA 2010a). Samples were collected from the end of discharge tube attached to the pump directly into the appropriate laboratory provided sample containers, chilled in a cooler, and delivered to the laboratory under chain-of-custody procedures. Volatile organic compound (VOC) samples were collected in appropriate bottles and headspace was excluded when the bottles were closed to minimize volatilization.

Sampling of the compliance (perimeter) wells was timed with low/rising tide to the extent practical. This procedure was initiated beginning with the June 2011 sampling event. There are usually four tides each day, and the mixed semi-diurnal pattern usually includes two unequal low tides (lower low and low tides) and two unequal high tides (high and higher high tides) per 24-hour period. This sampling event was completed during the lower of the two daily low tides. Figure 3 is a tidal graph that illustrates the time period during which compliance wells were sampled.

3.0 Groundwater Monitoring Results

This section presents analytical results from the annual May 2018 sampling event and compares these results to previous sampling events, since the fourth 5-year review. The field parameter data collected during the event are provided in Table 4 and the groundwater monitoring results are provided in Table 5. Metal concentrations from November 2014 to May 2018 are shown on Figures 4 through 6 for copper, lead, and zinc, respectively. Concentrations of available cyanide are shown on Figure 7. Laboratory analytical and data validation reports from this event are included in Appendix B. Groundwater field parameters and analytical results of all monitoring completed to date for each well are provided in Appendix C.

[5] In February 2011, EPA also requested that the monitoring be coordinated with the other PRP groups on the island to the extent practicable. The Harbor Island S&G OU and Lockheed S&G OU 2016 through 2018 sampling events were synchronized. The different parties of the Tank Farm OU do not coordinate their sampling events; however, based on the review of available data, sampling of these properties appears to occur quarterly around the end of each quarter.

The May 2018 annual sampling results were compared to ROD cleanup goals for the S&G OU. Chemical analyses performed as part of the annual program include total metals, cyanide, and benzene. The following subsections describe the monitoring results by monitoring well type (compliance and interior) and chemical analyte.

3.1 Compliance Wells

With the exception of available cyanide, none of the chemical analytes tested for in the 14 compliance wells exceeded the ROD cleanup goals as summarized below:

Total Metals

The S&G OU monitoring program includes three metals: copper, lead, and zinc. No exceedances occurred at the 14 wells sampled (Figures 4 through 6 and Table 5). Reporting limits for these metals were all less than the ROD cleanup goals.

Cyanide

The reporting limit for available cyanide (2 µg/L) is greater than the ROD cleanup goal of 1 µg/L. Available cyanide was not detected in any of the wells sampled, except HI-5, HI-10 and TD-06A. Available cyanide in well TD-06A was detected at 0.56 µg/L (estimated concentration) below the ROD cleanup goal of 1 µg/L while concentrations in wells HI-5 and HI-10 (1.3 and 2 µg/L, respectively) exceeded the cleanup goal of 1 µg/L. (Figure 7 and Table 5).

Benzene

Benzene was not detected in well TD-06A during prior sampling events. FW-13 replaced TD-06A in the monitoring program during 2015 and 2016; benzene was not detected in FW-13 during these annual sampling events. Benzene was not detected in TD-06A during the 2018 sampling event (Table 5).

3.2 Interior Well (HI-18)

Well HI-18 is located in the interior of the island, in the vicinity of the groundwater low identified in the RI (Weston 1993) and adjacent to the deeper portion of the sanitary sewer. HI-18 and HI-17 were installed at EPA's request to monitor trends in groundwater quality likely infiltrating into the sanitary sewer collection and conveyance system. Since the sewage is conveyed to the West Point Treatment Plant and does not migrate to surface water, the ROD cleanup goals are not directly applicable to samples collected from these wells. For discussion purposes, the results from HI-18 are compared to the ROD cleanup goals in addition to the King County Industrial Waste (KCIW) discharge limits.[6] The results are summarized below:

Total Metals

The groundwater sample from HI-18 was analyzed for copper, lead, and zinc. Metals were detected at concentrations less than ROD cleanup goals and the KCIW discharge limits. Results are shown on Figures 4 through 6 for copper, lead, and zinc, respectively.

Cyanide

Available cyanide was not detected at the reporting limit of 2 µg/L during the May 2018 event in the sample from well HI-18.

3.3 Data Quality and Validation

The data from the May 2018 event were reviewed and validated by a trained and qualified AECOM data validator. Data were evaluated based on validation criteria set forth in the EPA Contract Laboratory

[6] http://www.kingcounty.gov/services/environment/wastewater/industrial-waste/limits-regulations/limits-prohibited/heavy-metals.aspx

Program *National Functional Guidelines for Organic Superfund Methods Data Review* and *National Functional Guidelines for Inorganic Superfund Methods Data Review*, (USEPA 2017a; USEPA 2017b), as they applied to the reported methodology.

3.3.1 Summary of Data Quality Analysis

The data from the May 2018 sampling event were of sufficient quality to meet the goals of the Revision 1 and 3 Plans, except where qualifications are noted. The quality assurance/quality control (QA/QC) samples for groundwater were collected from the monitoring wells and/or equipment in accordance with the monitoring plan protocols.

No sampling problems or field conditions that would have affected data quality were noted in the laboratory narratives or on the chain-of-custody forms. The field QA/QC samples included one trip blank per cooler containing VOC samples, one equipment blank for every sampling event, and one field duplicate for every 20 samples. One blind field duplicate sample was collected from HI-9A and identified as HI-90 during the May 2018 sampling event. Also, extra volume was collected at one monitoring location (HI-4) during the event for laboratory matrix spike and matrix spike duplicate analyses. QA/QC analytical results and the data validation report are provided in Appendix B.

All of the analyses performed were based on EPA-approved standard methods. Analytical reporting limits were the lowest achievable. Reporting limits exceeded the cleanup goals for available cyanide (cleanup goal of 1 µg/L) because a reporting limit of 1 µg/L cannot be met by the laboratory equipment (February 15, 2011 meeting between EPA and the Harbor Island S&G OU Technical Committee). The lowest practicable and achievable reporting limit for available cyanide is 2 µg/L. Analyte concentrations detected between the method detection limit and the reporting limit are reported by the laboratory with a ‘J’ flag. Laboratory ‘J’-flagged results are considered estimated results. One or more results were flagged ‘J’ by the laboratory. The laboratory reports were reviewed and the data validated (Appendix B). All data were determined to be usable with appropriate qualifiers. The majority of data did not require qualification; however, some lead data were qualified with a “J” due to laboratory blank contamination.

3.3.2 Data Qualification

A summary of the data qualified during validation, the qualifiers assigned, and the reasons for data qualification are provided in the validation report (Appendix B). Lead was detected in the preparation blank for Method 200.8, indicating laboratory contamination. Some samples, but not all, were affected by this preparation blank detection. Lead was not detected in the initial calibration blank, continuing calibration blanks, or the equipment blank.

4.0 Summary

The thirteenth year of groundwater monitoring at the Harbor Island S&G OU has been completed in accordance with the Revision 3 Plan and its Addendum and subsequent agreements with EPA[7]. Samples were collected from 15 monitoring wells in May 2018. Groundwater samples from these wells were analyzed for total (i.e., unfiltered) metals and available cyanide. The groundwater sample from TD-06A was additionally analyzed for benzene. In summary:

- Compliance wells were sampled on the lower low to rising tide as requested by EPA. Chemical data from the event are consistent with results seen in previous events.
- None of the monitoring wells sampled detected the relevant metal constituents above the ROD cleanup goals.

[7] The years 2005 to 2006 are considered monitoring year 1.

- Available cyanide concentrations were detected greater than the ROD cleanup goal of 1.0 µg/L in wells HI-5 and HI-10 (HI-10 was equal to the method reporting limit of 2.0 µg/L). Available cyanide has not been detected in HI-5 for the past 8 sampling events and has only been detected once in HI-10 since 2006, the start of available cyanide analysis; therefore, these cyanide results do not appear to have a statistical trend over time.
- Benzene was not detected in TD-06A, the only well sampled for benzene during the event.

The results of the 2018 annual groundwater monitoring continue to demonstrate the effectiveness of the remedial actions (capping and hot spot removals) at the Harbor Island S&G OU.

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Tables

Table 1. Cleanup Goals

Chemical Name	HI S&G OU ROD-specified Cleanup Goal (µg/L) for Groundwater
Total Metals	
Arsenic	36
Cadmium	8
Copper	2.9
Lead	5.8
Mercury	0.025
Nickel	7.9
Silver	1.2
Thallium	6.3
Zinc	76.6
Cyanide	
Total Cyanide	1
Available Cyanide *	1
Volatile Organic Compounds	
1,1,1-Trichloroethane	42
1,1,2-Trichloroethane	42
Benzene	71
Carbon Tetrachloride	4.4
Tetrachloroethene	8.8
PCBs [a]	
Aroclor 1016	0.03
Aroclor 1221	0.03
Aroclor 1232	0.03
Aroclor 1242	0.03
Aroclor 1248	0.03
Aroclor 1254	0.03
Aroclor 1260	0.03
Aroclor 1262	0.03
Aroclor 1268	0.03

Notes:

* Available cyanide is not specified in the ROD; the Steering Committee elected to add it during the second year of monitoring. EPA agreed in Feb. 2011 to replace total cyanide with available cyanide.

[a] PCBs - Polychlorinated Biphenyls cleanup values are expressed in total PCBs. PCBs are not analyzed during the annual sampling events.

ROD - Record of Decision

µg/L - microgram per liter

NA - Not available

Table 2. Summary of Parameters and Analytical Methods for Annual Monitoring

Groundwater Parameter	Analytical Method
Total Metals	
Copper	200.8
Lead	200.8
Zinc	200.8
Cyanide	
Available Cyanide	MCAWW 1677
Volatile Organic Compounds	
Benzene	SW 8260C

Notes:

All methods are EPA-approved. "SW" refers to the SW-846 methods. "MCAWW" refers to the *Methods for the Chemical Analysis of Water and Wastes* .

Table 3. Groundwater Monitoring Network and Analyses - May 2018

Well	Analytical Suite for Annual Monitoring			Analytical Suite for 5-year Review Monitoring			
	Total Metals (200.8)	Available CN (MCAWW 1677)	Benzene (SW 8260C)	Total Metals (200.8)	Available CN (MCAWW 1677)	PCBs Aroclors (8082)	VOCs (SW 8260C)
HI-1	xA	X	--	X	X	X	X
HI-2	xA	X	--	X	X	X	X
HI-3	xA	X	--	X	X	X	X
HI-4	xA	X	--	X	X	X	X
HI-5	xA	X	--	X	X	X	X
HI-6	--	--	--	X	X	X	X
HI-6A	xA	X	--	X	X	X	X
HI-7	--	--	--	X	X	X	X
HI-8	--	--	--	X	X	X	X
HI-9	--	--	--	X	X	X	X
HI-9A	xA	X	--	X	X	X	X
HI-10	xA	X	--	X	X	X	X
HI-10A	--	--	--	X	X	X	X
HI-11	xA	X	--	X	X	X	X
HI-12	xA	X	--	X	X	X	X
HI-12A	--	--	--	X	X	X	X
HI-13	--	--	--	X	X	X	X
HI-14	--	--	--	X	X	X	X
HI-15	--	--	--	X	X	X	X
HI-16	xA	X	--	X	X	X	X
HI-17	--	--	--	X	X	X	X
HI-18	xA	X	--	X	X	X	X
AC-06A	--	--	--	X	X	X	X
MW-01R	xA	X	--	X	X	X	X
MW-213	xA	X	--	X	X	X	X
TD-06A	xA	X	X	X	X	X	X
MS/MSD	xA	X	--	X	X	X	X
FD	xA	X	--	X	X	X	X
EB	xA	X	--	X	X	X	X

Key:

xA = Annual metals constituents (copper, lead, and zinc)

X = Record of Decision (ROD) constituents

ROD metals: arsenic; cadmium; copper; lead; mercury; nickel; silver; thallium; zinc

ROD VOCs: benzene; carbon tetrachloride; 1,1,1-trichloroethane; 1,1,2-trichloroethane; tetrachloroethylene

-- = not sampled and/or analyzed

Notes:

This amended analyte list reflects EPA's approval for annual scope reduction dated October 8 , 2015.

The next 5-year review monitoring event will occur in 2020.

MS/MSD = matrix spike / matrix spike duplicate; FD = field duplicate; EB = equipment blank.

CN = cyanide; PCBs = polychlorinated biphenyls; VOCs = volatile organics.

Table 4. Groundwater Field Parameters - May 2018

Well ID	Sample Date	Sample Time	Field Parameters						
			pH	Conductivity (µS/cm)	Temperature (deg C)	ORP (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	DTW (ft bgs)
HI-1	05/16/18	11:00	7.47	1,546	16.12	6.7	0.25	4.30	8.55
HI-2	05/16/18	11:50	7.59	6,987	16.85	10.0	0.20	0.82	10.50
HI-3	05/17/18	13:55	8.35	1,376	15.85	28.4	0.12	5.35	8.55
HI-4	05/17/18	12:10	7.58	1,054	16.01	3.8	0.27	1.18	8.96
HI-5	05/17/18	11:10	7.33	2,433	16.03	18.1	0.38	3.27	9.00
HI-6A	05/17/18	11:45	7.74	14,870	13.82	-291.4	1.12	0.54	7.25
HI-9A	05/15/18	10:00	8.19	2,267	11.78	135.9	0.59	0.92	7.74
HI-10	05/15/18	12:00	6.83	3,691	14.38	88.2	4.90	0.10	10.35
HI-11	05/15/18	12:10	6.65	6,651	12.74	114.9	2.01	1.24	11.60
HI-12	05/17/18	12:45	6.52	10,452	13.19	-196.4	1.41	0.45	7.00
HI-16	05/16/18	12:50	7.22	375	16.29	38.4	0.35	4.80	9.74
HI-18	05/15/18	14:00	6.64	457	15.51	64.0	0.32	0.72	10.90
TD-06A	05/16/18	11:50	7.26	6,842	15.58	-95.2	0.22	0.89	11.93
MW-01R	05/16/18	13:25	7.52	589	14.42	-154.8	0.17	0.72	7.70
MW-213	05/15/18	10:20	6.13	8,487	13.92	100.9	1.56	1.35	7.68

Notes:
Field parameters collected at the time of sample collection (after stabilization).
DTW = depth to water, µS/cm = micro siemens per centimeter, deg C = degree Celsius,
ORP = oxidation/reduction potential, mV = millivolt, mg/L = milligram per liter,
NTU = Nephelometric Turbidity Unit, ft bgs = feet below ground surface

Table 5. Groundwater Monitoring Data Summary - May 2018

		Location	HI-1	HI-2	HI-3	HI-4	HI-5	HI-6A	HI-9A	HI-9A	HI-10	HI-11	HI-12	HI-16	HI-18	MW-01R	MW-213	TD-06A
		Sample Name	**HI-1-0518**	**HI-2-0518**	**HI-3-0518**	**HI-4-0518**	**HI-5-0518**	**HI-6A-0518**	**HI-9A-0518**	**HI-90-0518**	**HI-10-0518**	**HI-11-0518**	**HI-12-0518**	**HI-16-0518**	**HI-18-0518**	**MW-01R-0518**	**MW-213-0518**	**TD-06A-0518**
		Sample Date	**5/16/2018**	**5/16/2018**	**5/17/2018**	**5/17/2018**	**5/17/2018**	**5/17/2018**	**5/15/2018**	**5/15/2018**	**5/15/2018**	**5/15/2018**	**5/17/2018**	**5/16/2018**	**5/15/2018**	**5/16/2018**	**5/15/2018**	**5/16/2018**
		Well Purpose	Compliance	Compliance	Compliance	Compliance	Compliance	Compliance	Compliance	Compliance	Compliance	Compliance	Compliance	Compliance	Interior	Compliance	Compliance	Compliance
		Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**FD**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
Chemical Name	**Unit**	**ROD CUGs**																
Cyanide																		
Available Cyanide	µg/L	1	< 2	< 2	< 2	< 2	**1.3** J	< 2	< 2	< 2	**2**	< 2	< 2	< 2	< 2	< 2	< 2	0.56 J
Total Metals																		
Copper	µg/L	2.9	0.15	0.06 J	0.23	0.12	0.04 J	0.39	0.06 J	0.07 J	1.45	0.51	2.22	0.17	0.21	0.14	1.12	0.11
Lead	µg/L	5.8	0.042 J	0.036	0.221	0.071 J	0.120	0.060	0.030	0.031	0.031	0.124	0.101	0.078 J	0.093	0.059 J	0.483	0.054
Zinc	µg/L	76.6	1.4 J	0.59	5.4	1.9 J	0.10 J	1.03	0.28 J	0.21 J	1.22	1.10	9.14	2.1	0.6 J	0.5 J	12.4	0.62
VOCs																		
Benzene	µg/L	71	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.2

Notes:

Bold and yellow highlight = Concentration above ROD CUG; no exceedances of the ROD CUGs were observed during the 2018 monitoring event.

Underline = Detection limit above cleanup goal

Sample Type Key:

N = Normal sample

FD = Field duplicate

Qualifier Key:

< 0.5 = Concentration not detected above the method reporting limit

J = Estimated concentration ("+" indicating a bias high)

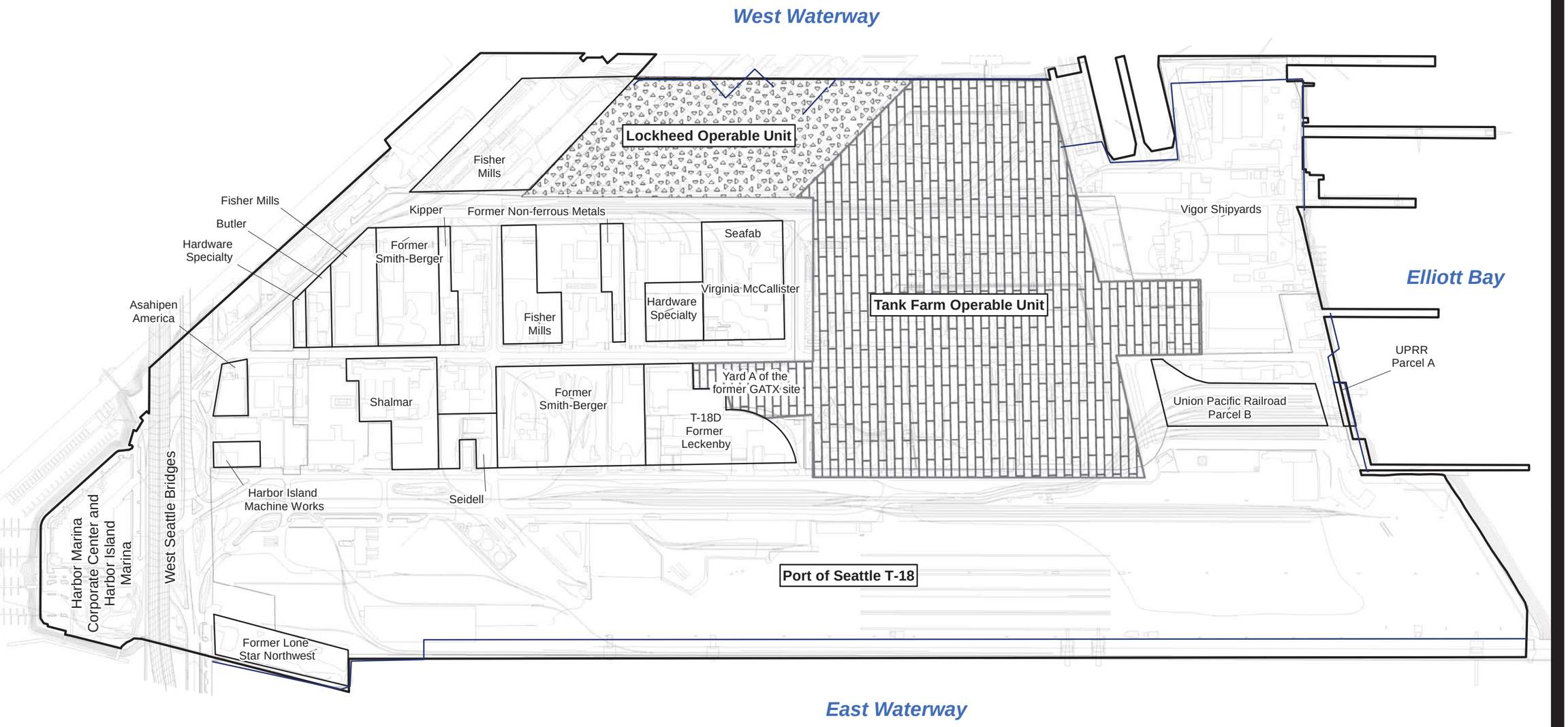
Abbreviations:

ROD CUG = Record of Decision cleanup goal

µg/L = micrograms per liter

NA = Not analyzed

Figures



Notes:
1. The S&G OU boundary was adjusted to clarify that Yard A of the former GATX site (currently used by Kinder Morgan) is part of the petroleum tank farm OU rather than the S&G OU, consistent with the 1999 Consent Decree between GATX Terminals and Ecology.
2. Vigor Shipyards formally known as Todd Pacific Shipyard.

0 375 750 1,500 Feet

N

Legend

- Harbor Island Soil and Groundwater Operable Unit
- Tank Farm Operable Unit
- Lockheed Operable Unit

AECOM

Figure: 1

Harbor Island Soil and Groundwater Operable Unit and Other Upland Operable Units

2018 Groundwater Monitoring Report
Harbor Island S&G Operable Unit
Seattle, Washington
Project No.: 60148169 Date: 7/16/2018

Designer:
Project Management Initials:

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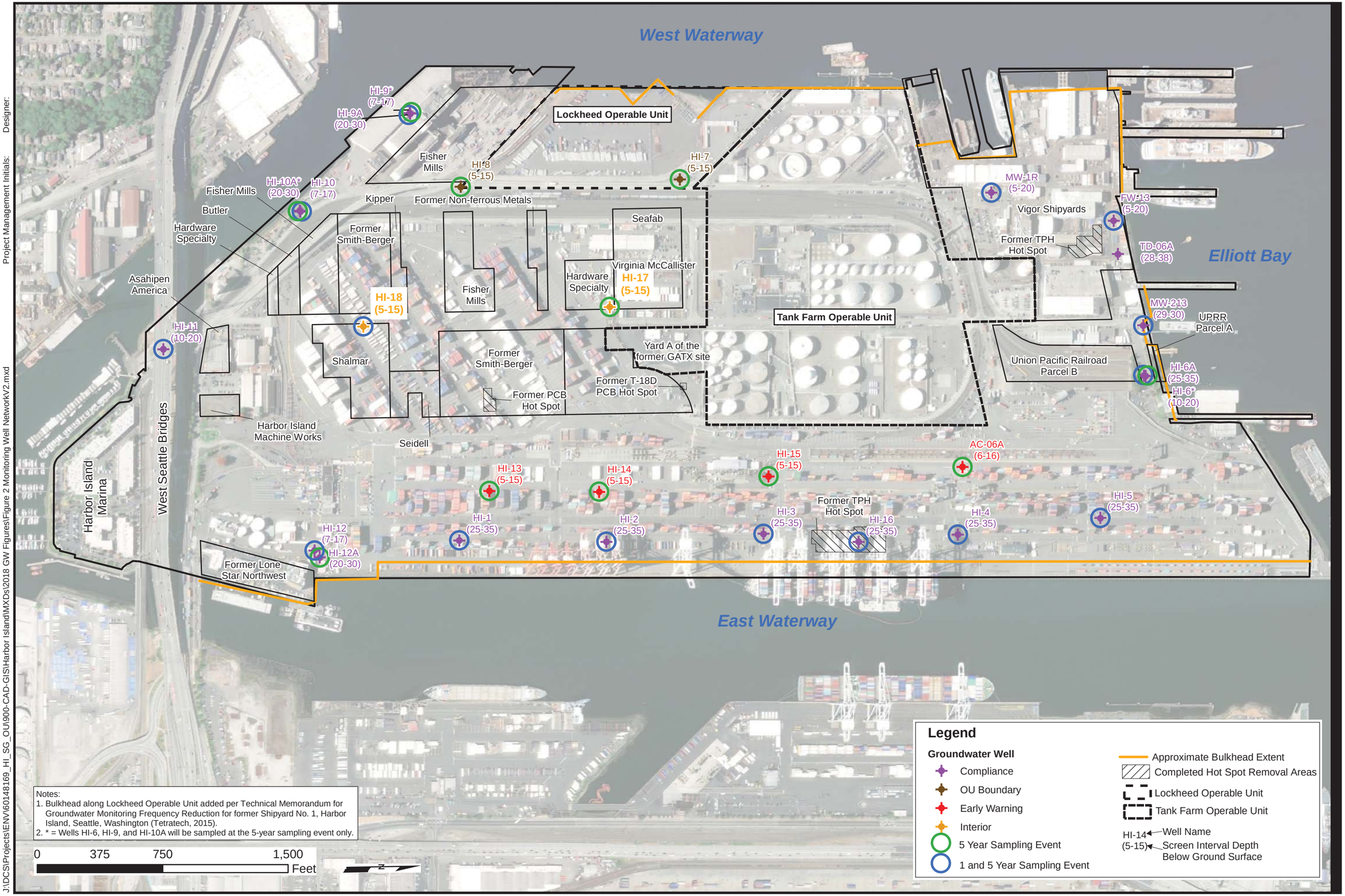

Notes:
1. Bulkhead along Lockheed Operable Unit added per Technical Memorandum for Groundwater Monitoring Frequency Reduction for former Shipyard No. 1, Harbor Island, Seattle, Washington (Tetratech, 2015).
2. * = Wells HI-6, HI-9, and HI-10A will be sampled at the 5-year sampling event only.

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Figure: 2

Monitoring Well Network

2018 Groundwater Monitoring Report
Harbor Island S&G Operable Unit
Seattle, Washington
Project No.: 60148169 Date: 7/13/2018

Designer:
Project Management Initials:
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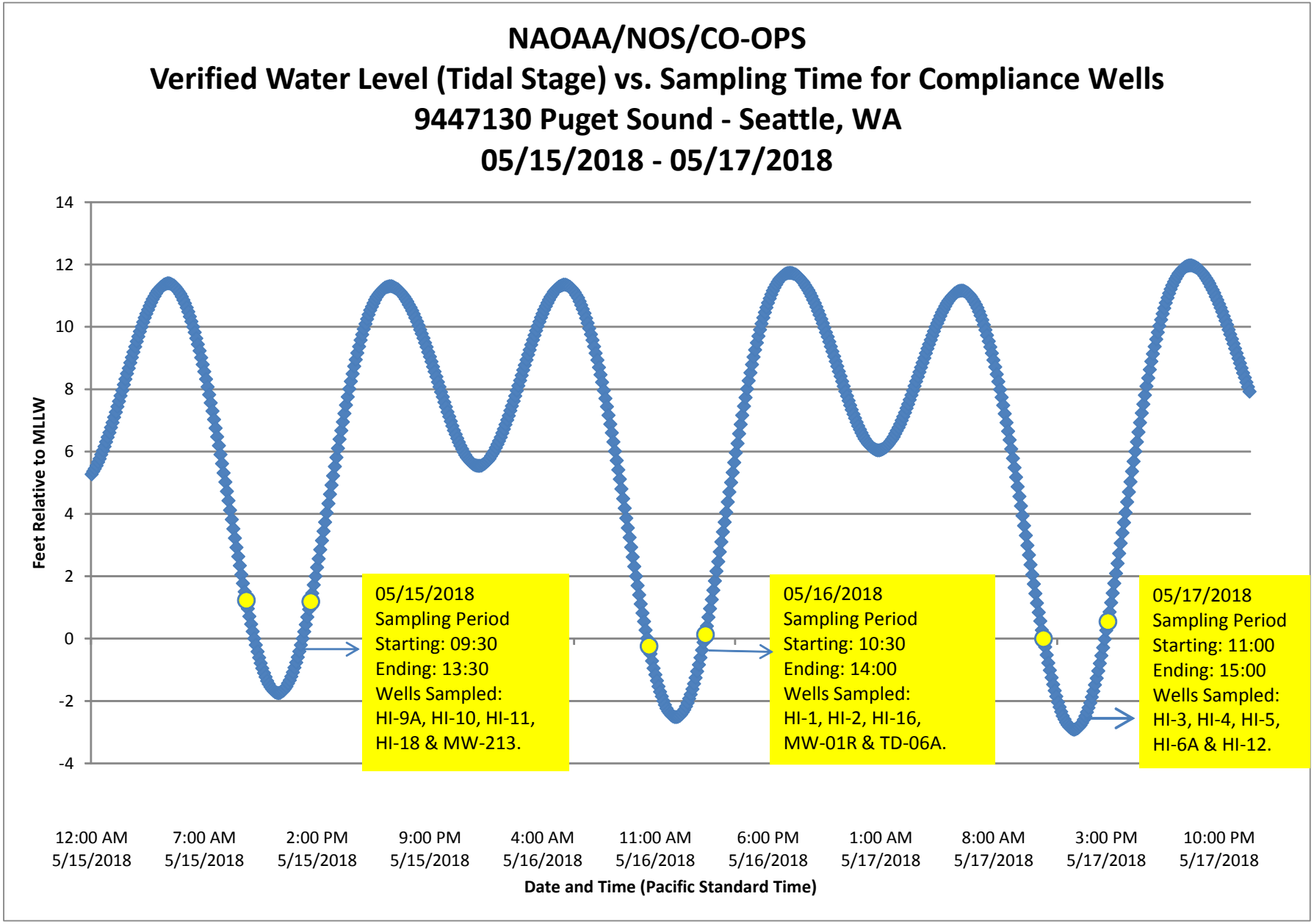
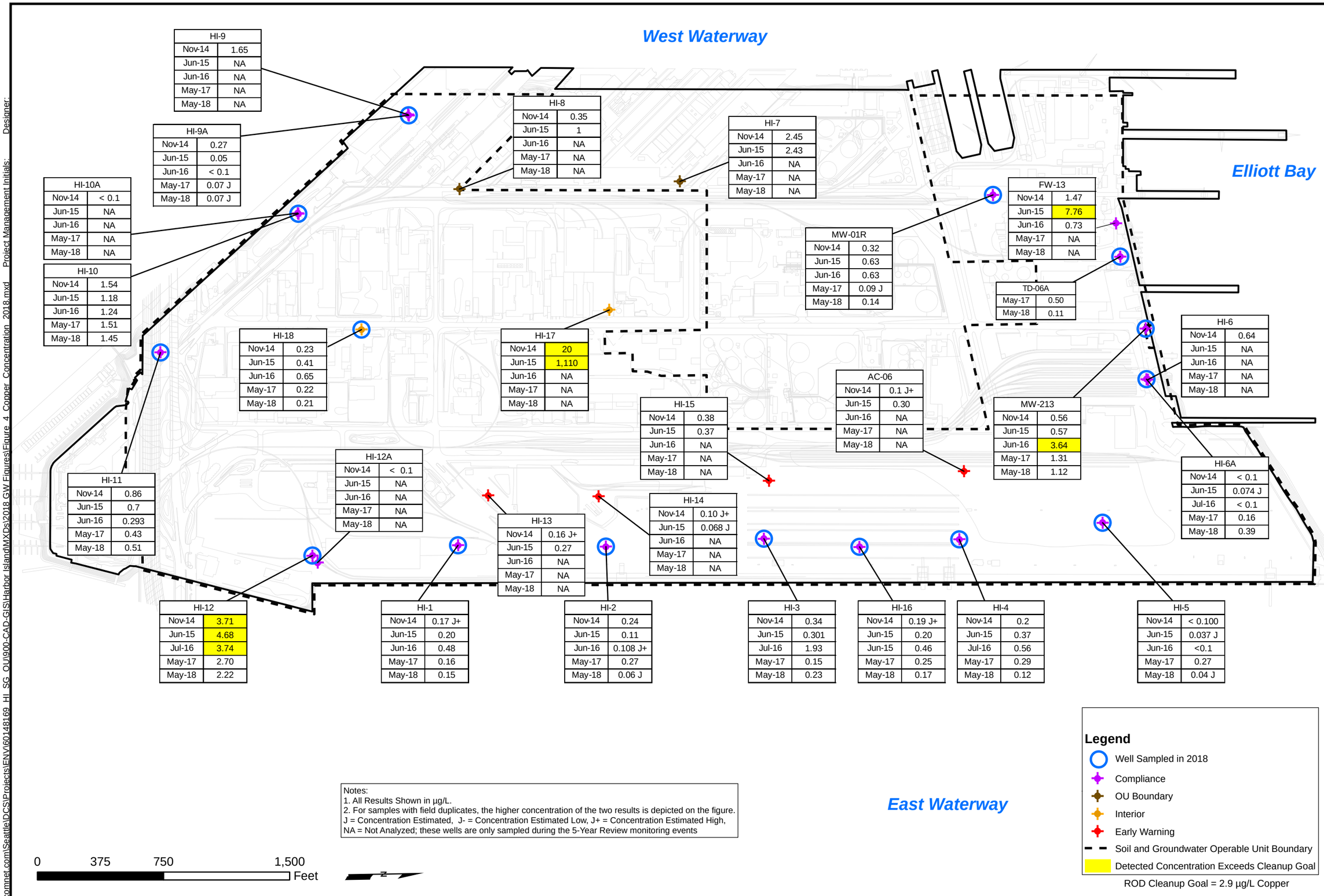


2018 Groundwater Monitoring Report
Harbor Island S&G Operable Unit
Seattle, Washington
Project No.: 60148169 Date: 7/13/2018

Notes:
1. Sample window is 1 hour before and 3 hours after low tide per USEPA 2010b.
2. MLLW = Mean lower low water
3. Recorded water level from NOAA/NOS/CO-OPS for 9447130 Puget Sound-Seattle, WA

AECOM

Figure 3
May 2018 Tidal Graph



Notes:
1. All Results Shown in µg/L.
2. For samples with field duplicates, the higher concentration of the two results is depicted on the figure.
J = Concentration Estimated, J- = Concentration Estimated Low, J+ = Concentration Estimated High,
NA = Not Analyzed; these wells are only sampled during the 5-Year Review monitoring events

AECOM

Figure: 4

Total Copper Concentrations
From November 2014 to May 2018

2018 Groundwater Monitoring Report
Harbor Island S&G Operable Unit
Seattle, Washington
Project No.: 60148169 Date: 9/4/2018

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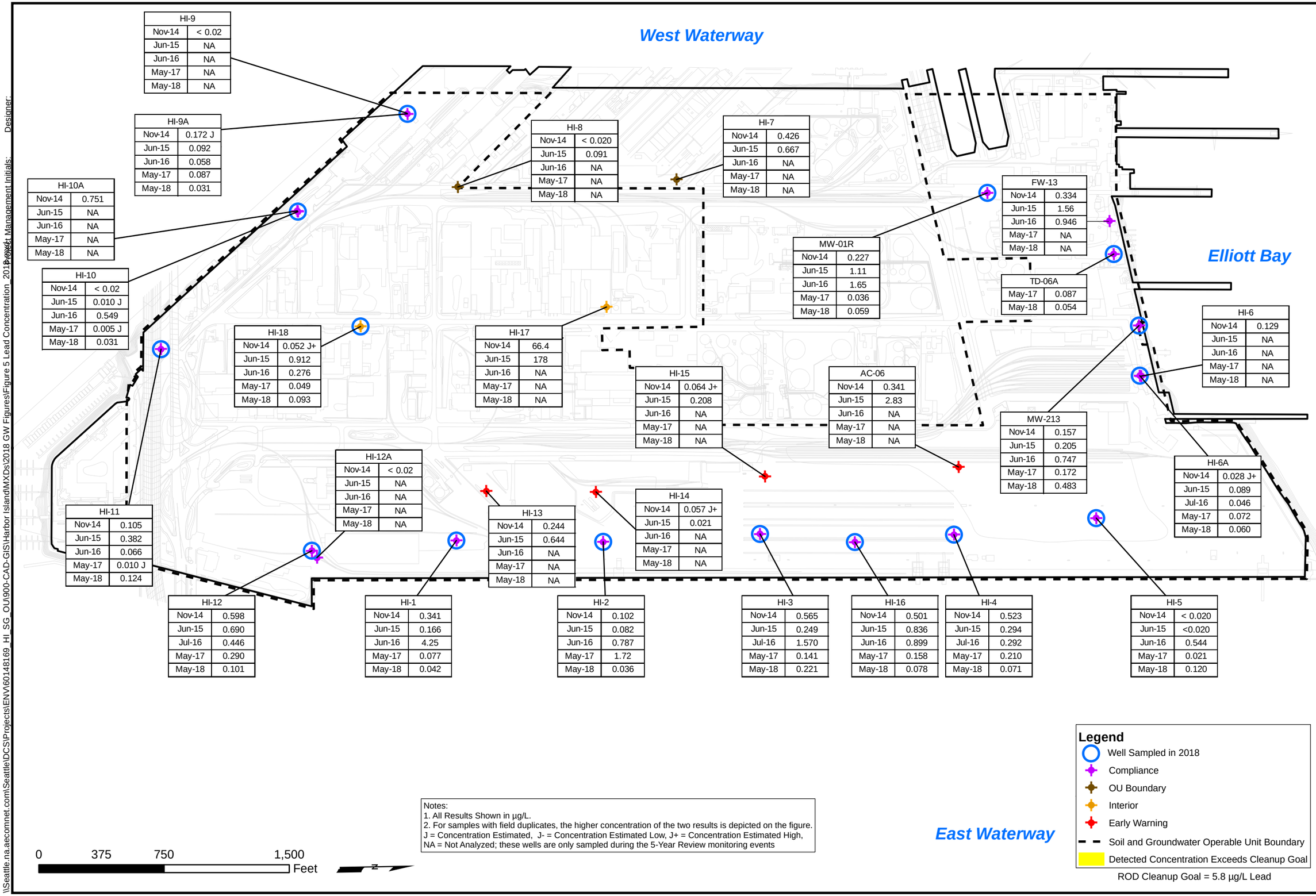

Notes:
1. All Results Shown in µg/L.
2. For samples with field duplicates, the higher concentration of the two results is depicted on the figure.
J = Concentration Estimated, J- = Concentration Estimated Low, J+ = Concentration Estimated High,
NA = Not Analyzed; these wells are only sampled during the 5-Year Review monitoring events

AECOM

Figure: 5

Total Lead Concentrations
From November 2014 to May 2018

2018 Groundwater Monitoring Report
Harbor Island S&G Operable Unit
Seattle, Washington
Project No.: 60148169 Date: 9/4/2018

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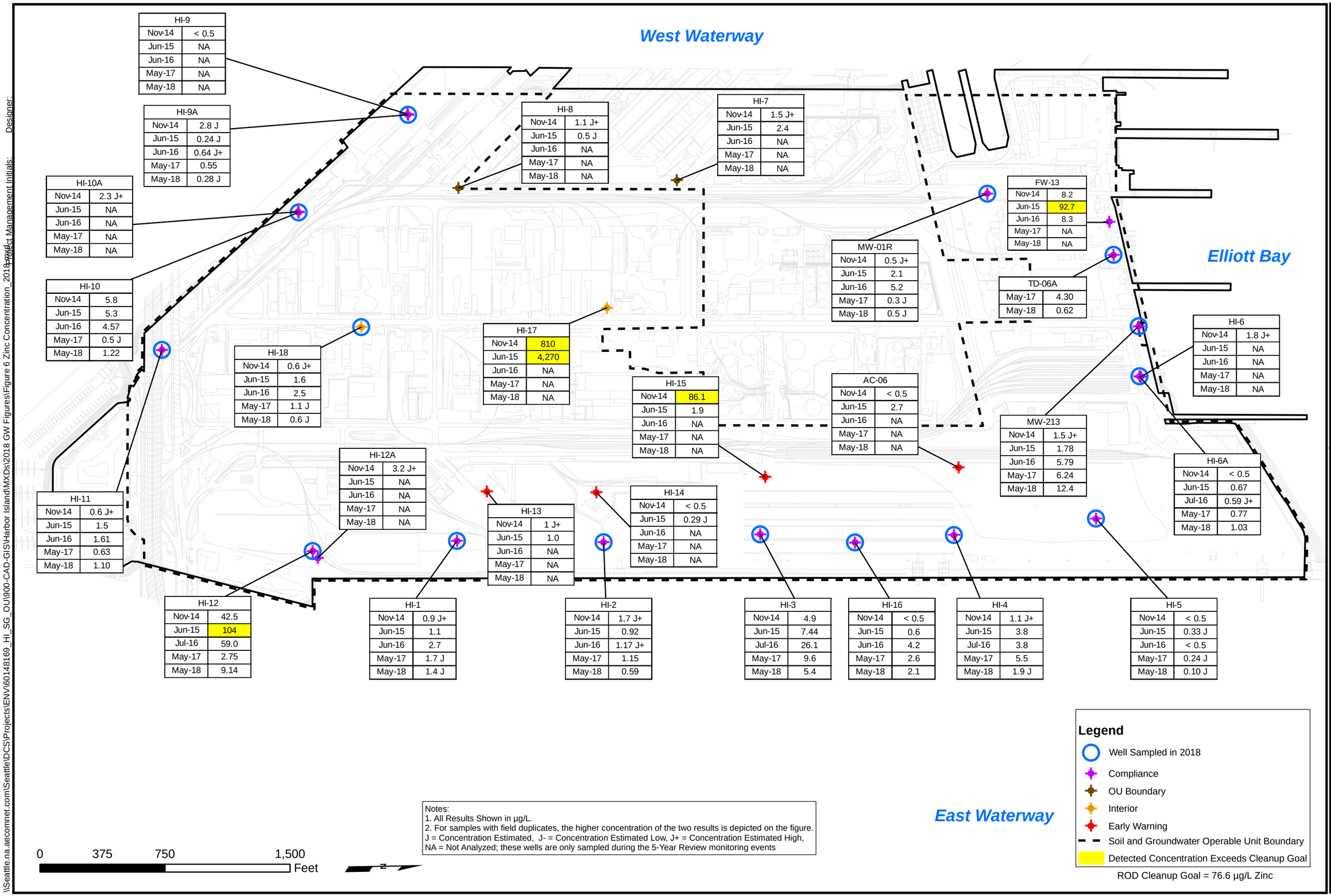

HI-9	
Nov-14	< 0.5
Jun-15	NA
Jun-16	NA
May-17	NA
May-18	NA

HI-9A	
Nov-14	2.8 J
Jun-15	0.24 J
Jun-16	0.64 J+
May-17	0.55
May-18	0.28 J

HI-10A	
Nov-14	2.3 J+
Jun-15	NA
Jun-16	NA
May-17	NA
May-18	NA

HI-10	
Nov-14	5.8
Jun-15	5.3
Jun-16	4.57
May-17	0.5 J
May-18	1.22

HI-11	
Nov-14	0.6 J+
Jun-15	1.5
Jun-16	1.61
May-17	0.63
May-18	1.10

HI-12	
Nov-14	42.5
Jun-15	104
Jul-16	59.0
May-17	2.75
May-18	9.14

HI-12A	
Nov-14	3.2 J+
Jun-15	NA
Jun-16	NA
May-17	NA
May-18	NA

HI-18	
Nov-14	0.6 J+
Jun-15	1.6
Jun-16	2.5
May-17	1.1 J
May-18	0.6 J

HI-1	
Nov-14	0.9 J+
Jun-15	1.1
Jun-16	2.7
May-17	1.7 J
May-18	1.4 J

HI-13	
Nov-14	1 J+
Jun-15	1.0
Jun-16	NA
May-17	NA
May-18	NA

HI-2	
Nov-14	1.7 J+
Jun-15	0.92
Jun-16	1.17 J+
May-17	1.15
May-18	0.59

HI-14	
Nov-14	< 0.5
Jun-15	0.29 J
Jun-16	NA
May-17	NA
May-18	NA

HI-15	
Nov-14	86.1
Jun-15	1.9
Jun-16	NA
May-17	NA
May-18	NA

HI-17	
Nov-14	810
Jun-15	4,270
Jun-16	NA
May-17	NA
May-18	NA

HI-8	
Nov-14	1.1 J+
Jun-15	0.5 J
Jun-16	NA
May-17	NA
May-18	NA

HI-7	
Nov-14	1.5 J+
Jun-15	2.4
Jun-16	NA
May-17	NA
May-18	NA

MW-01R	
Nov-14	0.5 J+
Jun-15	2.1
Jun-16	5.2
May-17	0.3 J
May-18	0.5 J

AC-06	
Nov-14	< 0.5
Jun-15	2.7
Jun-16	NA
May-17	NA
May-18	NA

FW-13	
Nov-14	8.2
Jun-15	92.7
Jun-16	8.3
May-17	NA
May-18	NA

TD-06A	
May-17	4.30
May-18	0.62

MW-213	
Nov-14	1.5 J+
Jun-15	1.78
Jun-16	5.79
May-17	6.24
May-18	12.4

HI-6	
Nov-14	1.8 J+
Jun-15	NA
Jun-16	NA
May-17	NA
May-18	NA

HI-6A	
Nov-14	< 0.5
Jun-15	0.67
Jul-16	0.59 J+
May-17	0.77
May-18	1.03

HI-3	
Nov-14	4.9
Jun-15	7.44
Jul-16	26.1
May-17	9.6
May-18	5.4

HI-16	
Nov-14	< 0.5
Jun-15	0.6
Jun-16	4.2
May-17	2.6
May-18	2.1

HI-4	
Nov-14	1.1 J+
Jun-15	3.8
Jul-16	3.8
May-17	5.5
May-18	1.9 J

HI-5	
Nov-14	< 0.5
Jun-15	0.33 J
Jun-16	< 0.5
May-17	0.24 J
May-18	0.10 J

Notes:
1. All Results Shown in µg/L.
2. For samples with field duplicates, the higher concentration of the two results is depicted on the figure.
J = Concentration Estimated, J- = Concentration Estimated Low, J+ = Concentration Estimated High,
NA = Not Analyzed; these wells are only sampled during the 5-Year Review monitoring events

AECOM

Figure: 6

Total Zinc Concentrations
From November 2014 to May 2018

2018 Groundwater Monitoring Report
Harbor Island S&G Operable Unit
Seattle, Washington
Project No.: 60148169 Date: 9/4/2018

Designer:
Project Management Initials:

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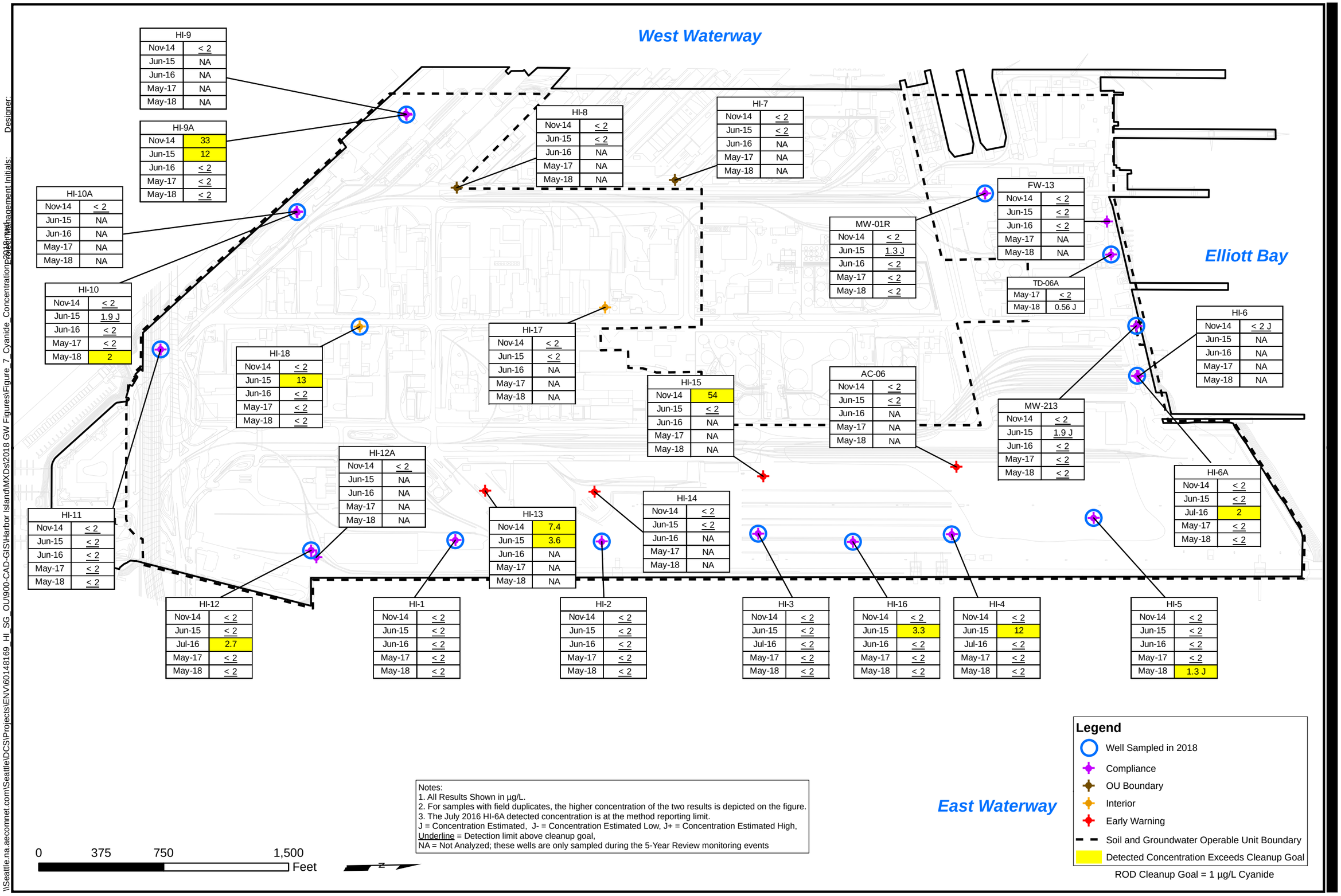

Notes:
1. All Results Shown in µg/L.
2. For samples with field duplicates, the higher concentration of the two results is depicted on the figure.
3. The July 2016 HI-6A detected concentration is at the method reporting limit.
J = Concentration Estimated, J- = Concentration Estimated Low, J+ = Concentration Estimated High,
Underline = Detection limit above cleanup goal,
NA = Not Analyzed; these wells are only sampled during the 5-Year Review monitoring events

AECOM

Figure: 7

Available Cyanide Concentrations From November 2014 to May 2018

2018 Groundwater Monitoring Report
Harbor Island S&G Operable Unit
Seattle, Washington
Project No.: 60148169 Date: 9/4/2018

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Appendix A
Monitoring Well Details

Appendix A. Monitoring Well Details Table

Monitoring Well	Actively Monitored Routine Annual	Actively Monitored 5-Year Review	Installation Date	Northing NAD 83/91 (feet)	Easting NAD 83/91 (feet)	Measuring Point Elevation (ft) NAVD 88	Well Category	Monitoring Objective	Well Screen Interval (ft bgs)	Well Screen Elevation (ft) NAVD 88	Well Screen Elevation (ft) MLLW
AC-06A		X	11/12/05	216804	1266458	14.43	Early Warning	Island interior	6–16	8.43 to -2.43	10.77 to -0.09
FW-1* #	Decommissioned (1/13/14)			—	—	—	Compliance	Groundwater near surface water	5-20	—	—
TD-06A*^			05/27/09	217756	1265200	14.51	Compliance	Deeper well screen interval	28–38	-13.49 to -23.49	-11.15 to -21.15
FW-13**	X	X					Compliance	Groundwater near surface water	5-20		
HI-1	X	X	08/22/05	213788	1266845	12.73	Compliance	Groundwater near surface water	25–35	-12.27 to -22.27	-9.93 to -19.93
HI-2	X	X	08/22/05	214668	1266868	14.29	Compliance	Groundwater near surface water	25–35	-10.71 to -20.71	-8.37 to -18.37
HI-3	X	X	08/22/05	215608	1266837	14.75	Compliance	Groundwater near surface water	25–35	-10.25 to -20.25	-7.91 to -17.91
HI-4	X	X	08/22/05	216769	1266862	14.39	Compliance	Groundwater near surface water	25–35	-10.61 to -20.61	-8.27 to -18.27
HI-5	X	X	08/22/05	217623	1266778	14.84	Compliance	Groundwater near surface water	25–35	-10.16 to -20.16	-7.82 to -17.82
HI-6*		X	08/23/05	217908	1265933	11.45	Compliance	Groundwater near surface water	10–20	1.45 to -8.55	3.79 to -6.21
HI-6A*	X	X	05/26/09	217899	1265930	11.48	Compliance	Deeper well screen interval	25–35	-13.52 to -23.52	-11.18 to -21.18
HI-7		X	08/24/05	215145	1264708	13.58	Boundary	Groundwater exiting S&G OU	5–15	8.58 to -1.42	10.92 to 0.92
HI-8		X	08/24/05	213834	1264731	13.83	Boundary/ Early Warning	Groundwater exiting S&G OU/interior	5–15	8.83 to -1.17	11.17 to 1.17
HI-9*		X	08/24/05	213536	1264284	11.00	Compliance	Groundwater near surface water	7-17	4.00 to -6.00	6.34 to -3.66
HI-9A*	X	X	05/28/09	213540	1264288	10.84	Compliance	Deeper well screen interval	20–30	-9.16 to -19.16	-6.82 to -16.82
HI-10*	X	X	08/23/05	212873	1264861	15.78	Compliance	Groundwater near surface water	7-17	8.78 to -1.22	11.12 to 1.12
HI-10A		X	05/28/09	212870	1264857	15.58	Compliance	Deeper well screen interval	20–30	-4.42 to -14.42	-2.08 to -12.08
HI-11	X	X	08/22/05	212040	1265670	16.69	Compliance	Groundwater near surface water	10-20	6.69 to -3.31	9.03 to -0.97
HI-12*	X	X	08/23/05	212922	1266890	13.85	Compliance	Groundwater near surface water	7-17	6.85 to -3.15	9.19 to -0.81
HI-12A		X	05/28/09	212924	1266898	14.18	Compliance	Deeper well screen interval	20–30	-5.82 to -15.82	-3.48 to -13.48
HI-13		X	08/23/05	213973	1266552	14.82	Early Warning	Island interior	5–15	9.82 to -0.18	12.16 to 2.16
HI-14		X	08/23/05	214629	1266568	14.20	Early Warning	Island interior	5–15	9.20 to -0.80	11.54 to 1.54
HI-15		X	08/22/05	215644	1266493	13.93	Early Warning	Island interior	5–15	8.93 to -1.07	11.27 to 1.27
HI-16	X	X	08/23/05	216175	1266895	14.25	Hot Spot Removal/ Compliance	Groundwater near surface water; located in TPH hot spot removal area	25-35	-10.75 to -20.75	-8.41 to -18.41
HI-17		X	05/26/09	214767	1265444	14.77	Interior	Groundwater low near sanitary sewer	5–15	9.77 to -0.23	12.11 to 2.11
HI-18	X	X	05/27/09	213262	1265681	16.87	Interior	Groundwater low near sanitary sewer	5–15	11.87 to 1.87	14.21 to 4.21
MW-01	Decommissioned (1/13/14)			—	—	—	Compliance	Groundwater near surface water	5–15	—	—
MW-01R	X	X	07/21/14	217005	1264821	—	Compliance	Groundwater near surface water	5–20	—	—
MW-213	X	X	—	217899	1265630	11.75	Compliance	Groundwater near surface water	29–39	-17.52 to -27.52	-15.18 to -25.18

Notes:

Horizontal Datum: NAD 83/91 feet; Vertical Datum: NAVD 88 in feet (Conversion to MLLW = NAVD88 - 2.34 feet)

* Per EPA (September 2010), the monitoring network was adjusted as follows: TD-06A replaced FW-1; HI-6A replaced HI-6; HI-9A replaced HI-9; HI-10 was retained; and HI-12 was retained.

** FW-13 replaced TD-06A

FW-01 was decommissioned on January 13, 2014 per EPA approval.

^ FW-13 replaced TD-06A in the monitoring program starting in November 2015. During the May 2017 event, TD-06A was sampled instead of FW-13 due to increased turbidity and biofouling in FW-13.

MW-01R Measuring point elevation is not available.

Appendix B

Laboratory and Data Validation Reports

Environment

Submitted to:
HIOU

Submitted by:
AECOM
Chelmsford, MA
60148169 – 350
July 2017

July 13, 2018

Organic and Inorganic Data Validation Report

Harbor Island Operable Unit (HIOU) Groundwater and Water QC Samples ALS Environmental Data TestAmerica Laboratories, Inc. Data May 2018

Prepared By Chelsey Cook
Project Chemist

Overview

The samples analyzed for the Harbor Island Operable Unit (HIOU) groundwater sampling event of May 2018 are listed in the Table of Samples Analyzed (page 3). Data validation was performed on a total of 16 groundwater samples, one equipment rinse blank, and one trip blank.

Samples were analyzed by ALS Environmental (ALS-Kelso), of Kelso, WA and TestAmerica Laboratories, Inc. (TA-Pittsburgh) of Pittsburgh, PA.

The ALS-Kelso validated analyses were: Benzene by SW-846 Method 8260C and Select Metals by EPA Method 200.8.

The TA-Pittsburgh validated analysis was: Available Cyanide by EPA Method 1677.

The Analytical Data Validation Checklist is presented as pages 4-10. Data were evaluated based on validation criteria set forth in the *USEPA National Functional Guidelines for Superfund Organic Methods Data Review*, document number USEPA-540-R-207-002, January 2017 and the *USEPA National Functional Guidelines for Inorganic Superfund Data Review*, document number USEPA 540-R-2017-001, January 2017 as they applied to the reported methodology. Field duplicate RPD review and applicable control limits were taken from the EPA-New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures (April 2013) and AECOM professional judgment.

The following data components were reviewed during the data validation procedure:

Deliverable Requirement	Method	Form*	Method	Form*	
Case narrative	Organics		Metals/CN		✓
Chain-of-Custody form	Organics		Metals/CN		✓
Sample, QC batch cross-reference	Organics		Metals/CN		✓
Sample results	Organics	I	Metals/CN	I-IN	✓
Surrogates recovery	Organics	II			✓
CRDL standard for ICP			Metals	II (Part 2)-IN	✓
LCS (blank spike) and On-Going Precision and Recovery (OPR) results	Organics	III	Metals/CN	VII-IN	✓
Serial Dilution			Metals	VIII	NA
Matrix spike/ matrix spike duplicate recoveries	Organics	III	Metals/CN	V (Part 1)-IN	✓
Blank summaries/results: method (Organics); calibration and preparation (Metals)	Organics	IV	Metals/CN	III-IN	✓
Interference check for ICP			Metals	IV-IN	NA
Instrument performance check (tuning)	Organics	V	Metals	raw data	✓
Duplicate/spike duplicate sample results	Organics	III	Metals/CN	VI-IN	✓
Initial and continuing calibration data	Organics	VI, VII	Metals/CN	II (Part 1)-IN	✓
Internal standards areas and retention times (Organics) or percent relative intensities (Metals)	Organics	VIII	Metals	XV-IN	✓
ICP linear range			Metals	XII-IN	✓
Preparation log	Organics		Metals/CN	XIII-IN	✓
Analysis run log	Organics		Metals/CN	XIV-IN	✓
Raw and background-subtracted mass spectra	Organics				✓
Copies of sample preparation work sheets	Organics		Metals/CN		✓

* equivalent USEPA CLP summary form; as applicable to method
NA: Not applicable since interferent analytes are not target analytes or the serial dilution analysis was not performed
✓: indicates that the form was included

Data Validation Qualifiers Assigned During this Review

J estimated concentration

Assigned qualifiers are detailed in the Analytical Data Validation Checklist and are summarized in the Table of Qualified Analytical Results (pages 11-12).

Overall Data Assessment

Precision, accuracy, and method compliance have been determined to be acceptable, based on the data submitted. All reported data are suitable for their intended use with the qualifications and clarifications noted.

Table of Samples Analyzed
Harbor Island Operable Unit (HIOU)
Groundwater and Water QC Samples
ALS-Kelso and TA-Pittsburgh Laboratory Reports/IDs (as listed)
May 2018

Matrix	Sample ID	Comments	Sample Date	ALS-Kelso Lab ID	TA-Pittsburgh Lab ID
Water QC	EB-0518	Equipment blank	05/16/2018	K1804750-017	-
Water QC	TB-0518	Trip blank	05/16/2018	K1804750-018	-
Groundwater	HI-1-0518		05/16/2018	K1804750-001	180-77854-1
Groundwater	HI-2-0518		05/16/2018	K1804750-002	180-77854-2
Groundwater	HI-3-0518		05/17/2018	K1804750-003	180-77854-3
Groundwater	HI-4-0518		05/17/2018	K1804750-004	180-77854-4
Groundwater	HI-5-0518		05/17/2018	K1804750-005	180-77854-5
Groundwater	HI-6A-0518		05/17/2018	K1804750-006	180-77854-6
Groundwater	HI-9A-0518		05/15/2018	K1804750-007	180-77854-7
Groundwater	HI-10-0518		05/15/2018	K1804750-008	180-77854-8
Groundwater	HI-11-0518		05/15/2018	K1804750-009	180-77854-9
Groundwater	HI-12-0518		05/17/2018	K1804750-010	180-77854-10
Groundwater	HI-16-0518		05/16/2018	K1804750-011	180-77854-11
Groundwater	HI-18-0518		05/15/2018	K1804750-012	180-77854-12
Groundwater	MW-01R-0518		05/16/2018	K1804750-014	180-77854-13
Groundwater	MW-213-0518		05/15/2018	K1804750-015	180-77854-14
Groundwater	TD-06A-0518		05/16/2018	K1804750-016	180-77854-15
Groundwater	HI-90-0518	Field duplicate of HI-9A-0518	05/15/2018	K1804750-013	180-77854-16

ANALYTICAL DATA VALIDATION CHECKLIST

Project Name: Harbor Island Operable Unit (HIOU)	Laboratories: ALS Environmental (ALS-Kelso), of Kelso, WA and TestAmerica Laboratories, Inc. (TA-Pittsburgh) of Pittsburgh, PA
Project Reference: Groundwater Sampling	Sample Matrix: Groundwater and Water QC Samples
AECOM Project: 60148169.350	Sample Start Date: 5/15/2018
Validator/Date Validated: Chelsey Cook 7/2/2018 Reviewed by: Jennifer Garner 7/13/2018 (completed)	Sample End Date: 5/17/2018

Samples Analyzed: see Table of Samples Analyzed, Harbor Island Operable Unit (HIOU), Groundwater and Water QC Samples, May 2018 (page 3).

Parameters Validated:

ALS-Kelso:

Benzene by SW-846 GC/MS Method 8260C;

Select Metals by EPA Method 200.8 using reductive precipitation prior to analysis for select samples (as applicable); and

TA-Pittsburgh:

Available Cyanide by EPA Method 1677.

Not all samples were analyzed for every parameter; see individual custody records and laboratory reports for the analyses requested and reported.

Laboratory Project IDs (SDG): ALS-Kelso K1804750; TA-Pittsburgh: 180-77854-1

PRECISION, ACCURACY, METHOD COMPLIANCE, AND COMPLETENESS ASSESSMENT

Precision:	**X**	Acceptable		Unacceptable	CC	Initials

Comments: Precision is the measure of variability of individual sample measurements. Field precision was determined by comparison of field duplicate sample results. Laboratory precision was determined by examination of laboratory duplicate results. Evaluation of field and laboratory duplicates for precision was done using the Relative Percent Difference (RPD). The RPD is defined as the difference between two duplicate samples divided by the mean and expressed as a percent. RPD limits referenced EPA published or laboratory control charted QC limits. Overall field and laboratory precision is acceptable and did not require qualification. Precision measurements are reviewed in items 17 and 21.

Accuracy:	**X**	Acceptable		Unacceptable	CC	Initials

Comments: Field accuracy, a measure of the sampling bias, was determined by reviewing equipment rinse blank and trip blank results for evidence of sample contamination stemming from field activities or sample transport. Laboratory accuracy is a measure of the system bias, and was measured by evaluating laboratory control sample, laboratory control sample duplicate (LCS, LCSD), matrix spike, matrix spike duplicate (MS, MSD), detection limit (CRI), organic system monitoring compound (surrogate) percent recoveries (%Rs) and serial dilution percent difference (%D).

Continued on next page

ANALYTICAL DATA VALIDATION CHECKLIST

LCS, LCSD, and CRI %Rs demonstrated the overall performance of the analysis and ability to achieve quantitation at reported detection limits. MS and MSD %Rs and serial dilution %Ds provide information on sample matrix interferences. System monitoring compound or surrogate recoveries measure system performance and efficiency during organic analysis. Laboratory blank results are reviewed for evidence of sample contamination stemming from laboratory activities. Accuracy measurements were compared to EPA published or laboratory control charted QC limits, when applicable. Although some data showed evidence of laboratory and equipment blank contamination (see items 11 and 12), overall method compliance is acceptable since no data are rejected based on these measurements. Accuracy measurements are reviewed in items 11, 12, 14, 15, 16 and 20.						
Method Compliance:	**X**	Acceptable		Unacceptable	CC	Initials
Comments: For this data set, method compliance was determined by evaluating sample integrity, holding time, reporting limits, inorganic and organic system performance checks, inorganic and organic initial and continuing instrument calibrations, and GC/MS and ICP-MS internal standards against method specified requirements. All supporting documentation including sample and standard chromatograms, quantitation reports, instrument printouts, preparation worksheets, etc. were also reviewed. Although some data require qualification based on concentrations reported below the practical quantitation limit/method reporting limit (see item 6), overall method compliance is acceptable since no data are rejected based on these measurements. Method compliance measurements are reviewed in items 4, 6, 8, 13, 18, 19, 20, and 22.						
Completeness:	**X**	Acceptable		Unacceptable	CC	Initials
Comments: Completeness is the overall ratio of the number of samples planned versus the number of samples with valid analyses. Project completeness goals were set at 90-100%. Determination of completeness included a review of chain of custody records, laboratory analytical methods, and detection limits. Completeness also included 100% review of the laboratory sample data results, QC summary reports, and electronic data deliverables (EDDs). EDD modifications were made as documented in items 10 and 23. All of the reported data are useable with the qualifications summarized below.						
VALIDATION CRITERIA CHECK						
Data validation qualifiers assigned during this review data: J estimated concentration The following comments identifying sample results requiring qualification are in bold type. The other comments are of interest, but qualification of the sample results is not necessary. **Refer to the table of Qualified Analytical Results for a listing of the samples, analytes, and concentrations qualified as a result of the data validation (pages 11-12).**						
1. Did the laboratory identify any non-conformances related to the analytical results?	**X-see notes**	Yes		No	CC	Initials

ANALYTICAL DATA VALIDATION CHECKLIST

Comments:

K1804750

Sample Receipt

Eighteen water samples were received for analysis at ALS Environmental on May 18, 2018 at 09:30. The samples were received in good condition and consistent with the accompanying chain of custody form, except where noted on the cooler receipt and preservation form included in this report. The samples were stored in a refrigerator at 4ºC upon receipt at the laboratory.

Total Metals

No significant anomalies were noted with this analysis.

Volatile Organic Compounds by EPA Method 8260

No significant anomalies were noted with this analysis.

180-77854-1

Sample Receipt

The samples were received on May 18, 2018 at 8:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.5º C.

General Chemistry

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Data qualification, if any, related to the laboratory comments and/or to the assigned laboratory data flags are discussed in the following sections.

2. Were sample Chain-of-Custody forms complete?	**X – see notes**	Yes		No	CC	Initials

Comments: The Chain-of-Custody (COC) records from field to laboratory were complete and custody was maintained as evidenced by field and laboratory personnel signatures, and laboratory dates and times of sample receipt.

The sample container for TD-06A-0518 was incorrectly labeled as TD-06-0518. The laboratory logged the sample according to the ID notated on the COC.

3. Were all the analyses requested for the samples on the COCs completed by the laboratory?	**X – see notes**	Yes		No	CC	Initials

Comments: All requested analyses as documented on original COCs were completed. Historically, samples from this site have shown changes in salinity based on the time of year, rainfall, etc. Therefore, the laboratory is provided with two sample containers, one for standard metals analysis and one for reductive precipitation should the salinity be found to be high. The laboratory checks the salinity prior to sample preparation and uses the appropriate preparation method.

4. Were samples received in good condition and at the appropriate temperature?	**X – see notes**	Yes		No	CC	Initials

ANALYTICAL DATA VALIDATION CHECKLIST

Comments: ALS: Samples were received intact and in good condition with a cooler temperature of -0.5°C as noted on the submitted Cooler Receipt and Preservation Form. Samples HI-2-0518, HI-5-0518, HI-9A-0518, HI-90-0518, HI-12-0518, and TD-06A-0518 received for metals analysis required additional acid upon sample receipt in order to meet the pH requirement of <2 Standard Units (S.U.). No data validation actions were taken on this basis. TA-Pittsburgh: Samples were received intact and in good condition with a cooler temperature of 4.5°C.						
5. Were the reported analytical methods in compliance with WP/QAPP, permit, or COC?	**X – see notes**	Yes		No	CC	Initials
Comments: Reported methods met those requested on the COCs.						
6. Were detection limits in accordance with WP/QAPP, permit, or method?	**X – see notes**	Yes		No	CC	Initials
Comments: The method reporting limits (RLs) are achievable by the quoted methods. All data were reported at undiluted levels. **General** **Sample results reported at concentrations ≥ the MDL but < the practical quantitation limit (PQL)/RL, were qualified (J) by the laboratory to indicate estimated concentrations. These (J) qualifiers are retained during data validation.**						
7. Do the laboratory reports include only those constituents requested to be reported for a specific analytical method?	**X – see notes**	Yes		No	CC	Initials
Comments: Only analytes applicable to the requested methods, and as listed on COCs, were reported.						
8. Were sample holding times met?	**X – see notes**	Yes		No	CC	Initials
Comments: Method analytical holding times were met for all analyses and samples. The required holding time periods for groundwater and water QC samples were as follows: 14 days from sample collection to analysis for EPA Methods 8260C and 1677 analyses; and 6 months from sample collection to analysis for EPA Method 200.8 analysis.						
9. Were correct concentration units reported?	**X – see notes**	Yes		No	CC	Initials
Comments: Correct concentration units were reported. All cyanide data were reported as mg/L (ppm). All organic data and EPA Method 200.8 data were reported as µg/L (ppb). No action is required other than to alert the data user to these varying units of measurement.						
10. Were the reporting requirements for flagged data met?	**X – see notes**	Yes		No	CC	Initials
Comments: Data validation qualifiers override any assigned laboratory data flags.						
11. Were laboratory blank samples free of target analyte contamination?		Yes	**X – see notes**	No	CC	Initials
Comments: Laboratory blanks (method blanks, preparation blanks, and inorganic calibration blanks) were reviewed. The maximum concentration detected in all associated blanks was used to determine blank actions. See below for a summary of the data validation actions applied (if required). Method 8260C: The 8260C samples were analyzed for benzene only. Benzene was not detected in the associated method blank.						

ANALYTICAL DATA VALIDATION CHECKLIST

Methods 200.8:

Copper, lead and zinc were not detected in the initial and continuing calibration blanks (ICBs and CCBs). The following table lists the contamination detected in the preparation blank and the associated samples:

Blank ID	Analyte	Concentration (ug/L)	RL (ug/L)	Associated samples
MB KQ1806689-01	**Lead**	**0.009 J**	**0.020**	**HI-1-0518 HI-3-0518 HI-4-0518 HI-16-0518 HI-18-0518 MW-01R-0518**

Method 1677

Available cyanide was not detected in the laboratory blanks associated with the samples in this data set.

Associated sample results whose reported values for these analytes were > RL but < 10x the method blank concentration have been qualified as estimated and flagged J in both the EDD and in the Table of Qualified Analytical Results to show that the analyte has been evaluated to be estimated due to evidence of laboratory contamination.

Refer to the Table of Qualified Analytical Results for a listing of the samples, analytes, and concentrations qualified (pages 11-12).

12. Were trip blank, field blank, and/or equipment blank samples free of target analyte contamination?		Yes	**X – see notes**	No	CC	Initials

Comments: Target compounds were not detected in the trip blank (TB-0518). Benzene was detected in the equipment blank (EB-0518) at 0.080 J ug/L. Benzene was not detected in the associated samples, therefore, data were not qualified based on this equipment blank detection.

13. Were instrument calibrations within method or data validation control limits?	**X – see notes**	Yes		No	CC	Initials

Comments: Initial and continuing calibrations were within data validation criteria for all target analytes and applicable samples. The frequency of both initial and continuing calibration verification checks (ICVs, CCVs) was sufficient for all methods. Noncompliant relative response factors (RRFs), percent relative standard deviations (%RSDs), percent differences (%Ds), and/or percent recoveries (%Rs) associated with non-target analytes or non-project samples were not considered during validation since they do not affect reported project sample results.

All relevant calibration results were within these identified QC limits.

EPA Method 200.8 for metals by ICV and CCV %R limits were set at 90-110%.

EPA Method 1677 for cyanide criteria were set at 85-115% (ICV) and 86-118% (CCV).

EPA Method 8260C QC limits were set at RRF $\geq$ 0.500 for benzene; ICV %RSD $\leq$ 20%; and CCV %Ds $\leq$ 20% for benzene.

14. Were surrogate recoveries within control limits?	**X –see notes**	Yes		No	CC	Initials

Comments: Surrogate %Rs for organic methods were within laboratory control-charted QC limits for all project samples.

15. Were laboratory control sample recoveries within control limits?	**X – see notes**	Yes		No	CC	Initials

Comments: Supplied LCS, LCSD, and ongoing precision %Rs for target analytes were within laboratory control

ANALYTICAL DATA VALIDATION CHECKLIST

charted QC limits as allowed for SW-846 organic methods or method-specified QC acceptance limits (80-120% for metals; and 82-132% for cyanide).						
16. Were matrix spike recoveries and/or serial dilution %Ds within control limits?	**X – see notes**	Yes		No	CC	Initials
Comments: Project-specific MS, MSD %Rs for target analytes were within laboratory control charted QC limits for cyanide or were within data validation QC limits of 70-130% for metals analysis. An MS/MSD analysis was not performed for the volatile organic compound analysis. No data validation actions are required on this basis. A serial dilution analysis was not performed on a sample in this data set. No data validation actions were taken on this basis.						
17. Were duplicate RPDs within control limits?	**X – see notes**	Yes		No	CC	Initials
Comments: Laboratory RPDs for target analytes in LCS/LCSD, project-specific laboratory duplicates and/or MS/MSD samples were within data validation QC limits of 0-20% for metals/cyanide when the result is >5xRL or <RL for metals/cyanide when the results are >5xRL.						
18. Were organic system performance criteria met?	**X – see notes**	Yes		No	CC	Initials
Comments: EPA Method 8260B (GC/MS) BFB tunes were within ion abundance and 12-hour clock method criteria for all analytical sequences.						
19. Were internal standards within method criteria for GC/MS and/or ICP-MS sample analyses?	**X – see notes**	Yes		No	CC	Initials
Comments: Internal standard area counts and retention times were within data validation QC criteria for all GC/MS EPA Method 8260C sample analyses and applicable target compounds. Provided internal standard %RIs were within the 60-125% data validation QC criteria for all ICP-MS method sample results.						
20. Were inorganic system performance criteria met?	**X – see notes**	Yes		No	CC	Initials
Comments: ICP-MS tuning criteria were met. CRDL standard (CRI) frequency and percent recoveries were within data validation QC limits for all target analytes as applicable. Compliant CRI %Rs were within these identified QC limits: 70-130% for CRI (50-150% for antimony, lead, and thallium, as applicable).						
21. Were blind field duplicates collected? If so, discuss the precision (RPD) of the results.	**X – see notes**	Yes		No	CC	Initials

Comments: The field duplicate pair submitted with this data set is as follows: HI-9A-0518 (primary sample) and HI-90-0518 (field duplicate sample).

Field duplicate RPDs were within data validation QC limits of 0-30% for water matrices (or within 2xRL for inorganic sample results that are <5xRL), or RPDs were not applicable due to results that were not detected in both samples, including those considered to be not detected as a result of the application of blank actions.

Method	Units	Analyte	RL	HI-9A-0518	HI-90-0518	RPD
200.8	µg/L	Copper	0.10	0.06 J	0.07 J	15
200.8	µg/L	Lead	0.020	0.030	0.031	3
200.8	µg/L	Zinc	0.50	0.28 J	0.21 J	29

22. Were qualitative/quantitative criteria for organic target analyte identification met?	**X – see notes**	Yes		No	CC	Initials

ANALYTICAL DATA VALIDATION CHECKLIST

Comments: No analyte identification outliers were noted during the data validation procedure.						
23. Were 100% of the EDD concentrations and reporting limits compared to the hardcopy data reports?	**X – see notes**	Yes		No	CC	Initials
Comments: Sample results affected by laboratory contamination are identified and discussed in item 11. For these samples, J qualifiers have been added to the validator_qualifiers and interpreted_qualifiers columns. It should be noted that the laboratory data summary forms report “Available” cyanide and the EDD query file reports “Amenable” cyanide. No data validation actions were taken other than to note this discrepancy. The AECOM Environment project manager in Seattle, WA was informed of all EDD corrections made to the files via this checklist. The updated EDD query file, with corrections and data validation qualifiers added, was returned to the AECOM project manager in Seattle, WA.						
24. General Comments: Data were evaluated based on validation criteria set forth in the *USEPA National Functional Guidelines for Superfund Organic Methods Data Review*, document number USEPA-540-R-207-002, January 2017, and the *USEPA National Functional Guidelines for Inorganic Superfund Data Review*, document number USEPA 540-R-2017-001, January 2017 as they applied to the reported methodology. Field duplicate RPD review and applicable control limits were taken from the EPA-New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures (April 2013). **Refer to the table of Qualified Analytical Results for a listing of the samples, analytes, and concentrations qualified (pages 11-12).**						

Table of Qualified Analytical Results
Harbor Island Operable Unit (HIOU)

Sample ID	Matrix	Analyte	Result	QL	Units	Validation Qualifiers	Validation Reason
HI-1-0518	WG	Lead	0.042	0.020	ug/l	J	bl
HI-16-0518	WG	Lead	0.078	0.020	ug/l	J	bl
HI-4-0518	WG	Lead	0.071	0.020	ug/l	J	bl
MW-01R-0518	WG	Lead	0.059	0.020	ug/l	J	bl

Notes:

- See below for Validation Reason Code Explanation

Reason Codes and Explanations

Reason Code	Explanation
be	Equipment blank contamination
bf	Field blank contamination
bl	Laboratory blank contamination
c	Calibration issue
cr	Chromatographic resolution issue
d	Reporting limit raised due to chromatographic interference
fd	Field duplicate RPDs
h	Holding times
i	Internal standard areas
k	Estimated Maximum Possible Concentration (EMPC)
l	LCS recoveries
lc	Labeled compound recovery
ld	Laboratory duplicate RPDs
lp	Laboratory control sample/laboratory control sample duplicate RPDs
m	Matrix spike recovery
md	Matrix spike/matrix spike duplicate RPDs
nb	Negative laboratory blank contamination
p	Chemical preservation issue
r	Dual column RPD
q	Quantitation issue
s	Surrogate recovery
su	Ion suppression
t	Temperature preservation issue
x	Percent solids
y	Serial dilution results
z	ICS results

ANALYTICAL REPORT

Job Number: 180-77854-1

Job Description: Harbor Island OU, 60148169

For:
AECOM
1111 Third Ave
Suite 1600
Seattle, WA 98101

Attention: Renee Knecht

Approved for release.
David A Dunlap
Senior Project Manager
5/31/2018 10:36 AM

David A Dunlap, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
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david.dunlap@testamericainc.com
05/31/2018

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager or designee who has signed this report.

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Qualifiers

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job Narrative
180-77854-1

Receipt
The samples were received on 5/18/2018 8:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.5º C.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: AECOM
Project/Site: Harbor Island OU, 60148169

TestAmerica Job ID: 180-77854-1

Client Sample ID: HI-1-0518 — Lab Sample ID: 180-77854-1

No Detections.

Client Sample ID: HI-2-0518 — Lab Sample ID: 180-77854-2

No Detections.

Client Sample ID: HI-3-0518 — Lab Sample ID: 180-77854-3

No Detections.

Client Sample ID: HI-4-0518 — Lab Sample ID: 180-77854-4

No Detections.

Client Sample ID: HI-5-0518 — Lab Sample ID: 180-77854-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Available Cyanide	0.0013	J	0.0020	0.00036	mg/L	1		OIA - 1677	Total/NA

Client Sample ID: HI-6A-0518 — Lab Sample ID: 180-77854-6

No Detections.

Client Sample ID: HI-9A-0518 — Lab Sample ID: 180-77854-7

No Detections.

Client Sample ID: HI-10-0518 — Lab Sample ID: 180-77854-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Available Cyanide	0.0020		0.0020	0.00036	mg/L	1		OIA - 1677	Total/NA

Client Sample ID: HI-11-0518 — Lab Sample ID: 180-77854-9

No Detections.

Client Sample ID: HI-12-0518 — Lab Sample ID: 180-77854-10

No Detections.

Client Sample ID: HI-16-0518 — Lab Sample ID: 180-77854-11

No Detections.

Client Sample ID: HI-18-0518 — Lab Sample ID: 180-77854-12

No Detections.

Client Sample ID: MW-01R-0518 — Lab Sample ID: 180-77854-13

No Detections.

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM
Project/Site: Harbor Island OU, 60148169

TestAmerica Job ID: 180-77854-1

Client Sample ID: MW-213-0518 — Lab Sample ID: 180-77854-14

No Detections.

Client Sample ID: TD-06A-0518 — Lab Sample ID: 180-77854-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Available Cyanide	0.00056	J	0.0020	0.00036	mg/L	1		OIA - 1677	Total/NA

Client Sample ID: HI-90-0518 — Lab Sample ID: 180-77854-16

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM
Project/Site: Harbor Island OU, 60148169

TestAmerica Job ID: 180-77854-1

General Chemistry

Client Sample ID: HI-1-0518
Date Collected: 05/16/18 11:00
Date Received: 05/18/18 08:50

Lab Sample ID: 180-77854-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Available Cyanide	ND		0.0020	0.00036	mg/L			05/23/18 10:34	1

General Chemistry

Client Sample ID: HI-2-0518
Date Collected: 05/16/18 11:50
Date Received: 05/18/18 08:50

Lab Sample ID: 180-77854-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Available Cyanide	ND		0.0020	0.00036	mg/L			05/23/18 10:36	1

General Chemistry

Client Sample ID: HI-3-0518
Date Collected: 05/17/18 13:55
Date Received: 05/18/18 08:50

Lab Sample ID: 180-77854-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Available Cyanide	ND		0.0020	0.00036	mg/L			05/23/18 10:46	1

General Chemistry

Client Sample ID: HI-4-0518
Date Collected: 05/17/18 12:10
Date Received: 05/18/18 08:50

Lab Sample ID: 180-77854-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Available Cyanide	ND		0.0020	0.00036	mg/L			05/23/18 10:24	1

General Chemistry

Client Sample ID: HI-5-0518
Date Collected: 05/17/18 11:10
Date Received: 05/18/18 08:50

Lab Sample ID: 180-77854-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Available Cyanide	0.0013	J	0.0020	0.00036	mg/L			05/23/18 10:48	1

General Chemistry

Client Sample ID: HI-6A-0518
Date Collected: 05/17/18 11:45
Date Received: 05/18/18 08:50

Lab Sample ID: 180-77854-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Available Cyanide	ND		0.0020	0.00036	mg/L			05/23/18 10:50	1

General Chemistry

Client Sample ID: HI-9A-0518
Date Collected: 05/15/18 10:00
Date Received: 05/18/18 08:50

Lab Sample ID: 180-77854-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Available Cyanide	ND		0.0020	0.00036	mg/L			05/23/18 10:52	1

General Chemistry

Client Sample ID: HI-10-0518
Date Collected: 05/15/18 12:00
Date Received: 05/18/18 08:50

Lab Sample ID: 180-77854-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Available Cyanide	0.0020		0.0020	0.00036	mg/L			05/23/18 10:54	1

General Chemistry

Client Sample ID: HI-11-0518
Date Collected: 05/15/18 12:10
Date Received: 05/18/18 08:50

Lab Sample ID: 180-77854-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Available Cyanide	ND		0.0020	0.00036	mg/L			05/23/18 11:14	1

Client Sample Results

Client: AECOM
Project/Site: Harbor Island OU, 60148169

TestAmerica Job ID: 180-77854-1

General Chemistry

Client Sample ID: HI-12-0518
Date Collected: 05/17/18 12:45
Date Received: 05/18/18 08:50

Lab Sample ID: 180-77854-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Available Cyanide	ND		0.0020	0.00036	mg/L			05/23/18 11:16	1

Client Sample Results

Client: AECOM
Project/Site: Harbor Island OU, 60148169

TestAmerica Job ID: 180-77854-1

General Chemistry

Client Sample ID: HI-16-0518
Date Collected: 05/16/18 12:50
Date Received: 05/18/18 08:50

Lab Sample ID: 180-77854-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Available Cyanide	ND		0.0020	0.00036	mg/L			05/23/18 11:18	1

Client Sample Results

Client: AECOM
Project/Site: Harbor Island OU, 60148169

TestAmerica Job ID: 180-77854-1

General Chemistry

Client Sample ID: HI-18-0518
Date Collected: 05/15/18 14:00
Date Received: 05/18/18 08:50

Lab Sample ID: 180-77854-12
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Available Cyanide	ND		0.0020	0.00036	mg/L			05/23/18 11:20	1

General Chemistry

Client Sample ID: MW-01R-0518
Date Collected: 05/16/18 13:25
Date Received: 05/18/18 08:50

Lab Sample ID: 180-77854-13
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Available Cyanide	ND		0.0020	0.00036	mg/L			05/23/18 11:30	1

General Chemistry

Client Sample ID: MW-213-0518
Date Collected: 05/15/18 10:20
Date Received: 05/18/18 08:50

Lab Sample ID: 180-77854-14
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Available Cyanide	ND		0.0020	0.00036	mg/L			05/23/18 11:32	1

General Chemistry

Client Sample ID: TD-06A-0518
Date Collected: 05/16/18 11:50
Date Received: 05/18/18 08:50

Lab Sample ID: 180-77854-15
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Available Cyanide	0.00056	J	0.0020	0.00036	mg/L			05/23/18 11:34	1

Client Sample Results

Client: AECOM
Project/Site: Harbor Island OU, 60148169

TestAmerica Job ID: 180-77854-1

General Chemistry

Client Sample ID: HI-90-0518
Date Collected: 05/15/18 12:00
Date Received: 05/18/18 08:50

Lab Sample ID: 180-77854-16
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Available Cyanide	ND		0.0020	0.00036	mg/L			05/23/18 11:36	1

Default Detection Limits

Client: AECOM
Project/Site: Harbor Island OU, 60148169

TestAmerica Job ID: 180-77854-1

General Chemistry

Analyte	RL	MDL	Units	Method
Available Cyanide	0.0020	0.00036	mg/L	OIA - 1677

Method: OIA - 1677 - Available Cyanide by Flow Injection, Lig

Lab Sample ID: MB 180-245714/45
Matrix: Water
Analysis Batch: 245714

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Available Cyanide	ND		0.0020	0.00036	mg/L			05/23/18 10:22	1

Lab Sample ID: MB 180-245714/67
Matrix: Water
Analysis Batch: 245714

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Available Cyanide	ND		0.0020	0.00036	mg/L			05/23/18 11:06	1

Lab Sample ID: LCS 180-245714/44
Matrix: Water
Analysis Batch: 245714

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Available Cyanide	0.0500	0.0512		mg/L		102	82 - 132

Lab Sample ID: LCS 180-245714/66
Matrix: Water
Analysis Batch: 245714

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Available Cyanide	0.0500	0.0515		mg/L		103	82 - 132

Lab Sample ID: 180-77854-4 MS
Matrix: Water
Analysis Batch: 245714

Client Sample ID: HI-4-0518
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Available Cyanide	ND		0.0501	0.0526		mg/L		105	82 - 130

Lab Sample ID: 180-77854-4 MSD
Matrix: Water
Analysis Batch: 245714

Client Sample ID: HI-4-0518
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Available Cyanide	ND		0.0501	0.0543		mg/L		108	82 - 130	3	11

QC Association Summary

Client: AECOM
Project/Site: Harbor Island OU, 60148169

TestAmerica Job ID: 180-77854-1

General Chemistry

Analysis Batch: 245714

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-77854-1	HI-1-0518	Total/NA	Water	OIA - 1677	
180-77854-2	HI-2-0518	Total/NA	Water	OIA - 1677	
180-77854-3	HI-3-0518	Total/NA	Water	OIA - 1677	
180-77854-4	HI-4-0518	Total/NA	Water	OIA - 1677	
180-77854-5	HI-5-0518	Total/NA	Water	OIA - 1677	
180-77854-6	HI-6A-0518	Total/NA	Water	OIA - 1677	
180-77854-7	HI-9A-0518	Total/NA	Water	OIA - 1677	
180-77854-8	HI-10-0518	Total/NA	Water	OIA - 1677	
180-77854-9	HI-11-0518	Total/NA	Water	OIA - 1677	
180-77854-10	HI-12-0518	Total/NA	Water	OIA - 1677	
180-77854-11	HI-16-0518	Total/NA	Water	OIA - 1677	
180-77854-12	HI-18-0518	Total/NA	Water	OIA - 1677	
180-77854-13	MW-01R-0518	Total/NA	Water	OIA - 1677	
180-77854-14	MW-213-0518	Total/NA	Water	OIA - 1677	
180-77854-15	TD-06A-0518	Total/NA	Water	OIA - 1677	
180-77854-16	HI-90-0518	Total/NA	Water	OIA - 1677	
MB 180-245714/45	Method Blank	Total/NA	Water	OIA - 1677	
MB 180-245714/67	Method Blank	Total/NA	Water	OIA - 1677	
LCS 180-245714/44	Lab Control Sample	Total/NA	Water	OIA - 1677	
LCS 180-245714/66	Lab Control Sample	Total/NA	Water	OIA - 1677	
180-77854-4 MS	HI-4-0518	Total/NA	Water	OIA - 1677	
180-77854-4 MSD	HI-4-0518	Total/NA	Water	OIA - 1677	

Lab Chronicle

Client: AECOM
Project/Site: Harbor Island OU, 60148169

TestAmerica Job ID: 180-77854-1

Client Sample ID: HI-1-0518 — Lab Sample ID: 180-77854-1

Date Collected: 05/16/18 11:00 — **Matrix: Water**
Date Received: 05/18/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OIA - 1677		1			245714	05/23/18 10:34	SES	TAL PIT
	Instrument ID: ALPKEM3									

Client Sample ID: HI-2-0518 — Lab Sample ID: 180-77854-2

Date Collected: 05/16/18 11:50 — **Matrix: Water**
Date Received: 05/18/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OIA - 1677		1			245714	05/23/18 10:36	SES	TAL PIT
	Instrument ID: ALPKEM3									

Client Sample ID: HI-3-0518 — Lab Sample ID: 180-77854-3

Date Collected: 05/17/18 13:55 — **Matrix: Water**
Date Received: 05/18/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OIA - 1677		1			245714	05/23/18 10:46	SES	TAL PIT
	Instrument ID: ALPKEM3									

Client Sample ID: HI-4-0518 — Lab Sample ID: 180-77854-4

Date Collected: 05/17/18 12:10 — **Matrix: Water**
Date Received: 05/18/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OIA - 1677		1			245714	05/23/18 10:24	SES	TAL PIT
	Instrument ID: ALPKEM3									

Client Sample ID: HI-5-0518 — Lab Sample ID: 180-77854-5

Date Collected: 05/17/18 11:10 — **Matrix: Water**
Date Received: 05/18/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OIA - 1677		1			245714	05/23/18 10:48	SES	TAL PIT
	Instrument ID: ALPKEM3									

Client Sample ID: HI-6A-0518 — Lab Sample ID: 180-77854-6

Date Collected: 05/17/18 11:45 — **Matrix: Water**
Date Received: 05/18/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OIA - 1677		1			245714	05/23/18 10:50	SES	TAL PIT
	Instrument ID: ALPKEM3									

Client Sample ID: HI-9A-0518 — Lab Sample ID: 180-77854-7

Date Collected: 05/15/18 10:00 — **Matrix: Water**
Date Received: 05/18/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OIA - 1677		1			245714	05/23/18 10:52	SES	TAL PIT
	Instrument ID: ALPKEM3									

Client Sample ID: HI-10-0518 — Lab Sample ID: 180-77854-8

Date Collected: 05/15/18 12:00 — **Matrix: Water**
Date Received: 05/18/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OIA - 1677		1			245714	05/23/18 10:54	SES	TAL PIT
	Instrument ID: ALPKEM3									

Client Sample ID: HI-11-0518 — Lab Sample ID: 180-77854-9

Date Collected: 05/15/18 12:10 — **Matrix: Water**
Date Received: 05/18/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OIA - 1677		1			245714	05/23/18 11:14	SES	TAL PIT
	Instrument ID: ALPKEM3									

Client Sample ID: HI-12-0518 — Lab Sample ID: 180-77854-10

Date Collected: 05/17/18 12:45 — **Matrix: Water**
Date Received: 05/18/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OIA - 1677		1			245714	05/23/18 11:16	SES	TAL PIT
	Instrument ID: ALPKEM3									

Client Sample ID: HI-16-0518 — Lab Sample ID: 180-77854-11

Date Collected: 05/16/18 12:50 — **Matrix: Water**
Date Received: 05/18/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OIA - 1677		1			245714	05/23/18 11:18	SES	TAL PIT
	Instrument ID: ALPKEM3									

Client Sample ID: HI-18-0518 — Lab Sample ID: 180-77854-12

Date Collected: 05/15/18 14:00 — **Matrix: Water**
Date Received: 05/18/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OIA - 1677		1			245714	05/23/18 11:20	SES	TAL PIT
	Instrument ID: ALPKEM3									

Lab Chronicle

Client: AECOM
Project/Site: Harbor Island OU, 60148169

TestAmerica Job ID: 180-77854-1

Client Sample ID: MW-01R-0518 — Lab Sample ID: 180-77854-13

Date Collected: 05/16/18 13:25
Date Received: 05/18/18 08:50
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OIA - 1677		1			245714	05/23/18 11:30	SES	TAL PIT
	Instrument ID: ALPKEM3									

Client Sample ID: MW-213-0518 — Lab Sample ID: 180-77854-14

Date Collected: 05/15/18 10:20
Date Received: 05/18/18 08:50
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OIA - 1677		1			245714	05/23/18 11:32	SES	TAL PIT
	Instrument ID: ALPKEM3									

Client Sample ID: TD-06A-0518 — Lab Sample ID: 180-77854-15

Date Collected: 05/16/18 11:50
Date Received: 05/18/18 08:50
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OIA - 1677		1			245714	05/23/18 11:34	SES	TAL PIT
	Instrument ID: ALPKEM3									

Client Sample ID: HI-90-0518 — Lab Sample ID: 180-77854-16

Date Collected: 05/15/18 12:00
Date Received: 05/18/18 08:50
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OIA - 1677		1			245714	05/23/18 11:36	SES	TAL PIT
	Instrument ID: ALPKEM3									

Laboratory References:

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Analyst References:

Lab: TAL PIT
Batch Type: Analysis
SES = Samantha Strauser

Accreditation/Certification Summary

Client: AECOM
Project/Site: Harbor Island OU, 60148169

TestAmerica Job ID: 180-77854-1

Laboratory: TestAmerica Pittsburgh

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Arkansas DEQ	State Program	6	88-0690	06-27-18
California	State Program	9	2891	04-30-19
Connecticut	State Program	1	PH-0688	09-30-18
Florida	NELAP	4	E871008	06-30-18
Illinois	NELAP	5	200005	06-30-18
Kansas	NELAP	7	E-10350	01-31-19
Louisiana	NELAP	6	04041	06-30-18
Nevada	State Program	9	PA00164	07-31-18
New Hampshire	NELAP	1	2030	04-04-19
New Jersey	NELAP	2	PA005	06-30-18
New York	NELAP	2	11182	03-31-19
North Carolina (WW/SW)	State Program	4	434	12-31-18
Oregon	NELAP Secondary AB	10	PA-2151	01-28-19
Pennsylvania	NELAP	3	02-00416	04-30-19
South Carolina	State Program	4	89014	04-30-18 *
Texas	NELAP	6	T104704528-15-2	03-31-19
US Fish & Wildlife	Federal		LE94312A-1	07-31-18
USDA	Federal		P330-16-00211	06-26-19
Utah	NELAP	8	PA001462015-4	05-31-18
Virginia	NELAP	3	460189	09-14-18
West Virginia DEP	State Program	3	142	01-31-19
Wisconsin	State Program	5	998027800	08-31-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: AECOM
Project/Site: Harbor Island OU, 60148169

TestAmerica Job ID: 180-77854-1

Method	Method Description	Protocol	Laboratory
OIA - 1677	Available Cyanide by Flow Injection, Lig	EPA	TAL PIT

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Sample Summary

Client: AECOM
Project/Site: Harbor Island OU, 60148169

TestAmerica Job ID: 180-77854-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-77854-1	HI-1-0518	Water	05/16/18 11:00	05/18/18 08:50
180-77854-2	HI-2-0518	Water	05/16/18 11:50	05/18/18 08:50
180-77854-3	HI-3-0518	Water	05/17/18 13:55	05/18/18 08:50
180-77854-4	HI-4-0518	Water	05/17/18 12:10	05/18/18 08:50
180-77854-5	HI-5-0518	Water	05/17/18 11:10	05/18/18 08:50
180-77854-6	HI-6A-0518	Water	05/17/18 11:45	05/18/18 08:50
180-77854-7	HI-9A-0518	Water	05/15/18 10:00	05/18/18 08:50
180-77854-8	HI-10-0518	Water	05/15/18 12:00	05/18/18 08:50
180-77854-9	HI-11-0518	Water	05/15/18 12:10	05/18/18 08:50
180-77854-10	HI-12-0518	Water	05/17/18 12:45	05/18/18 08:50
180-77854-11	HI-16-0518	Water	05/16/18 12:50	05/18/18 08:50
180-77854-12	HI-18-0518	Water	05/15/18 14:00	05/18/18 08:50
180-77854-13	MW-01R-0518	Water	05/16/18 13:25	05/18/18 08:50
180-77854-14	MW-213-0518	Water	05/15/18 10:20	05/18/18 08:50
180-77854-15	TD-06A-0518	Water	05/16/18 11:50	05/18/18 08:50
180-77854-16	HI-90-0518	Water	05/15/18 12:00	05/18/18 08:50

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-77854-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
WAvCN 50 ICV_00131	05/24/18	05/23/18	DI Water, Lot N/A	250 mL	WAvCN10Si_00527	1.25 mL	Available Cyanide	50 ug/L
.WAvCN10Si_00527	05/24/18	05/23/18	DI Water, Lot DI Water	100 mL	WAvCN1000S_00031	1 mL	Available Cyanide	10000 ppb
..WAvCN1000S_00031	09/30/18	Ricca Chemical Co., Lot 4803L13			(Purchased Reagent)		Available Cyanide	1000 ppm
WAvCN 50LCS_00124	05/24/18	05/23/18	DI Water, Lot N/A	500 mL	WAvCN10Pi_00536	2.5 mL	Available Cyanide	50 ppb
.WAvCN10Pi_00536	05/24/18	05/23/18	DI Water, Lot DI Water	100 mL	WAvCN1000P_00032	1 mL	Available Cyanide	10000 ug/L
..WAvCN1000P_00032	10/09/18	LabChem Inc, Lot H092-19			(Purchased Reagent)		Available Cyanide	1000 ppm
WAvCN50 CCV_00127	05/24/18	05/23/18	DI Water, Lot N/A	500 mL	WAvCN10Pi_00536	2.5 mL	Available Cyanide	50 ug/L
.WAvCN10Pi_00536	05/24/18	05/23/18	DI Water, Lot DI Water	100 mL	WAvCN1000P_00032	1 mL	Available Cyanide	10000 ug/L
..WAvCN1000P_00032	10/09/18	LabChem Inc, Lot H092-19			(Purchased Reagent)		Available Cyanide	1000 ppm
WHg210Pi_00568	05/24/18	05/23/18	DI Water, Lot DI water	100 mL	WHg2CN1000P_00027	1 mL	Available Cyanide	10011.6 ug/L
.WHg2CN1000P_00027	09/20/18	03/20/18	DI Water, Lot DI Water	500 mL	WHg(II) CNP_00006	2.43 g	Available Cyanide	1001.16 mg/L
..WHg(II) CNP_00006	01/20/21	Sigma-Aldrich, Lot SLBN7022V			(Purchased Reagent)		Available Cyanide	0.206 g/g

Reagent

WAvCN1000P_00032

2732008
ID: WCN1000P_00040
Exp:10/09/18 Prpd:JAS Opn:05/01/18
Cyanide 1000 ppm Primary

2732010
ID: WAvCN1000P_00032
Exp:10/09/18 Prpd:JAS Opn:05/01/18
Available Cyanide 1000 pp

2732007
ID: WCN1000P_00040
Exp:10/09/18 Prpd:JAS Opn:05/01/18
Cyanide 1000 ppm Primary

2732009
ID: WAvCN1000P_00032
Exp:10/09/18 Prpd:JAS Opn:05/01/18
Available Cyanide 1000 pp

LabChem
performance through chemistry
Jackson's Pointe Commerce Park - Building 1000
1010 Jackson's Pointe Court, Zelienople, PA 16063
Ph: 412-826-5230 | Fax: 724-473-0647 | www.labchem.com

CERTIFICATE OF ANALYSIS

Description: CYANIDE STANDARD, 1000ppm (1ml = 1mg CN)

Mfg. Date: 04/09/2018

Catalog Number: LC13545

Exp. Date: 10/09/2018

Lot Number: H092-19

ANALYTICAL SECTION

Test	Specification	Test Result
Appearance	clear, colorless solution	Pass Test
Concentration ppm CN	1000ppm +/- 10ppm	1004 ppm
Concentration mg CN/mL	1.000mg/mL +/- 0.010 mg CN/mL	1.004 mg CN/mL
Traceable to NIST	Potassium Chloride	999b

Intended Use - Product is intended for use in manufacturing procedures and laboratory procedures and protocols.

Storage Information - Unless otherwise noted on the product label, store the product under normal lab conditions in its tightly closed, original container. Do not pipet directly from the container or return unused portions to the container.

Instructions for Handling and Use - Please refer to the associated product label and Safety Data Sheet (SDS) for information regarding safety and handling of this product.

Preparation - All products are manufactured and tested according to established, documented procedures and methodology. Production documentation records manufacturing data, raw material traceability and testing history on a per lot basis. Balances, thermometers, and glassware are calibrated before first use and on a regular schedule with references traceable to NIST standards.

Submitted by: Greg Albright, Chemist Supervisor

An ISO9001:2008 certified company. Registration # 0306-01

04/30/2018 4:21 PM

Form #17.13 07/28/2016

Reagent

WAvCN1000S_00031

RICCA CHEMICAL COMPANY®

1490 Lammers Pike
Batesville, IN 47006
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Cyanide Standard, 1000 ppm CN^-

Lot Number: 4803L13 **Product Number:** 2543

Manufacture Date: MAR 28, 2018
Expiration Date: SEP 2018

This standard is prepared using accurate volumetric techniques from material that has been assayed against Silver Nitrate solution certified traceable to NIST Standard Reference Material 999. The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is the combined uncertainty based on the stability of the assayed Potassium Cyanide, and the uncertainty in the mass and volume measurements.
Use 0.16% (w/v) (0.04 N) Sodium Hydroxide or 0.225 % (w/v) (0.04 N) Potassium Hydroxide to make dilutions of this standard. Restandardize weekly if extreme accuracy is required.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Potassium Cyanide	151-50-8	ACS
Sodium Hydroxide	1310-73-2	Reagent

Test	Specification	Result
Appearance	Colorless liquid	Passed
Cyanide (CN)	995-1005 ppm	1000 ppm

Specification	Reference
Stock Standard Cyanide Solution	APHA (4500-CN- F)
Stock Cyanide Solution	APHA (4500-CN- E)
Stock Cyanide Solution	APHA (4500-CN- K)
Stock Cyanide Solution	APHA (4500-CN- H)
Cyanide Reference Solution (1000 mg/L)	EPA (SW-846) (7.3.3.2)
Cyanide Calibration Stock Solution (1,000 mg/L CN-)	EPA (SW-846) (9213)
Stock Cyanide Solution	EPA (335.3)
Stock Cyanide Solution	EPA (335.2)
Cyanide Solution Stock	ASTM (D 4282)
Simple Cyanide Solution, Stock (1.0 g/L CN)	ASTM (D 4374)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
2543-4	120 mL amber poly	6 months

Recommended Storage: 2°C - 8°C (36°F - 46°F)

2732011
ID: WCN1000S_00030
Exp:09/30/18 Prpd:JAS Opn:05/01/18
Cyanide 1000 ppm Secondar

2732015
ID: WCN1000S_00030
Exp:09/30/18 Prpd:JAS Opn:05/01/18
Cyanide 1000 ppm Secondar

2732013
ID: WAvCN1000S_00031
Exp:09/30/18 Prpd:JAS Opn:05/01/18
Available Cyanide 1000 Se

2732014
ID: WAvCN1000S_00031
Exp:09/30/18 Prpd:JAS Opn:05/01/18
Available Cyanide 1000 Se

Jim Gibbs
Quality Control Supervisor
This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

This test report shall not be reproduced, except in full, without the written approval of Ricca Chemical Company.

Reagent

WHg(II) CNP_00006

1849392
ID: WHg(II) CNP_00006
Exp:01/20/21 Prod:PGJ Opn:01/20/16
Mercury (II) Cyanide

SIGMA-ALDRICH®

sigma-aldrich.com

3050 Spruce Street, Saint Louis, MO 63103, USA
Website: www.sigmaaldrich.com
Email USA: techserv@sial.com
Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Name:
Mercury(II) cyanide - 99%

Product Number:	**208140**
Batch Number:	**SLBN7022V**
Brand:	ALDRICH
CAS Number:	592-04-1
MDL Number:	MFCD00011037
Formula:	Hg(CN)2
Formula Weight:	252.62 g/mol
Quality Release Date:	27 JUL 2015

$Hg(CN)_2$

Test	Specification	Result
Appearance (Color)	White	White
Appearance (Form)	Powder to Crystals	Crystalline Powder
Titration by HCL (78.2%-80.6% Hg)	98.5 - 101.5 %	99.5 %
Identity Confirms Hg component	Confirmed	Conforms

Rodney Burbach, Manager
Analytical Services
St. Louis, Missouri US

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 180-77854-1

SDG No.:

Project: Harbor Island OU, 60148169

Client Sample ID	Lab Sample ID
HI-1-0518	180-77854-1
HI-2-0518	180-77854-2
HI-3-0518	180-77854-3
HI-4-0518	180-77854-4
HI-5-0518	180-77854-5
HI-6A-0518	180-77854-6
HI-9A-0518	180-77854-7
HI-10-0518	180-77854-8
HI-11-0518	180-77854-9
HI-12-0518	180-77854-10
HI-16-0518	180-77854-11
HI-18-0518	180-77854-12
MW-01R-0518	180-77854-13
MW-213-0518	180-77854-14
TD-06A-0518	180-77854-15
HI-90-0518	180-77854-16

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: HI-1-0518
Lab Sample ID: 180-77854-1
Lab Name: TestAmerica Pittsburgh
Job No.: 180-77854-1
SDG ID.:
Matrix: Water
Date Sampled: 05/16/2018 11:00
Reporting Basis: WET
Date Received: 05/18/2018 08:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Available Cyanide	ND	0.0020	0.00036	mg/L			1	OIA - 1677

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: HI-2-0518
Lab Sample ID: 180-77854-2
Lab Name: TestAmerica Pittsburgh
Job No.: 180-77854-1
SDG ID.:
Matrix: Water
Date Sampled: 05/16/2018 11:50
Reporting Basis: WET
Date Received: 05/18/2018 08:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Available Cyanide	ND	0.0020	0.00036	mg/L			1	OIA - 1677

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: HI-3-0518
Lab Sample ID: 180-77854-3
Lab Name: TestAmerica Pittsburgh
Job No.: 180-77854-1
SDG ID.:
Matrix: Water
Date Sampled: 05/17/2018 13:55
Reporting Basis: WET
Date Received: 05/18/2018 08:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Available Cyanide	ND	0.0020	0.00036	mg/L			1	OIA - 1677

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: HI-4-0518
Lab Sample ID: 180-77854-4
Lab Name: TestAmerica Pittsburgh
Job No.: 180-77854-1
SDG ID.:
Matrix: Water
Date Sampled: 05/17/2018 12:10
Reporting Basis: WET
Date Received: 05/18/2018 08:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Available Cyanide	ND	0.0020	0.00036	mg/L			1	OIA - 1677

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: HI-5-0518
Lab Sample ID: 180-77854-5
Lab Name: TestAmerica Pittsburgh
Job No.: 180-77854-1
SDG ID.:
Matrix: Water
Date Sampled: 05/17/2018 11:10
Reporting Basis: WET
Date Received: 05/18/2018 08:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Available Cyanide	0.0013	0.0020	0.00036	mg/L	J		1	OIA - 1677

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: HI-6A-0518
Lab Sample ID: 180-77854-6
Lab Name: TestAmerica Pittsburgh
Job No.: 180-77854-1
SDG ID.:
Matrix: Water
Date Sampled: 05/17/2018 11:45
Reporting Basis: WET
Date Received: 05/18/2018 08:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Available Cyanide	ND	0.0020	0.00036	mg/L			1	OIA - 1677

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: HI-9A-0518
Lab Sample ID: 180-77854-7
Lab Name: TestAmerica Pittsburgh
Job No.: 180-77854-1
SDG ID.:
Matrix: Water
Date Sampled: 05/15/2018 10:00
Reporting Basis: WET
Date Received: 05/18/2018 08:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Available Cyanide	ND	0.0020	0.00036	mg/L			1	OIA - 1677

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: HI-10-0518
Lab Sample ID: 180-77854-8
Lab Name: TestAmerica Pittsburgh
Job No.: 180-77854-1
SDG ID.:
Matrix: Water
Date Sampled: 05/15/2018 12:00
Reporting Basis: WET
Date Received: 05/18/2018 08:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Available Cyanide	0.0020	0.0020	0.00036	mg/L			1	OIA - 1677

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: HI-11-0518
Lab Sample ID: 180-77854-9
Lab Name: TestAmerica Pittsburgh
Job No.: 180-77854-1
SDG ID.:
Matrix: Water
Date Sampled: 05/15/2018 12:10
Reporting Basis: WET
Date Received: 05/18/2018 08:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Available Cyanide	ND	0.0020	0.00036	mg/L			1	OIA - 1677

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: HI-12-0518
Lab Sample ID: 180-77854-10
Lab Name: TestAmerica Pittsburgh
Job No.: 180-77854-1
SDG ID.:
Matrix: Water
Date Sampled: 05/17/2018 12:45
Reporting Basis: WET
Date Received: 05/18/2018 08:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Available Cyanide	ND	0.0020	0.00036	mg/L			1	OIA - 1677

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: HI-16-0518
Lab Sample ID: 180-77854-11
Lab Name: TestAmerica Pittsburgh
Job No.: 180-77854-1
SDG ID.:
Matrix: Water
Date Sampled: 05/16/2018 12:50
Reporting Basis: WET
Date Received: 05/18/2018 08:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Available Cyanide	ND	0.0020	0.00036	mg/L			1	OIA - 1677

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: HI-18-0518
Lab Sample ID: 180-77854-12
Lab Name: TestAmerica Pittsburgh
Job No.: 180-77854-1
SDG ID.:
Matrix: Water
Date Sampled: 05/15/2018 14:00
Reporting Basis: WET
Date Received: 05/18/2018 08:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Available Cyanide	ND	0.0020	0.00036	mg/L			1	OIA - 1677

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-01R-0518
Lab Sample ID: 180-77854-13
Lab Name: TestAmerica Pittsburgh
Job No.: 180-77854-1
SDG ID.:
Matrix: Water
Date Sampled: 05/16/2018 13:25
Reporting Basis: WET
Date Received: 05/18/2018 08:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Available Cyanide	ND	0.0020	0.00036	mg/L			1	OIA - 1677

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-213-0518
Lab Sample ID: 180-77854-14
Lab Name: TestAmerica Pittsburgh
Job No.: 180-77854-1
SDG ID.:
Matrix: Water
Date Sampled: 05/15/2018 10:20
Reporting Basis: WET
Date Received: 05/18/2018 08:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Available Cyanide	ND	0.0020	0.00036	mg/L			1	OIA - 1677

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: TD-06A-0518
Lab Sample ID: 180-77854-15
Lab Name: TestAmerica Pittsburgh
Job No.: 180-77854-1
SDG ID.:
Matrix: Water
Date Sampled: 05/16/2018 11:50
Reporting Basis: WET
Date Received: 05/18/2018 08:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Available Cyanide	0.00056	0.0020	0.00036	mg/L	J		1	OIA - 1677

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: HI-90-0518
Lab Sample ID: 180-77854-16
Lab Name: TestAmerica Pittsburgh
Job No.: 180-77854-1
SDG ID.:
Matrix: Water
Date Sampled: 05/15/2018 12:00
Reporting Basis: WET
Date Received: 05/18/2018 08:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Available Cyanide	ND	0.0020	0.00036	mg/L			1	OIA - 1677

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-77854-1

SDG No.:

Analyst: SES Batch Start Date: 05/23/2018

Reporting Units: mg/L Analytical Batch No.: 245714

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
19	ICV	09:30	Available Cyanide	0.0516	0.0500	103	85-115		WAvCN 50 ICV_00131
20	ICB	09:32	Available Cyanide	ND					
41	CCV	10:14	Available Cyanide	0.0521	0.0500	104	86-118		WAvCN50 CCV_00127
42	CCB	10:16	Available Cyanide	ND					
54	CCV	10:40	Available Cyanide	0.0532	0.0500	106	86-118		WAvCN50 CCV_00127
55	CCB	10:42	Available Cyanide	ND					
63	CCV	10:58	Available Cyanide	0.0517	0.0500	103	86-118		WAvCN50 CCV_00127
64	CCB	11:00	Available Cyanide	ND					
76	CCV	11:24	Available Cyanide	0.0524	0.0500	105	86-118		WAvCN50 CCV_00127
77	CCB	11:26	Available Cyanide	ND					
85	CCV	11:42	Available Cyanide	0.0541	0.0500	108	86-118		WAvCN50 CCV_00127
86	CCB	11:44	Available Cyanide	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-77854-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 245714 Date: 05/23/2018 10:22							
OIA - 1677	MB 180-245714/45	Available Cyanide	ND		mg/L	0.0020	1
Batch ID: 245714 Date: 05/23/2018 11:06							
OIA - 1677	MB 180-245714/67	Available Cyanide	ND		mg/L	0.0020	1

FORM III-IN

5-IN
MATRIX SPIKE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-77854-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 245714 Date: 05/23/2018 10:26											
OIA - 1677	180-77854-4	Available Cyanide	ND		mg/L						
OIA - 1677	180-77854-4 MS	Available Cyanide	0.0526		mg/L	0.0501	105	82-130			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

5-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-77854-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 245714 Date: 05/23/2018 10:28											
OIA - 1677	180-77854-4 MSD	Available Cyanide	0.0543		mg/L	0.0501	108	82-130	3	11	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-77854-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 245714 Date: 05/23/2018 10:20											
						LCS Source: WAvCN 50LCS_00124					
OIA - 1677	LCS 180-245714/44	Available Cyanide	0.0512		mg/L	0.0500	102	82-132			
Batch ID: 245714 Date: 05/23/2018 11:04											
						LCS Source: WAvCN 50LCS_00124					
OIA - 1677	LCS 180-245714/66	Available Cyanide	0.0515		mg/L	0.0500	103	82-132			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 180-77854-1

SDG Number:

Matrix: Water Instrument ID: ALPKEM3

Method: OIA - 1677 MDL Date: 03/01/2018 18:16

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Available Cyanide		0.002	0.00036

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 180-77854-1

SDG Number:

Matrix: Water Instrument ID: ALPKEM3

Method: OIA - 1677 XMDL Date: 03/01/2018 18:17

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Available Cyanide		0.002	0.00036

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-77854-1

SDG No.:

Instrument ID: ALPKEM3 Analysis Method: OIA - 1677

Start Date: 05/23/2018 08:54 End Date: 05/23/2018 13:57

Lab Sample Id	D/F	Type	Time	Analytes																							
				CN-a																							
ZZZZZZ			08:54																								
ZZZZZZ			08:56																								
ZZZZZZ			08:58																								
ZZZZZZ			09:00																								
ZZZZZZ			09:02																								
ZZZZZZ			09:04																								
ZZZZZZ			09:06																								
ZZZZZZ			09:08																								
ZZZZZZ			09:10																								
ZZZZZZ			09:12																								
ZZZZZZ			09:14																								
ZZZZZZ			09:16																								
ZZZZZZ			09:18																								
ZZZZZZ			09:20																								
ZZZZZZ			09:22																								
ZZZZZZ			09:24																								
ZZZZZZ			09:26																								
ZZZZZZ			09:28																								
ICV 180-245714/19	1		09:30	X																							
ICB 180-245714/20	1		09:32	X																							
ZZZZZZ			09:34																								
ZZZZZZ			09:36																								
ZZZZZZ			09:38																								
ZZZZZZ			09:40																								
ZZZZZZ			09:42																								
ZZZZZZ			09:44																								
ZZZZZZ			09:46																								
ZZZZZZ			09:48																								
ZZZZZZ			09:50																								
ZZZZZZ			09:52																								
ZZZZZZ			09:54																								
CCV 180-245714/32			09:56																								
CCB 180-245714/33			09:58																								
ZZZZZZ			10:00																								
ZZZZZZ			10:02																								
ZZZZZZ			10:04																								
ZZZZZZ			10:06																								
ZZZZZZ			10:08																								
ZZZZZZ			10:10																								
ZZZZZZ			10:12																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-77854-1

SDG No.:

Instrument ID: ALPKEM3 Analysis Method: OIA - 1677

Start Date: 05/23/2018 08:54 End Date: 05/23/2018 13:57

Lab Sample Id	D/F	Type	Time	Analytes																							
				CN-a																							
CCV 180-245714/41	1		10:14	X																							
CCB 180-245714/42	1		10:16	X																							
ZZZZZZ			10:18																								
LCS 180-245714/44	1	T	10:20	X																							
MB 180-245714/45	1	T	10:22	X																							
180-77854-4	1	T	10:24	X																							
180-77854-4 MS	1	T	10:26	X																							
180-77854-4 MSD	1	T	10:28	X																							
ZZZZZZ			10:30																								
ZZZZZZ			10:32																								
180-77854-1	1	T	10:34	X																							
180-77854-2	1	T	10:36	X																							
ZZZZZZ			10:38																								
CCV 180-245714/54	1		10:40	X																							
CCB 180-245714/55	1		10:42	X																							
ZZZZZZ			10:44																								
180-77854-3	1	T	10:46	X																							
180-77854-5	1	T	10:48	X																							
180-77854-6	1	T	10:50	X																							
180-77854-7	1	T	10:52	X																							
180-77854-8	1	T	10:54	X																							
ZZZZZZ			10:56																								
CCV 180-245714/63	1		10:58	X																							
CCB 180-245714/64	1		11:00	X																							
ZZZZZZ			11:02																								
LCS 180-245714/66	1	T	11:04	X																							
MB 180-245714/67	1	T	11:06	X																							
ZZZZZZ			11:08																								
ZZZZZZ			11:10																								
ZZZZZZ			11:12																								
180-77854-9	1	T	11:14	X																							
180-77854-10	1	T	11:16	X																							
180-77854-11	1	T	11:18	X																							
180-77854-12	1	T	11:20	X																							
ZZZZZZ			11:22																								
CCV 180-245714/76	1		11:24	X																							
CCB 180-245714/77	1		11:26	X																							
ZZZZZZ			11:28																								
180-77854-13	1	T	11:30	X																							
180-77854-14	1	T	11:32	X																							

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-77854-1

SDG No.:

Instrument ID: ALPKEM3 Analysis Method: OIA - 1677

Start Date: 05/23/2018 08:54 End Date: 05/23/2018 13:57

Lab Sample Id	D/F	Type	Time	Analytes																							
				CN-a																							
180-77854-15	1	T	11:34	X																							
180-77854-16	1	T	11:36	X																							
ZZZZZZ			11:38																								
ZZZZZZ			11:40																								
CCV 180-245714/85	1		11:42	X																							
CCB 180-245714/86	1		11:44	X																							
ZZZZZZ			11:46																								
ZZZZZZ			11:48																								
ZZZZZZ			11:50																								
ZZZZZZ			11:52																								
ZZZZZZ			11:54																								
ZZZZZZ			11:56																								
ZZZZZZ			11:58																								
ZZZZZZ			12:00																								
ZZZZZZ			12:02																								
ZZZZZZ			12:04																								
ZZZZZZ			12:06																								
CCV 180-245714/98			12:08																								
CCB 180-245714/99			12:10																								
ZZZZZZ			12:12																								
ZZZZZZ			12:14																								
ZZZZZZ			12:16																								
ZZZZZZ			12:18																								
ZZZZZZ			12:20																								
ZZZZZZ			12:22																								
ZZZZZZ			12:24																								
CCV 180-245714/107			12:26																								
CCB 180-245714/108			12:28																								
ZZZZZZ			12:30																								
ZZZZZZ			12:32																								
ZZZZZZ			12:34																								
ZZZZZZ			12:36																								
ZZZZZZ			12:38																								
ZZZZZZ			12:40																								
ZZZZZZ			12:42																								
ZZZZZZ			12:44																								
ZZZZZZ			12:46																								
ZZZZZZ			12:48																								
ZZZZZZ			12:50																								
CCV 180-245714/120			12:52																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-77854-1

SDG No.:

Instrument ID: ALPKEM3 Analysis Method: OIA - 1677

Start Date: 05/23/2018 08:54 End Date: 05/23/2018 13:57

Lab Sample Id	D/F	Type	Time	Analytes																							
				CN-a																							
CCB 180-245714/121			12:54																								
ZZZZZZ			12:56																								
ZZZZZZ			12:58																								
ZZZZZZ			13:00																								
ZZZZZZ			13:02																								
ZZZZZZ			13:04																								
ZZZZZZ			13:06																								
ZZZZZZ			13:08																								
CCV 180-245714/129			13:10																								
CCB 180-245714/130			13:12																								
ZZZZZZ			13:14																								
ZZZZZZ			13:16																								
ZZZZZZ			13:18																								
ZZZZZZ			13:20																								
ZZZZZZ			13:22																								
ZZZZZZ			13:24																								
ZZZZZZ			13:26																								
ZZZZZZ			13:28																								
CCV 180-245714/139			13:30																								
CCB 180-245714/140			13:32																								
ZZZZZZ			13:34																								
ZZZZZZ			13:39																								
ZZZZZZ			13:41																								
ZZZZZZ			13:43																								
ZZZZZZ			13:45																								
ZZZZZZ			13:47																								
ZZZZZZ			13:49																								
ZZZZZZ			13:51																								
CCV 180-245714/149			13:53																								
CCB 180-245714/150			13:55																								
ZZZZZZ			13:57																								

Prep Types:
T = Total/NA

FORM XIII-IN

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-77854-1

SDG No.:

Batch Number: 245714 Batch Start Date: 05/23/18 08:54 Batch Analyst: Strauser, Samantha E

Batch Method: OIA - 1677 Batch End Date: 05/23/18 13:57

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	ChlorineCheck	pHChecked	SulfideCheck	WAvCN 50 ICV 00131	WAvCN 50LCS 00124
ICV 180-245714/19		OIA - 1677		10 mL				10 mL	
CCV 180-245714/41		OIA - 1677		10 mL					
LCS 180-245714/44		OIA - 1677		10 mL					10 mL
180-77854-A-4	HI-4-0518	OIA - 1677	T		N	>12	N		
180-77854-A-4 MS	HI-4-0518	OIA - 1677	T	100 mL	N	>12	N		
180-77854-A-4 MSD	HI-4-0518	OIA - 1677	T	100 mL	N	>12	N		
180-77854-A-1	HI-1-0518	OIA - 1677	T		N	>12	N		
180-77854-A-2	HI-2-0518	OIA - 1677	T		N	>12	N		
CCV 180-245714/54		OIA - 1677		10 mL					
180-77854-A-3	HI-3-0518	OIA - 1677	T		N	>12	N		
180-77854-A-5	HI-5-0518	OIA - 1677	T		N	>12	N		
180-77854-A-6	HI-6A-0518	OIA - 1677	T		N	>12	N		
180-77854-A-7	HI-9A-0518	OIA - 1677	T		N	>12	N		
180-77854-A-8	HI-10-0518	OIA - 1677	T		N	>12	N		
CCV 180-245714/63		OIA - 1677		10 mL					
LCS 180-245714/66		OIA - 1677		10 mL					10 mL
180-77854-A-9	HI-11-0518	OIA - 1677	T		N	>12	N		
180-77854-A-10	HI-12-0518	OIA - 1677	T		N	>12	N		
180-77854-A-11	HI-16-0518	OIA - 1677	T		N	>12	N		
180-77854-A-12	HI-18-0518	OIA - 1677	T		N	>12	N		
CCV 180-245714/76		OIA - 1677		10 mL					
180-77854-A-13	MW-01R-0518	OIA - 1677	T		N	>12	N		
180-77854-A-14	MW-213-0518	OIA - 1677	T		N	>12	N		
180-77854-A-15	TD-06A-0518	OIA - 1677	T		N	>12	N		
180-77854-A-16	HI-90-0518	OIA - 1677	T		N	>12	N		
CCV 180-245714/85		OIA - 1677		10 mL					

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-77854-1

SDG No.:

Batch Number: 245714 Batch Start Date: 05/23/18 08:54 Batch Analyst: Strauser, Samantha E

Batch Method: OIA - 1677 Batch End Date: 05/23/18 13:57

Lab Sample ID	Client Sample ID	Method Chain	Basis	WAvCN50 CCV 00127	WHg210Pi 00568				
ICV 180-245714/19		OIA - 1677							
CCV 180-245714/41		OIA - 1677		10 mL					
LCS 180-245714/44		OIA - 1677							
180-77854-A-4	HI-4-0518	OIA - 1677	T						
180-77854-A-4 MS	HI-4-0518	OIA - 1677	T		0.5 mL				
180-77854-A-4 MSD	HI-4-0518	OIA - 1677	T		0.5 mL				
180-77854-A-1	HI-1-0518	OIA - 1677	T						
180-77854-A-2	HI-2-0518	OIA - 1677	T						
CCV 180-245714/54		OIA - 1677		10 mL					
180-77854-A-3	HI-3-0518	OIA - 1677	T						
180-77854-A-5	HI-5-0518	OIA - 1677	T						
180-77854-A-6	HI-6A-0518	OIA - 1677	T						
180-77854-A-7	HI-9A-0518	OIA - 1677	T						
180-77854-A-8	HI-10-0518	OIA - 1677	T						
CCV 180-245714/63		OIA - 1677		10 mL					
LCS 180-245714/66		OIA - 1677							
180-77854-A-9	HI-11-0518	OIA - 1677	T						
180-77854-A-10	HI-12-0518	OIA - 1677	T						
180-77854-A-11	HI-16-0518	OIA - 1677	T						
180-77854-A-12	HI-18-0518	OIA - 1677	T						
CCV 180-245714/76		OIA - 1677		10 mL					
180-77854-A-13	MW-01R-0518	OIA - 1677	T						
180-77854-A-14	MW-213-0518	OIA - 1677	T						
180-77854-A-15	TD-06A-0518	OIA - 1677	T						
180-77854-A-16	HI-90-0518	OIA - 1677	T						
CCV 180-245714/85		OIA - 1677		10 mL					

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-77854-1

SDG No.:

Batch Number: 245714 Batch Start Date: 05/23/18 08:54 Batch Analyst: Strauser, Samantha E

Batch Method: OIA - 1677 Batch End Date: 05/23/18 13:57

Batch Notes	
Ascorbic Acid ID	1140591
Cadmiun Chloride ID	N/A (replaced by SAR reagent)
Sodium Hydroxide ID	2465897
Pipette ID	B747014653, OU16344
WAD AR Solution ID	2677719 (SAR reagent)
WAD Carrier Solution ID	1432483
WAD A ID	2464575
WAD B ID	2464583

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Run Results Report SES 5/23/18

CYANIDE, ~~FREE~~ AVAILABLE 1677

Facility Name	TESTAMERICA
Facility Location	PITTSBURGH
Department	
Operator Name	SES
Operator ID	SES
Platform	FS 3000
Software Rev Code	220
Data system ID	57
Result path	C:\FLOW_4\3052318B.RST
Sample table path	C:\FLOW_4\3052318b.tbl
Method path	C:\FLOW_4\acn100.mth
Date acquired	23-May-18
Time acquired	14:02

	Cyanide, Available				
Name	Response	Calc [ppb]	Flags	Mean Response	Mean Calc [ppb]
System Conditioner S	163613	98.625			
SYNC 100PPB	169933	102.463	HI		
SYNC 100PPB	168530	101.611	HI		
SYNC 100PPB	169203	102.020	HI		
(Statistics)				169222	102.031
BLANK	289	-0.568	LO OL		
BLANK	90	-0.689	LO		
BLANK	48	-0.715	LO		
(Statistics)				69	-0.702
READ BASELINE	0	-0.744	BL		
Cal 0.000 ppb	7	-0.740	LO		
Cal 2.000 ppb	3774	1.548			
Cal 5.000 ppb	9254	4.876			
Cal 10.000 ppb	18406	10.435			
Cal 25.000 ppb	44372	26.205			
Cal 50.000 ppb	86019	51.499			
Cal 100.000 ppb	164101	98.921			
BLANK	127	-0.667	LO		
READ BASELINE	0	-0.744	BL		
Ni (II) CN 50 ppb	61668	36.709			
ICV	86104	51.550			
ICB	83	-0.694	LO		
READ BASELINE	0	-0.744	BL		
LCS	84213	50.402			
MB	263	-0.585	LO		
180-77862-A-7	764	-0.280	LO		
180-77862-A-7 MS	83182	49.776			
180-77862-A-7 MSD	85185	50.992			
480-135854-A-9	5886	2.831			
180-77781-A-1	827	-0.242	LO		
180-77862-A-1	1951	0.441			
180-77862-A-2	449	-0.471	LO		
READ BASELINE	0	-0.744	BL		
CCV	88768	53.168			
CCB	321	-0.549	LO		
READ BASELINE	0	-0.744	BL		
180-77862-A-3	896	-0.200	LO		
180-77862-A-4	324	-0.547	LO		
180-77862-A-5	-38	-0.767	LO		

AVCN1677 SES 5/23/18

Result path	C:\FLOW_4\3052318B.RST
Sample table path	C:\FLOW_4\3052318b.tbl
Method path	C:\FLOW_4\acn100.mth
Date acquired	23-May-18
Time acquired	14:02

Name	Cyanide, Available Response	Calc [ppb]	Flags	Mean Response	Mean Calc [ppb]
180-77862-A-6	181	-0.634	LO		
180-77862-A-8	718	-0.308	LO		
READ BASELINE	0	-0.744	BL		
CCV	86988	52.087			
CCB	152	-0.652	LO		
READ BASELINE	0	-0.744	BL		
LCS	85549	51.214			
MB	257	-0.588	LO		
180-77854-A-4	1247	0.013			
180-77854-A-4 MS	87846	52.608			
180-77854-A-4 MSD	90630	54.299			
180-77862-A-9	421	-0.489	LO		
180-77862-A-10	143	-0.657	LO		
180-77854-A-1	694	-0.323	LO		
180-77854-A-2	664	-0.341	LO		
READ BASELINE	0	-0.744	BL		
CCV	88807	53.192			
CCB	83	-0.694	LO		
READ BASELINE	0	-0.744	BL		
180-77854-A-3	468	-0.460	LO		
180-77854-A-5	3426	1.337			
180-77854-A-6	917	-0.187	LO		
180-77854-A-7	919	-0.186	LO		
180-77854-A-8	4487	1.981			
READ BASELINE	0	-0.744	BL		
CCV	86395	51.727			
CCB	210	-0.616	LO		
READ BASELINE	0	-0.744	BL		
LCS	85972	51.470			
MB	159	-0.648	LO		
180-77843-A-1	47	-0.716	LO		
180-77843-A-1 MS	85878	51.413			
180-77843-A-1 MSD	86943	52.060			
180-77854-A-9	883	-0.208	LO		
180-77854-A-10	405	-0.498	LO		
180-77854-A-11	549	-0.411	LO		
180-77854-A-12	325	-0.547	LO		
READ BASELINE	0	-0.744	BL		
CCV	87449	52.367			
CCB	212	-0.615	LO		
READ BASELINE	0	-0.744	BL		
180-77854-A-13	281	-0.573	LO		
180-77854-A-14	1536	0.189			
180-77854-A-15	2141	0.556			
180-77854-A-16	1476	0.152			
180-77792-A-1	502	-0.439	LO		
READ BASELINE	0	-0.744	BL		
CCV	90222	54.052			
CCB	262	-0.585	LO		
READ BASELINE	0	-0.744	BL		
LCS	87214	52.224			
MB	293	-0.566	LO		

AVCN 1677 SES 5/23/18

Result path	C:\FLOW_4\3052318B.RST
Sample table path	C:\FLOW_4\3052318b.tbl
Method path	C:\FLOW_4\acn100.mth
Date acquired	23-May-18
Time acquired	14:02

Name	Cyanide, Available Response	Calc [ppb]	Flags	Mean Response	Mean Calc [ppb]
190-16349-A-1	895	-0.201	LO		
190-16349-A-1 MS	89695	53.731			
190-16349-A-1 MSD	89308	53.496			
180-77794-A-1	699	-0.320	LO		
180-77792-A-2	261	-0.586	LO		
180-77792-A-3	-182	-0.855	LO		
~~180-77793-A-1~~	~~467295~~	~~283.063~~	~~HI~~		
READ BASELINE	0	-0.744	BL		
CCV	86972	52.078			
CCB	66	-0.704	LO		
READ BASELINE	0	-0.744	BL		
~~180-77793-A-2~~	~~492736~~	~~298.515~~	~~HI~~		
180-77793-A-3	119958	72.111			
180-77793-A-4	2048	0.500			
180-77842-A-1	653	-0.348	LO		
180-77842-A-2	243	-0.596	LO		
READ BASELINE	0	-0.744	BL		
CCV	86277	51.655			
CCB	132	-0.664	LO		
READ BASELINE	0	-0.744	BL		
LCS	83982	50.261			
MB	497	-0.442	LO		
190-16328-C-1	5588	2.650			
190-16328-C-1 MS	93741	56.189			
190-16328-C-1 MSD	96417	57.814			
180-77842-A-3	644	-0.353	LO		
180-77840-A-1	715	-0.310	LO		
180-77840-A-2	68	-0.703	LO		
180-77841-A-1	3204	1.202			
READ BASELINE	0	-0.744	BL		
CCV	85299	51.061			
CCB	152	-0.652	LO		
READ BASELINE	0	-0.744	BL		
500-145588-A-2	2321	0.665			
180-77794-A-2	543	-0.414	LO		
180-77843-A-2	273	-0.579	LO		
~~840-95767-A-1~~	~~684687~~	~~415.095~~	~~HI~~		
180-77841-A-2	913	-0.190	LO		
READ BASELINE	0	-0.744	BL		
CCV	87896	52.639			
CCB	125	-0.668	LO		
READ BASELINE	0	-0.744	BL		
LCS	85045	50.907			
MB	312	-0.554	LO		
190-16348-A-1	4160	1.782			
190-16348-A-1 MS	88363	52.922			
190-16348-A-1 MSD	90231	54.057			
180-77841-A-3	407	-0.497	LO		
READ BASELINE	0	-0.744	BL		
CCV	85820	51.378			
CCB	251	-0.591	LO		
READ BASELINE	0	-0.744	BL		

data not used SES 5/23/18

data not used SES 5/23/18

AVCN 1677 SES 5/23/18

Result path	C:\FLOW_4\3052318B.RST
Sample table path	C:\FLOW_4\3052318b.tbl
Method path	C:\FLOW_4\acn100.mth
Date acquired	23-May-18
Time acquired	14:02

	Cyanide, Available				
Name	Response	Calc [ppb]	Flags	Mean Response	Mean Calc [ppb]
600-166246-B-1	7706	3.936			
600-166247-B-1	7760	3.969			
600-166248-B-1	6821	3.399			
180-77793-A-1	103829	311.577			
180-77793-A-2	110022	330.385			
240-95767-A-1	69840	416.725			
READ BASELINE	0	-0.744	BL		
CCV	84004	50.275			
CCB	63	-0.706	LO		
READ BASELINE	0	-0.744	BL		

Run Results Report

SES 5/23/18

CYANIDE, ~~FREE~~ AVAILABLE 1677

Facility Name	TESTAMERICA
Facility Location	PITTSBURGH
Department	
Operator Name	SES
Operator ID	SES
Platform	FS 3000
Software Rev Code	220
Data system ID	57
Result path	C:\FLOW_4\3052318B.RST
Sample table path	C:\FLOW_4\3052318b.tbl
Method path	C:\FLOW_4\acn100.mth
Date acquired	23-May-18
Time acquired	14:02

Date	Time	Cup	Name
23-May-18	08:54	7	System Conditioner S
23-May-18	08:56	7	SYNC 100PPB
23-May-18	08:58	7	SYNC 100PPB
23-May-18	09:00	7	SYNC 100PPB (Statistics)
23-May-18	09:02	0	BLANK
23-May-18	09:04	0	BLANK
23-May-18	09:06	0	BLANK (Statistics)
23-May-18	09:08	0	READ BASELINE
23-May-18	09:10	1	Cal 0.000 ppb
23-May-18	09:12	2	Cal 2.000 ppb
23-May-18	09:14	3	Cal 5.000 ppb
23-May-18	09:16	4	Cal 10.000 ppb
23-May-18	09:18	5	Cal 25.000 ppb
23-May-18	09:20	6	Cal 50.000 ppb
23-May-18	09:22	7	Cal 100.000 ppb
23-May-18	09:24	0	BLANK
23-May-18	09:26	0	READ BASELINE
23-May-18	09:28	8	Ni (II) CN 50 ppb
23-May-18	09:30	9	ICV
23-May-18	09:32	10	ICB
23-May-18	09:34	0	READ BASELINE
23-May-18	09:36	11	LCS
23-May-18	09:38	12	MB
23-May-18	09:40	13	180-77862-A-7
23-May-18	09:42	14	180-77862-A-7 MS
23-May-18	09:44	15	180-77862-A-7 MSD
23-May-18	09:46	16	480-135854-A-9
23-May-18	09:48	17	180-77781-A-1
23-May-18	09:50	18	180-77862-A-1
23-May-18	09:52	19	180-77862-A-2
23-May-18	09:54	0	READ BASELINE
23-May-18	09:56	20	CCV
23-May-18	09:58	21	CCB
23-May-18	10:00	0	READ BASELINE
23-May-18	10:02	22	180-77862-A-3
23-May-18	10:04	23	180-77862-A-4
23-May-18	10:06	24	180-77862-A-5

AVCN1677 SES 5/23/18

Result path	C:\FLOW_4\3052318B.RST
Sample table path	C:\FLOW_4\3052318b.tbl
Method path	C:\FLOW_4\acn100.mth
Date acquired	23-May-18
Time acquired	14:02

Date	Time	Cup	Name
23-May-18	10:08	25	180-77862-A-6
23-May-18	10:10	26	180-77862-A-8
23-May-18	10:12	0	READ BASELINE
23-May-18	10:14	27	CCV
23-May-18	10:16	28	CCB
23-May-18	10:18	0	READ BASELINE
23-May-18	10:20	29	LCS
23-May-18	10:22	30	MB
23-May-18	10:24	31	180-77854-A-4
23-May-18	10:26	32	180-77854-A-4 MS
23-May-18	10:28	33	180-77854-A-4 MSD
23-May-18	10:30	34	180-77862-A-9
23-May-18	10:32	35	180-77862-A-10
23-May-18	10:34	36	180-77854-A-1
23-May-18	10:36	37	180-77854-A-2
23-May-18	10:38	0	READ BASELINE
23-May-18	10:40	38	CCV
23-May-18	10:42	39	CCB
23-May-18	10:44	0	READ BASELINE
23-May-18	10:46	40	180-77854-A-3
23-May-18	10:48	41	180-77854-A-5
23-May-18	10:50	42	180-77854-A-6
23-May-18	10:52	43	180-77854-A-7
23-May-18	10:54	44	180-77854-A-8
23-May-18	10:56	0	READ BASELINE
23-May-18	10:58	45	CCV
23-May-18	11:00	46	CCB
23-May-18	11:02	0	READ BASELINE
23-May-18	11:04	47	LCS
23-May-18	11:06	48	MB
23-May-18	11:08	49	180-77843-A-1
23-May-18	11:10	50	180-77843-A-1 MS
23-May-18	11:12	51	180-77843-A-1 MSD
23-May-18	11:14	52	180-77854-A-9
23-May-18	11:16	53	180-77854-A-10
23-May-18	11:18	54	180-77854-A-11
23-May-18	11:20	55	180-77854-A-12
23-May-18	11:22	0	READ BASELINE
23-May-18	11:24	56	CCV
23-May-18	11:26	57	CCB
23-May-18	11:28	0	READ BASELINE
23-May-18	11:30	58	180-77854-A-13
23-May-18	11:32	59	180-77854-A-14
23-May-18	11:34	60	180-77854-A-15
23-May-18	11:36	61	180-77854-A-16
23-May-18	11:38	62	180-77792-A-1
23-May-18	11:40	0	READ BASELINE
23-May-18	11:42	63	CCV
23-May-18	11:44	64	CCB
23-May-18	11:46	0	READ BASELINE
23-May-18	11:48	65	LCS
23-May-18	11:50	66	MB

AVCN1677 SES 5/23/18

Result path	C:\FLOW_4\3052318B.RST
Sample table path	C:\FLOW_4\3052318b.tbl
Method path	C:\FLOW_4\acn100.mth
Date acquired	23-May-18
Time acquired	14:02

Date	Time	Cup	Name
23-May-18	11:52	67	190-16349-A-1
23-May-18	11:54	68	190-16349-A-1 MS
23-May-18	11:56	69	190-16349-A-1 MSD
23-May-18	11:58	70	180-77794-A-1
23-May-18	12:00	71	180-77792-A-2
23-May-18	12:02	72	180-77792-A-3
~~23-May-18~~	~~12:04~~	~~73~~	~~180-77793-A-1~~
23-May-18	12:06	0	READ BASELINE
23-May-18	12:08	74	CCV
23-May-18	12:10	75	CCB
23-May-18	12:12	0	READ BASELINE
~~23-May-18~~	~~12:14~~	~~76~~	~~180-77793-A-2~~
23-May-18	12:16	77	180-77793-A-3
23-May-18	12:18	78	180-77793-A-4
23-May-18	12:20	79	180-77842-A-1
23-May-18	12:22	80	180-77842-A-2
23-May-18	12:24	0	READ BASELINE
23-May-18	12:26	81	CCV
23-May-18	12:28	82	CCB
23-May-18	12:30	0	READ BASELINE
23-May-18	12:32	83	LCS
23-May-18	12:34	84	MB
23-May-18	12:36	85	190-16328-C-1
23-May-18	12:38	86	190-16328-C-1 MS
23-May-18	12:40	87	190-16328-C-1 MSD
23-May-18	12:42	88	180-77842-A-3
23-May-18	12:44	89	180-77840-A-1
23-May-18	12:46	90	180-77840-A-2
23-May-18	12:48	91	180-77841-A-1
23-May-18	12:50	0	READ BASELINE
23-May-18	12:52	92	CCV
23-May-18	12:54	93	CCB
23-May-18	12:56	0	READ BASELINE
23-May-18	12:58	94	500-145588-A-2
23-May-18	13:00	95	180-77794-A-2
23-May-18	13:02	96	180-77843-A-2
~~23-May-18~~	~~13:04~~	~~97~~	~~240-95767-A-1~~
23-May-18	13:06	98	180-77841-A-2
23-May-18	13:08	0	READ BASELINE
23-May-18	13:10	99	CCV
23-May-18	13:12	100	CCB
23-May-18	13:14	0	READ BASELINE
23-May-18	13:16	101	LCS
23-May-18	13:18	102	MB
23-May-18	13:20	103	190-16348-A-1
23-May-18	13:22	104	190-16348-A-1 MS
23-May-18	13:24	105	190-16348-A-1 MSD
23-May-18	13:26	106	180-77841-A-3
23-May-18	13:28	0	READ BASELINE
23-May-18	13:30	107	CCV
23-May-18	13:32	108	CCB
23-May-18	13:34	0	READ BASELINE

data not used SES 5/23/18

data not used SES 5/23/18

AVCN 1677 SES 5/23/18

Result path	C:\FLOW_4\3052318B.RST
Sample table path	C:\FLOW_4\3052318b.tbl
Method path	C:\FLOW_4\acn100.mth
Date acquired	23-May-18
Time acquired	14:02

Date	Time	Cup	Name
23-May-18	13:39	109	600-166246-B-1
23-May-18	13:41	110	600-166247-B-1
23-May-18	13:43	111	600-166248-B-1
23-May-18	13:45	112	180-77793-A-1
23-May-18	13:47	113	180-77793-A-2
23-May-18	13:49	114	240-95767-A-1
23-May-18	13:51	0	READ BASELINE
23-May-18	13:53	115	CCV
23-May-18	13:55	116	CCB
23-May-18	13:57	0	READ BASELINE

Peak Table:Cyanide, Available 1677 SES 5/23/18

File name: C:¥FLOW_4¥3052318B.RST
Date: 23-May-18
Operator: SES

Peak	Cup	Name	R	Type	Dil	Wt	Height	Calc. (ppb)	Flags
1	7	System Conditioner	S 1	SYNC	1	1	163613	98.624657	
2	7	SYNC 100PPB	1	SYNC	1	1	169933	102.463242	HI
3	7	SYNC 100PPB	2	SYNC	1	1	168530	101.611252	HI
4	7	SYNC 100PPB	3	SYNC	1	1	169203	102.019676	HI
5	0	BLANK	1	BLNK	1	1	289	-0.568331	LO OL
6	0	BLANK	2	BLNK	1	1	90	-0.689156	LO
7	0	BLANK	3	BLNK	1	1	48	-0.715171	LO
B	0	READ BASELINE	1	RB	1	1	0	-0.744102	BL
9	1	Cal 0.000 ppb	1	C	1	1	7	-0.739713	LO
10	2	Cal 2.000 ppb	1	C	1	1	3774	1.548256	
11	3	Cal 5.000 ppb	1	C	1	1	9254	4.876296	
12	4	Cal 10.000 ppb	1	C	1	1	18406	10.434661	
13	5	Cal 25.000 ppb	1	C	1	1	44372	26.204727	
14	6	Cal 50.000 ppb	1	C	1	1	86019	51.498619	
15	7	Cal 100.000 ppb	1	C	1	1	164101	98.921257	
16	0	BLANK	1	U	1	1	127	-0.667141	LO
B	0	READ BASELINE	1	RB	1	1	0	-0.744102	BL
18	8	Ni (II) CN 50 ppb	1	U	1	1	61668	36.709396	
19	9	ICV	1	U	1	1	86104	51.550289	
20	10	ICB	1	U	1	1	83	-0.693610	LO
B	0	READ BASELINE	1	RB	1	1	0	-0.744102	BL
22	11	LCS	1	U	1	1	84213	50.402191	
23	12	MB	1	U	1	1	263	-0.584638	LO
24	13	180-77862-A-7	1	U	1	1	764	-0.279823	LO
25	14	180-77862-A-7 MS	1	U	1	1	83182	49.775986	
26	15	180-77862-A-7 MSD	1	U	1	1	85185	50.992104	
27	16	480-135854-A-9	1	U	1	1	5886	2.830667	
28	17	180-77781-A-1	1	U	1	1	827	-0.241620	LO
29	18	180-77862-A-1	1	U	1	1	1951	0.440817	
30	19	180-77862-A-2	1	U	1	1	449	-0.471104	LO
B	0	READ BASELINE	1	RB	1	1	0	-0.744102	BL
32	20	CCV	1	U	1	1	88768	53.168167	
33	21	CCB	1	U	1	1	321	-0.549124	LO
B	0	READ BASELINE	1	RB	1	1	0	-0.744102	BL
35	22	180-77862-A-3	1	U	1	1	896	-0.199687	LO
36	23	180-77862-A-4	1	U	1	1	324	-0.547498	LO
37	24	180-77862-A-5	1	U	1	1	-38	-0.767403	LO
38	25	180-77862-A-6	1	U	1	1	181	-0.634408	LO
39	26	180-77862-A-8	1	U	1	1	718	-0.308215	LO
B	0	READ BASELINE	1	RB	1	1	0	-0.744102	BL
41	27	CCV	1	U	1	1	86988	52.087193	
42	28	CCB	1	U	1	1	152	-0.652087	LO
B	0	READ BASELINE	1	RB	1	1	0	-0.744102	BL
44	29	LCS	1	U	1	1	85549	51.213646	
45	30	MB	1	U	1	1	257	-0.588005	LO
46	31	180-77854-A-4	1	U	1	1	1247	0.013300	
47	32	180-77854-A-4 MS	1	U	1	1	87846	52.608295	
48	33	180-77854-A-4 MSD	1	U	1	1	90630	54.299385	
49	34	180-77862-A-9	1	U	1	1	421	-0.488655	LO
50	35	180-77862-A-10	1	U	1	1	143	-0.657261	LO
51	36	180-77854-A-1	1	U	1	1	694	-0.322763	LO
52	37	180-77854-A-2	1	U	1	1	664	-0.340951	LO
B	0	READ BASELINE	1	RB	1	1	0	-0.744102	BL
54	38	CCV	1	U	1	1	88807	53.191982	
55	39	CCB	1	U	1	1	83	-0.693865	LO

AVCN 10FF SES 5/23/18

Peak	Cup	Name	R	Type	Dil	Wt	Height	Calc. (ppb)	Flags
B	0	READ BASELINE	1	RB	1	1	0	-0.744102	BL
57	40	180-77854-A-3	1	U	1	1	468	-0.459955	LO
58	41	180-77854-A-5	1	U	1	1	3426	1.336533	
59	42	180-77854-A-6	1	U	1	1	917	-0.187388	LO
60	43	180-77854-A-7	1	U	1	1	919	-0.185690	LO
61	44	180-77854-A-8	1	U	1	1	4487	1.981297	
B	0	READ BASELINE	1	RB	1	1	0	-0.744102	BL
63	45	CCV	1	U	1	1	86395	51.727364	
64	46	CCB	1	U	1	1	210	-0.616303	LO
B	0	READ BASELINE	1	RB	1	1	0	-0.744102	BL
66	47	LCS	1	U	1	1	85972	51.469997	
67	48	MB	1	U	1	1	159	-0.647698	LO
68	49	180-77843-A-1	1	U	1	1	47	-0.715729	LO
69	50	180-77843-A-1 MS	1	U	1	1	85878	51.412987	
70	51	180-77843-A-1 MSD	1	U	1	1	86943	52.059952	
71	52	180-77854-A-9	1	U	1	1	883	-0.207996	LO
72	53	180-77854-A-10	1	U	1	1	405	-0.498384	LO
73	54	180-77854-A-11	1	U	1	1	549	-0.410826	LO
74	55	180-77854-A-12	1	U	1	1	325	-0.546527	LO
B	0	READ BASELINE	1	RB	1	1	0	-0.744102	BL
76	56	CCV	1	U	1	1	87449	52.367409	
77	57	CCB	1	U	1	1	212	-0.615370	LO
B	0	READ BASELINE	1	RB	1	1	0	-0.744102	BL
79	58	180-77854-A-13	1	U	1	1	281	-0.573278	LO
80	59	180-77854-A-14	1	U	1	1	1536	0.188958	
81	60	180-77854-A-15	1	U	1	1	2141	0.556035	
82	61	180-77854-A-16	1	U	1	1	1476	0.152053	
83	62	180-77792-A-1	1	U	1	1	502	-0.439481	LO
B	0	READ BASELINE	1	RB	1	1	0	-0.744102	BL
85	63	CCV	1	U	1	1	90222	54.051735	
86	64	CCB	1	U	1	1	262	-0.584743	LO
B	0	READ BASELINE	1	RB	1	1	0	-0.744102	BL
88	65	LCS	1	U	1	1	87214	52.224422	
89	66	MB	1	U	1	1	293	-0.566129	LO
90	67	190-16349-A-1	1	U	1	1	895	-0.200554	LO
91	68	190-16349-A-1 MS	1	U	1	1	89695	53.731350	
92	69	190-16349-A-1 MSD	1	U	1	1	89308	53.496170	
93	70	180-77794-A-1	1	U	1	1	699	-0.319672	LO
94	71	180-77792-A-2	1	U	1	1	261	-0.585882	LO
95	72	180-77792-A-3	1	U	1	1	-182	-0.854562	LO
~~96~~	~~73~~	~~180-77793-A-1~~	~~1~~	~~U~~	~~1~~	~~1~~	~~467295~~	~~283.063477~~	~~HI~~
B	0	READ BASELINE	1	RB	1	1	0	-0.744102	BL
98	74	CCV	1	U	1	1	86972	52.077778	
99	75	CCB	1	U	1	1	66	-0.703839	LO
B	0	READ BASELINE	1	RB	1	1	0	-0.744102	BL
~~101~~	~~76~~	~~180-77793-A-2~~	~~1~~	~~U~~	~~1~~	~~1~~	~~492736~~	~~298.515137~~	~~HI~~
102	77	180-77793-A-3	1	U	1	1	119958	72.111290	
103	78	180-77793-A-4	1	U	1	1	2048	0.499540	
104	79	180-77842-A-1	1	U	1	1	653	-0.347515	LO
105	80	180-77842-A-2	1	U	1	1	243	-0.596484	LO
B	0	READ BASELINE	1	RB	1	1	0	-0.744102	BL
107	81	CCV	1	U	1	1	86277	51.655361	
108	82	CCB	1	U	1	1	132	-0.663694	LO
B	0	READ BASELINE	1	RB	1	1	0	-0.744102	BL
110	83	LCS	1	U	1	1	83982	50.261444	
111	84	MB	1	U	1	1	497	-0.442057	LO
112	85	190-16328-C-1	1	U	1	1	5588	2.650001	
113	86	190-16328-C-1 MS	1	U	1	1	93741	56.188671	
114	87	190-16328-C-1 MSD	1	U	1	1	96417	57.814075	
115	88	180-77842-A-3	1	U	1	1	644	-0.352872	LO

data not used SES 5/23/18

AVCN1677 SES 5/23/18

Peak	Cup	Name	R	Type	Dil	Wt	Height	Calc. (ppb)	Flags
116	89	180-77840-A-1	1	U	1	1	715	-0.309651	LO
117	90	180-77840-A-2	1	U	1	1	68	-0.702606	LO
118	91	180-77841-A-1	1	U	1	1	3204	1.201843	
B	0	READ BASELINE	1	RB	1	1	0	-0.744102	BL
120	92	CCV	1	U	1	1	85299	51.061260	
121	93	CCB	1	U	1	1	152	-0.651816	LO
B	0	READ BASELINE	1	RB	1	1	0	-0.744102	BL
123	94	500-145588-A-2	1	U	1	1	2321	0.665454	
124	95	180-77794-A-2	1	U	1	1	543	-0.414500	LO
125	96	180-77843-A-2	1	U	1	1	273	-0.578508	LO
~~126~~	~~97~~	~~240-95767-A-1~~	~~1~~	~~U~~	~~1~~	~~1~~	~~684687~~	~~415.094708~~	~~HI~~
127	98	180-77841-A-2	1	U	1	1	913	-0.189671	LO
B	0	READ BASELINE	1	RB	1	1	0	-0.744102	BL
129	99	CCV	1	U	1	1	87896	52.638893	
130	100	CCB	1	U	1	1	125	-0.668313	LO
B	0	READ BASELINE	1	RB	1	1	0	-0.744102	BL
132	101	LCS	1	U	1	1	85045	50.907131	
133	102	MB	1	U	1	1	312	-0.554312	LO
134	103	190-16348-A-1	1	U	1	1	4160	1.782304	
135	104	190-16348-A-1 MS	1	U	1	1	88363	52.922478	
136	105	190-16348-A-1 MSD	1	U	1	1	90231	54.057178	
137	106	180-77841-A-3	1	U	1	1	407	-0.496861	LO
B	0	READ BASELINE	1	RB	1	1	0	-0.744102	BL
139	107	CCV	1	U	1	1	85820	51.377815	
140	108	CCB	1	U	1	1	251	-0.591496	LO
B	0	READ BASELINE	1	RB	1	1	0	-0.744102	BL
142	109	600-166246-B-1	1	U	1	1	7706	3.935978	
143	110	600-166247-B-1	1	U	1	1	7760	3.968880	
144	111	600-166248-B-1	1	U	1	1	6821	3.398732	
145	112	180-77793-A-1	1	U	5	1	103829	311.577209	
146	113	180-77793-A-2	1	U	5	1	110022	330.384857	
147	114	240-95767-A-1	1	U	10	1	69840	416.725494	
B	0	READ BASELINE	1	RB	1	1	0	-0.744102	BL
149	115	CCV	1	U	1	1	84004	50.274960	
150	116	CCB	1	U	1	1	63	-0.705998	LO
B	0	READ BASELINE	1	RB	1	1	0	-0.744102	BL

data not used SES

Cyanide, Available:Calibration 1: Peak 9-151

1677

File name: C:¥FLOW_4¥3052318B.RST SES 5/23/18
Date: 23-May-18
Operator: SES

*	Name	Conc	Height
*	Cal 0.000 ppb	0.000000	7.225422
*	Cal 2.000 ppb	2.000000	3774.412842
*	Cal 5.000 ppb	5.000000	9254.094727
*	Cal 10.000 ppb	10.000000	18406.054688
*	Cal 25.000 ppb	25.000000	44371.781250
*	Cal 50.000 ppb	50.000000	86018.671875
*	Cal 100.000 ppb	100.000000	164100.984375

Calib Coef:
y=bx+a
a: (intercept) 1.2252e+03
b: 1.6465e+03

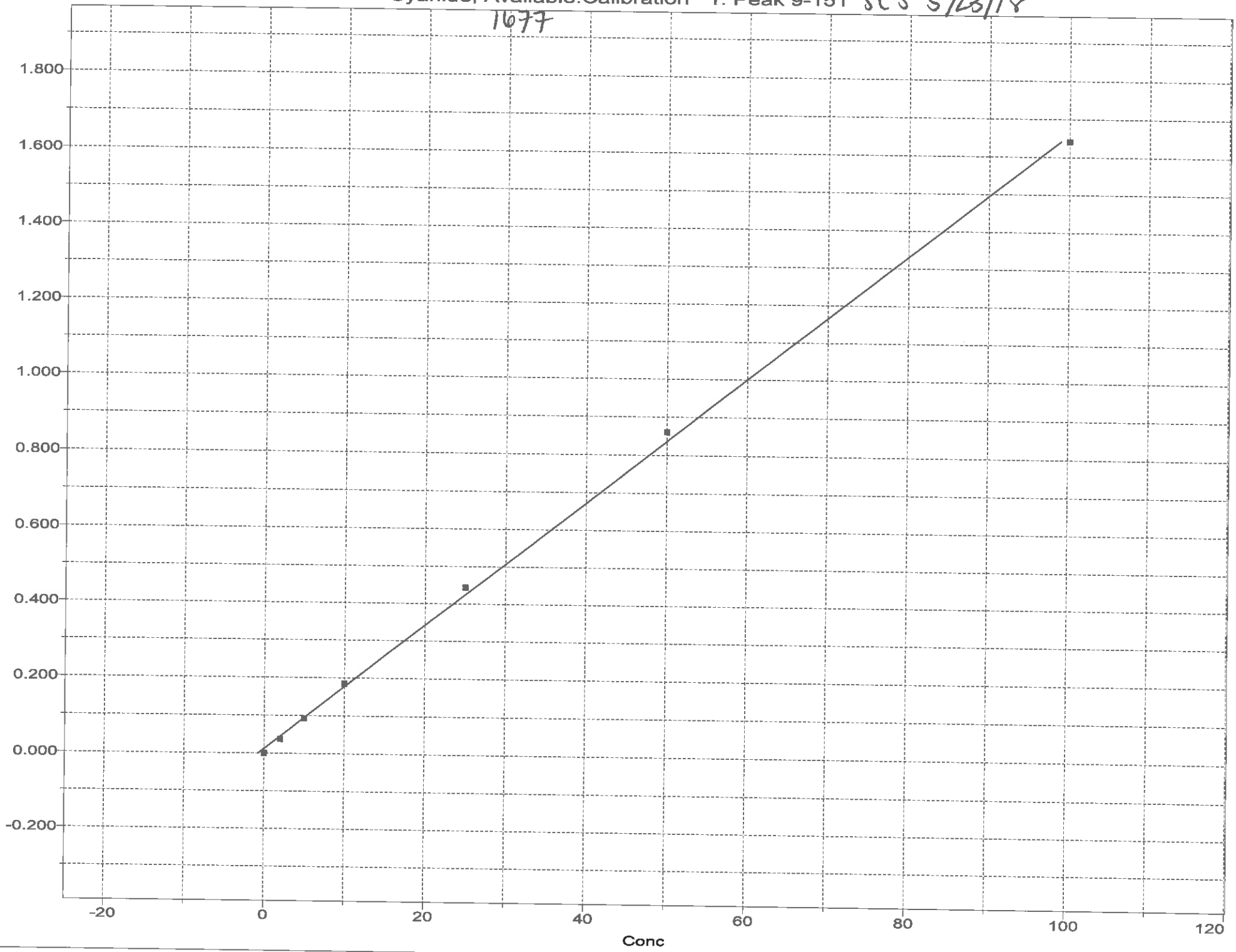
Corr Coef: 0.999632

Carryover: n/a

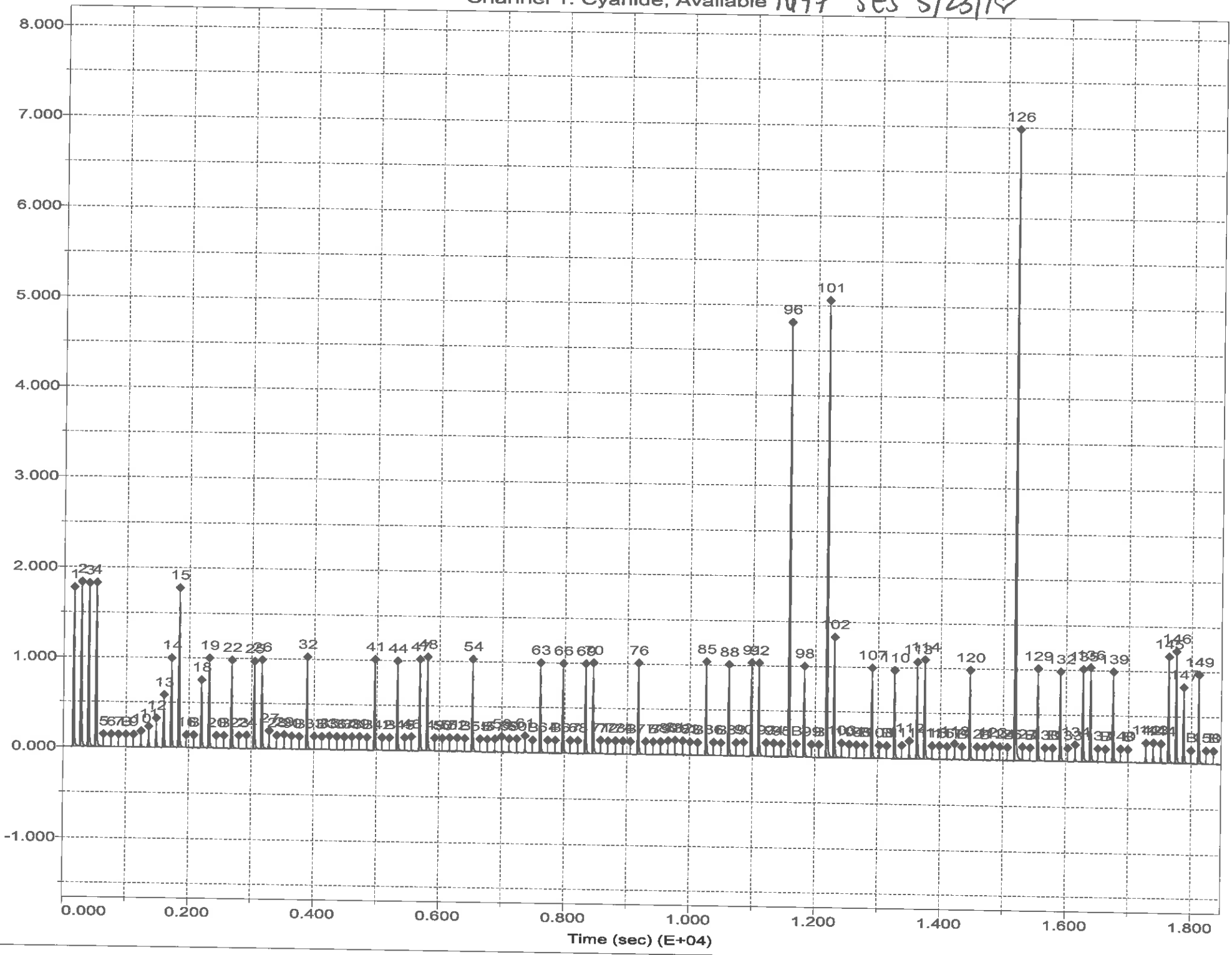
No Drift Peaks

Cyanide, Available:Calibration 1: Peak 9-151 SES 5/23/18

1677



Channel 1: Cyanide, Available 1477 SES 5/23/18



05/31/2018

*** Sample Table from Analysis *** AVCN1677 SES 5/23/18

File name: *** Sample Table from Analysis ***
Date: 23-May-18

Cup	Name	Type	R	Dil	Wt	Comment
7	System Conditioner S	SYNC	1	1	1	1
7	SYNC 100PPB	SYNC	3	1	1	
0	BLANK	BLNK	1	1	1	
0	BLANK	BLNK	2	1	1	
0	READ BASELINE	RB	1	1	1	
1	Cal 0.000 ppb	C	1	1	1	
2	Cal 2.000 ppb	C	1	1	1	
3	Cal 5.000 ppb	C	1	1	1	
4	Cal 10.000 ppb	C	1	1	1	
5	Cal 25.000 ppb	C	1	1	1	
6	Cal 50.000 ppb	C	1	1	1	
7	Cal 100.000 ppb	C	1	1	1	
0	BLANK	U	1	1	1	
0	READ BASELINE	RB	1	1	1	
8	Ni (II) CN 50 ppb	U	1	1	1	
9	ICV	U	1	1	1	
10	ICB	U	1	1	1	
0	READ BASELINE	RB	1	1	1	
11	LCS	U	1	1	1	
12	MB	U	1	1	1	
13	180-77862-A-7	U	1	1	1	
14	180-77862-A-7 MS	U	1	1	1	
15	180-77862-A-7 MSD	U	1	1	1	
16	480-135854-A-9	U	1	1	1	
17	180-77781-A-1	U	1	1	1	CdCl2 + 0.06g Ascorbic Acid + filter
18	180-77862-A-1	U	1	1	1	
19	180-77862-A-2	U	1	1	1	
0	READ BASELINE	RB	1	1	1	
20	CCV	U	1	1	1	
21	CCB	U	1	1	1	
0	READ BASELINE	RB	1	1	1	
22	180-77862-A-3	U	1	1	1	
23	180-77862-A-4	U	1	1	1	
24	180-77862-A-5	U	1	1	1	
25	180-77862-A-6	U	1	1	1	
26	180-77862-A-8	U	1	1	1	
0	READ BASELINE	RB	1	1	1	
27	CCV	U	1	1	1	
28	CCB	U	1	1	1	
0	READ BASELINE	RB	1	1	1	
29	LCS	U	1	1	1	
30	MB	U	1	1	1	
31	180-77854-A-4	U	1	1	1	
32	180-77854-A-4 MS	U	1	1	1	
33	180-77854-A-4 MSD	U	1	1	1	
34	180-77862-A-9	U	1	1	1	
35	180-77862-A-10	U	1	1	1	
36	180-77854-A-1	U	1	1	1	
37	180-77854-A-2	U	1	1	1	
0	READ BASELINE	RB	1	1	1	
38	CCV	U	1	1	1	
39	CCB	U	1	1	1	
0	READ BASELINE	RB	1	1	1	
40	180-77854-A-3	U	1	1	1	
41	180-77854-A-5	U	1	1	1	
42	180-77854-A-6	U	1	1	1	

AVCN 1677 SES 5/23/18

Cup	Name	Type	R	Dil	Wt	Comment
43	180-77854-A-7	U	1		1	1
44	180-77854-A-8	U	1		1	1
0	READ BASELINE	RB	1		1	1
45	CCV	U	1		1	1
46	CCB	U	1		1	1
0	READ BASELINE	RB	1		1	1
47	LCS	U	1		1	1
48	MB	U	1		1	1
49	180-77843-A-1	U	1		1	1
50	180-77843-A-1 MS	U	1		1	1
51	180-77843-A-1 MSD	U	1		1	1
52	180-77854-A-9	U	1		1	1
53	180-77854-A-10	U	1		1	1
54	180-77854-A-11	U	1		1	1
55	180-77854-A-12	U	1		1	1
0	READ BASELINE	RB	1		1	1
56	CCV	U	1		1	1
57	CCB	U	1		1	1
0	READ BASELINE	RB	1		1	1
58	180-77854-A-13	U	1		1	1
59	180-77854-A-14	U	1		1	1
60	180-77854-A-15	U	1		1	1
61	180-77854-A-16	U	1		1	1
62	180-77792-A-1	U	1		1	1
0	READ BASELINE	RB	1		1	1
63	CCV	U	1		1	1
64	CCB	U	1		1	1
0	READ BASELINE	RB	1		1	1
65	LCS	U	1		1	1
66	MB	U	1		1	1
67	190-16349-A-1	U	1		1	1
68	190-16349-A-1 MS	U	1		1	1
69	190-16349-A-1 MSD	U	1		1	1
70	180-77794-A-1	U	1		1	1
71	180-77792-A-2	U	1		1	1
72	180-77792-A-3	U	1		1	1
~~73~~	~~180-77793-A-1~~	~~U~~	~~1~~		~~1~~	~~1~~
0	READ BASELINE	RB	1		1	1
74	CCV	U	1		1	1
75	CCB	U	1		1	1
0	READ BASELINE	RB	1		1	1
~~76~~	~~180-77793-A-2~~	~~U~~	~~1~~		~~1~~	~~1~~
77	180-77793-A-3	U	1		1	1
78	180-77793-A-4	U	1		1	1
79	180-77842-A-1	U	1		1	1
80	180-77842-A-2	U	1		1	1
0	READ BASELINE	RB	1		1	1
81	CCV	U	1		1	1
82	CCB	U	1		1	1
0	READ BASELINE	RB	1		1	1
83	LCS	U	1		1	1
84	MB	U	1		1	1
85	190-16328-C-1	U	1		1	1
86	190-16328-C-1 MS	U	1		1	1
87	190-16328-C-1 MSD	U	1		1	1
88	180-77842-A-3	U	1		1	1
89	180-77840-A-1	U	1		1	1
90	180-77840-A-2	U	1		1	1
91	180-77841-A-1	U	1		1	1
0	READ BASELINE	RB	1		1	1

data not used SES 5/23/18

AVCV 1677 SES 5/23/18

Cup	Name	Type	R	Dil	Wt	Comment
92	CCV	U	1	1	1	
93	CCB	U	1	1	1	
0	READ BASELINE	RB	1	1	1	
94	500-145588-A-2	U	1	1	1	
95	180-77794-A-2	U	1	1	1	data not used
96	180-77843-A-2	U	1	1	1	
~~97~~	~~240-95767-A-1~~	~~U~~	~~1~~	~~1~~	~~1~~	SES 5/23/18
98	180-77841-A-2	U	1	1	1	
0	READ BASELINE	RB	1	1	1	
99	CCV	U	1	1	1	
100	CCB	U	1	1	1	
0	READ BASELINE	RB	1	1	1	
101	LCS	U	1	1	1	
102	MB	U	1	1	1	
103	190-16348-A-1	U	1	1	1	
104	190-16348-A-1 MS	U	1	1	1	
105	190-16348-A-1 MSD	U	1	1	1	
106	180-77841-A-3	U	1	1	1	
0	READ BASELINE	RB	1	1	1	
107	CCV	U	1	1	1	
108	CCB	U	1	1	1	
0	READ BASELINE	RB	1	1	1	
109	600-166246-B-1	U	1	1	1	
110	600-166247-B-1	U	1	1	1	
111	600-166248-B-1	U	1	1	1	
112	180-77793-A-1	U	1	5	1	
113	180-77793-A-2	U	1	5	1	
114	240-95767-A-1	U	1	10	1	
0	READ BASELINE	RB	1	1	1	
115	CCV	U	1	1	1	
116	CCB	U	1	1	1	
0	READ BASELINE	RB	1	1	1	

Shipping and Receiving Documents

TestAmerica Pittsburgh
301 Alpha Drive

Pittsburgh, PA 15238
Phone: 412.963.7058 Fax: 412.963.2470

Chain of Custody Record

183016

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact			
Company Name: AECOM	Project Manager: Renee Knecht	Site Contact: Renee Knecht	Date: 05-17-18
Address: 1111 3rd Ave, Suite 1600	Tel/Fax:	Lab Contact: Dave Dunlap	Carrier:
City/State/Zip: Seattle WA 98101	Analysis Turnaround Time: ☐ CALENDAR DAYS ☐ WORKING DAYS		
Phone: 206-438-2700	TAT if different from Below ____		
Fax:	☒ 2 weeks		
Project Name: HISGOU	☐ 1 week		
Site: Harbor Island	☐ 2 days		
PO# 60148169	☐ 1 day		

COC No: 1 of 2 COCs
Sampler:
For Lab Use Only:
Walk-in Client:
Lab Sampling:
Job / SDG No.:

Sample Identification	2018 Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Available CN 1677	Sample Specific Notes:
HI-1-0518	5/16	1100		GW	1	X		X	
HI-2-0518	5/16	1150		↓	1	X		X	
HI-3-0518	5/17	1355		↓	1	X		X	
HI-4-0518	5/17	1210		↓	3	X	X	X	MS/MSD
HI-5-0518	5/17	1110		↓	1	X		X	
HI-6A-0518	5/17	1145		↓	1	X		X	
HI-9A-0518	5/15	1000		↓	1	X		X	
HI-10-0518	5/15	1200		↓	1	X		X	
HI-11-0518	5/15	1210		↓	1	X		X	
HI-12-0518	5/17	1245		↓	1	X		X	
HI-16-0518	5/16	1250		↓	1	X		X	

180-77854 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☒ Disposal by Lab ☐ Archive for ____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☒ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ Therm ID No.: ____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Abdelghani Sebbane	AECOM	5-17-18 1500	Dellie Watson	TAPitt	5-18-18 850
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

TestAmerica Pittsburgh
301 Alpha Drive

Pittsburgh, PA 15238
Phone: 412.963.7058 Fax: 412.963.2470

Chain of Custody Record

183015

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact			
Company Name: AECOM	Project Manager: Renee Knecht	Site Contact: Renee Knecht	Date: 5-17-18
Address: 1111 3rd Ave. Suite 1600	Tel/Fax:	Lab Contact: Dave Dunlap	Carrier:
City/State/Zip: Seattle WA 98101	Analysis Turnaround Time: ☐ CALENDAR DAYS ☐ WORKING DAYS		
Phone: 206-438-2700	TAT if different from Below ____		
Fax:	X 2 weeks		
Project Name: HISGOU	☐ 1 week		
Site: Harbor Island	☐ 2 days		
PO# 60148169	☐ 1 day		

COC No: 2 of 2 COCs
Sampler:
For Lab Use Only:
Walk-in Client:
Lab Sampling:
Job / SDG No.:

Sample Identification	2018 Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Available CN 1677	Sample Specific Notes:
HI-18-0518	5/15	1400		GW	1	X		X	
MW-01R-0518	5/16	1325		GW	1	X		X	
MW-213-0518	5/15	1020		GW	1	X		X	
TD-06A-0518	5/16	1150		GW	1	X		X	
HI-90-0518	5/15	1200		GW	1	X		X	
~~EB-0518~~	~~5/16~~	~~12~~							

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☒ Disposal by Lab ☐ Archive for ____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☒ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ Therm ID No.: ____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Abdulghani Sebbane	AECOM	5-17-18 1500	Dollene Watson	JAPITT	5-18-18
					850
			Received in Laboratory by:		

05/31/2018

(206) 438-2700
E 1600
3101
US

SHIP DATE: 17MAY18
ACTWGT: 37.10 LB
CAD: 006993777/SSFE1904
DIMS: 24x14x13 IN

BILL THIRD PARTY

UNLAP
AMERICA
ALPHA DR

ITTSBURGH PA 15238
963-7058 REF:
DEPT:

FedE
Expr

FRI - 18 MAY 10:3
PRIORITY OVERNIG

TRK# 0201 7810 2019 6151

XH AGCA

152
PA-US P

180-77854 Waybill

Uncorrected temp 5.5/4.5 °C
Thermometer ID 9

CF -1.0 Initials TJ

PT-WI-SR-001 effective 7/26/13

Login Sample Receipt Checklist

Client: AECOM

Job Number: 180-77854-1

Login Number: 77854
List Number: 1
Creator: Watson, Debbie

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ALS Environmental
ALS Group USA, Corp
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Kelso, WA 98626
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F : +1 360 636 1068
www.alsglobal.com

June 19, 2018

Analytical Report for Service Request No: K1804750

Renee Knecht
AECOM Environment
710 Second Avenue, Suite 1000
Seattle, WA 98104

RE: HISGOU / 60148169

Dear Renee,

Enclosed are the results of the sample(s) submitted to our laboratory May 18, 2018
For your reference, these analyses have been assigned our service request number **K1804750.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3356. You may also contact me via email at Kurt.Clarkson@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Kurt Clarkson
Sr. Project Manager

ALS Environmental
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1317 South 13th Avenue
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    Volatile Organic Compounds

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Case Narrative

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Client: AECOM
Project: HISGOU
Sample Matrix: Water

Service Request: K1804750
Date Received: 05/18/2018

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt:

Eighteen water samples were received for analysis at ALS Environmental on 05/18/2018. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4ºC upon receipt at the laboratory.

Metals:

No significant anomalies were noted with this analysis.

Volatiles by GC/MS:

No significant anomalies were noted with this analysis.

Approved by _____ Date 06/19/2018

Chain of Custody

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CHAIN OF CUSTODY

89178

001

SR# K1804750

COC Set 1 of 2

COC#

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Project Name: HISGOU
Project Number: 60148169
Project Manager: Renee Knecht
Company: AECOM
Address: 1111 3rd Ave. Suite 1600 Seattle WA
Phone #: 206-438-2700
email: renee.knecht@aecom.com
Sampler Signature: Abdishani Sahlan, Dave Lewis
Sampler Printed Name: Abdishani Sahlan

CLIENT SAMPLE ID	LABID	SAMPLING Date Time	Matrix	NUMBER OF CONTAINERS	8260C / VOC FP (14D)	200.8 / Metals Reappt T (180D)	200.8 / Metals T (180D)	1	2	3	4	5	Remarks
1. HI-1-0518		5/16 - 1100	GW	1			X						
2. HI-2-0518		5/16 - 1150		2		X	X						
3. HI-3-0518		5/17 - 1355		1			X						
4. HI-4-0518		5/17 - 1210		3			X						MS/MSD
5. HI-5-0518		5/17 - 1110		2		X	X						
6. HI-6A-0518		5/17 - 1145		2		X	X						
7. HI-9A-0518		5/15 - 1000		2		X	X						
8. HI-10-0518		5/15 - 1200		2		X	X						
9. HI-11-0518		5/15 - 1210		2		X	X						
10. HI-12-0518		5/17 - 1245		2		X	X						

Report Requirements

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. CLP Like Summary (no raw data)
___ IV. Data Validation Report
___ V. EDD

Invoice Information

P.O.#
Bill To:

Turnaround Requirements

___ 24 hr. ___ 48 hr.
___ 5 Day
X Standard

Requested Report Date

Circle which metals are to be analyzed

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Special Instructions/Comments:

*Indicate State Hydrocarbon Procedure: AK CA WI Northwest Other_____(Circle One)

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature: Abdishani Sahlan	Signature: [illegible]	Signature	Signature	Signature	Signature
Printed Name: Abdishani Sahlan	Printed Name: ALS	Printed Name	Printed Name	Printed Name	Printed Name
Firm: AECOM	Firm: 5/18/18 0930	Firm	Firm	Firm	Firm
Date/Time: 5-17-18 @ 1600	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time

ALS Environmental

CHAIN OF CUSTODY
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SR# K1804750
COC Set 2 of 2
COC#

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Page 1 of 1

Project Name: HISGOU	Project Number: 60148169
Project Manager: Renee Knecht	
Company: AECOM	
Address: 1111 3rd Ave. Suite 1600 Seattle WA	
Phone #: 206-438-2700	email: renee.knecht@aecom.com
Sampler Signature: Abdelshani Sebbar D.L	Sampler Printed Name: Abdelshani Sebbar Dave Lewis

CLIENT SAMPLE ID	LABID	SAMPLING Date Time	Matrix	NUMBER OF CONTAINERS	14D 8260C / VOC FP	180D 200.8 / Metals Redppt T	200.8 / Metals T	1	2	3	4	5	Remarks
1. HI-16-0518		5/16-1250	GW	1			X						
2. HI-18-0518		5/15-1400		1			X						
3. ~~HI~~-HI-90-0518		5/15-1200		2		X	X						
4. MW-01R-0518		5/16-1325		1			X						
5. MW-213-0518		5/15-1020		2		X	X						
6. TD-06A-0518		5/16-1150		5	X	X	X						
7. EB-0518		5/16-1215		3	X								
8. TB-0518		— —			X								
9.													
10.													

Report Requirements

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. CLP Like Summary (no raw data)
___ IV. Data Validation Report
___ V. EDD

Invoice Information

P.O.#
Bill To:

Turnaround Requirements

___ 24 hr. ___ 48 hr.
___ 5 Day
X Standard

Requested Report Date

Circle which metals are to be analyzed

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Special Instructions/Comments:

*Indicate State Hydrocarbon Procedure: AK CA WI Northwest Other____(Circle One)

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature: Abdelshani Sebbar	Signature: B Morrow	Signature	Signature	Signature	Signature
Printed Name: Abdelshani Sebbar	Printed Name: ALS	Printed Name	Printed Name	Printed Name	Printed Name
Firm: AECOM	Firm: 5/18/18 0930	Firm	Firm	Firm	Firm
Date/Time: 5-17-18 @ 1600	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time

PC KC

Cooler Receipt and Preservation Form

Client AECOM Service Request K18 04750

Received: 5/18/18 Opened: 5/18/18 By: Km Unloaded: 5/18/18 By: Km

1. Samples were received via? *USPS* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? 2 Front
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected. Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	File
-0.4	-0.5	1.6	1.5	-0.1	378	89178	781020278632	

4. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
6. Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* NA Y N
   If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA ~~Y~~ Km N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:
TD-06-0518	TD-06A-0518	Times match

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time
HI-2-0518	500mL plastic				X	HNO3	1mL	RE146M	Km	1155
HI-5-0518	500mL plastic				X	HNO3	1mL	RE146M	Km	1155
HI-9H-0518	500mL plastic				X	HNO3	1mL	RE146M	Km	1155
HI-90-0518	500mL plastic				X	HNO3	1mL	RE146M	Km	1155
HI-12-0518	500mL plastic				X	HNO3	1mL	RE146M	Km	1155
TD-06A-0518	500mL plastic				X	HNO3	1mL	RE146M	Km	1155

Notes, Discrepancies, & Resolutions: _____

Metals

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ALS Group USA, Corp.
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Analytical Report

Client:	AECOM	**Service Request:**	K1804750
Project:	HISGOU/60148169	**Date Collected:**	05/16/18 11:00
Sample Matrix:	Water	**Date Received:**	05/18/18 09:30
Sample Name:	HI-1-0518	**Basis:**	NA
Lab Code:	K1804750-001		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.15**	ug/L	0.10	0.04	1	06/05/18 13:49	05/25/18	
Lead	200.8	**0.042**	ug/L	0.020	0.004	1	06/05/18 13:49	05/25/18	
Zinc	200.8	**1.4 J**	ug/L	2.0	0.2	1	06/05/18 13:49	05/25/18	

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Analytical Report

Client:	AECOM	**Service Request:**	K1804750
Project:	HISGOU/60148169	**Date Collected:**	05/16/18 11:50
Sample Matrix:	Water	**Date Received:**	05/18/18 09:30
Sample Name:	HI-2-0518	**Basis:**	NA
Lab Code:	K1804750-002		

Total Metals

Analyte Name	Analysis Method	Result		Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.06**	**J**	ug/L	0.10	0.02	1	06/07/18 08:37	06/05/18	
Lead	200.8	**0.036**		ug/L	0.020	0.004	1	06/07/18 08:37	06/05/18	
Zinc	200.8	**0.59**		ug/L	0.50	0.07	1	06/07/18 08:37	06/05/18	

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Analytical Report

Client:	AECOM	**Service Request:**	K1804750
Project:	HISGOU/60148169	**Date Collected:**	05/17/18 13:55
Sample Matrix:	Water	**Date Received:**	05/18/18 09:30
Sample Name:	HI-3-0518	**Basis:**	NA
Lab Code:	K1804750-003		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.23**	ug/L	0.10	0.04	1	06/05/18 13:53	05/25/18	
Lead	200.8	**0.221**	ug/L	0.020	0.004	1	06/05/18 13:53	05/25/18	
Zinc	200.8	**5.4**	ug/L	2.0	0.2	1	06/05/18 13:53	05/25/18	

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Analytical Report

Client:	AECOM	**Service Request:**	K1804750
Project:	HISGOU/60148169	**Date Collected:**	05/17/18 12:10
Sample Matrix:	Water	**Date Received:**	05/18/18 09:30
Sample Name:	HI-4-0518	**Basis:**	NA
Lab Code:	K1804750-004		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.12**	ug/L	0.10	0.04	1	06/05/18 13:54	05/25/18	
Lead	200.8	**0.071**	ug/L	0.020	0.004	1	06/05/18 13:54	05/25/18	
Zinc	200.8	**1.9**	ug/L	2.0	0.2	1	06/05/18 13:54	05/25/18	**J**

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Analytical Report

Client:	AECOM	**Service Request:**	K1804750
Project:	HISGOU/60148169	**Date Collected:**	05/17/18 11:10
Sample Matrix:	Water	**Date Received:**	05/18/18 09:30
Sample Name:	HI-5-0518	**Basis:**	NA
Lab Code:	K1804750-005		

Total Metals

Analyte Name	Analysis Method	Result		Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.04**	**J**	ug/L	0.10	0.02	1	06/07/18 08:40	06/05/18	
Lead	200.8	**0.120**		ug/L	0.020	0.004	1	06/07/18 08:40	06/05/18	
Zinc	200.8	**0.10**	**J**	ug/L	0.50	0.07	1	06/07/18 08:40	06/05/18	

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Analytical Report

Client:	AECOM	**Service Request:**	K1804750
Project:	HISGOU/60148169	**Date Collected:**	05/17/18 11:45
Sample Matrix:	Water	**Date Received:**	05/18/18 09:30
Sample Name:	HI-6A-0518	**Basis:**	NA
Lab Code:	K1804750-006		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.39**	ug/L	0.10	0.02	1	06/07/18 08:43	06/05/18	
Lead	200.8	**0.060**	ug/L	0.020	0.004	1	06/07/18 08:43	06/05/18	
Zinc	200.8	**1.03**	ug/L	0.50	0.07	1	06/07/18 08:43	06/05/18	

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Analytical Report

Client:	AECOM	**Service Request:**	K1804750
Project:	HISGOU/60148169	**Date Collected:**	05/15/18 10:00
Sample Matrix:	Water	**Date Received:**	05/18/18 09:30
Sample Name:	HI-9A-0518	**Basis:**	NA
Lab Code:	K1804750-007		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.06**	ug/L	0.10	0.02	1	06/07/18 08:46	06/05/18	J
Lead	200.8	**0.030**	ug/L	0.020	0.004	1	06/07/18 08:46	06/05/18	
Zinc	200.8	**0.28**	ug/L	0.50	0.07	1	06/07/18 08:46	06/05/18	J

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Analytical Report

Client:	AECOM	**Service Request:**	K1804750
Project:	HISGOU/60148169	**Date Collected:**	05/15/18 12:00
Sample Matrix:	Water	**Date Received:**	05/18/18 09:30
Sample Name:	HI-10-0518	**Basis:**	NA
Lab Code:	K1804750-008		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**1.45**	ug/L	0.10	0.02	1	06/07/18 08:49	06/05/18	
Lead	200.8	**0.031**	ug/L	0.020	0.004	1	06/07/18 08:49	06/05/18	
Zinc	200.8	**1.22**	ug/L	0.50	0.07	1	06/07/18 08:49	06/05/18	

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Analytical Report

Client:	AECOM	**Service Request:**	K1804750
Project:	HISGOU/60148169	**Date Collected:**	05/15/18 12:10
Sample Matrix:	Water	**Date Received:**	05/18/18 09:30
Sample Name:	HI-11-0518	**Basis:**	NA
Lab Code:	K1804750-009		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.51**	ug/L	0.10	0.02	1	06/07/18 08:52	06/05/18	
Lead	200.8	**0.124**	ug/L	0.020	0.004	1	06/07/18 08:52	06/05/18	
Zinc	200.8	**1.10**	ug/L	0.50	0.07	1	06/07/18 08:52	06/05/18	

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Analytical Report

Client:	AECOM	**Service Request:**	K1804750
Project:	HISGOU/60148169	**Date Collected:**	05/17/18 12:45
Sample Matrix:	Water	**Date Received:**	05/18/18 09:30
Sample Name:	HI-12-0518	**Basis:**	NA
Lab Code:	K1804750-010		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**2.22**	ug/L	0.10	0.02	1	06/07/18 09:01	06/05/18	
Lead	200.8	**0.101**	ug/L	0.020	0.004	1	06/07/18 09:01	06/05/18	
Zinc	200.8	**9.14**	ug/L	0.50	0.07	1	06/07/18 09:01	06/05/18	

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Analytical Report

Client:	AECOM	**Service Request:**	K1804750
Project:	HISGOU/60148169	**Date Collected:**	05/16/18 12:50
Sample Matrix:	Water	**Date Received:**	05/18/18 09:30
Sample Name:	HI-16-0518	**Basis:**	NA
Lab Code:	K1804750-011		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.17**	ug/L	0.10	0.04	1	06/05/18 14:00	05/25/18	
Lead	200.8	**0.078**	ug/L	0.020	0.004	1	06/05/18 14:00	05/25/18	
Zinc	200.8	**2.1**	ug/L	2.0	0.2	1	06/05/18 14:00	05/25/18	

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Analytical Report

Client:	AECOM	**Service Request:**	K1804750
Project:	HISGOU/60148169	**Date Collected:**	05/15/18 14:00
Sample Matrix:	Water	**Date Received:**	05/18/18 09:30
Sample Name:	HI-18-0518	**Basis:**	NA
Lab Code:	K1804750-012		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.21**	ug/L	0.10	0.04	1	06/05/18 14:01	05/25/18	
Lead	200.8	**0.093**	ug/L	0.020	0.004	1	06/05/18 14:01	05/25/18	
Zinc	200.8	**0.6**	ug/L	2.0	0.2	1	06/05/18 14:01	05/25/18	**J**

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Analytical Report

Client:	AECOM	**Service Request:**	K1804750
Project:	HISGOU/60148169	**Date Collected:**	05/15/18 12:00
Sample Matrix:	Water	**Date Received:**	05/18/18 09:30
Sample Name:	HI-90-0518	**Basis:**	NA
Lab Code:	K1804750-013		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.07**	ug/L	0.10	0.02	1	06/07/18 09:04	06/05/18	**J**
Lead	200.8	**0.031**	ug/L	0.020	0.004	1	06/07/18 09:04	06/05/18	
Zinc	200.8	**0.21**	ug/L	0.50	0.07	1	06/07/18 09:04	06/05/18	**J**

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	AECOM	**Service Request:**	K1804750
Project:	HISGOU/60148169	**Date Collected:**	05/16/18 13:25
Sample Matrix:	Water	**Date Received:**	05/18/18 09:30
Sample Name:	MW-01R-0518	**Basis:**	NA
Lab Code:	K1804750-014		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.14**	ug/L	0.10	0.04	1	06/05/18 14:03	05/25/18	
Lead	200.8	**0.059**	ug/L	0.020	0.004	1	06/05/18 14:03	05/25/18	
Zinc	200.8	**0.5**	ug/L	2.0	0.2	1	06/05/18 14:03	05/25/18	**J**

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	AECOM	**Service Request:**	K1804750
Project:	HISGOU/60148169	**Date Collected:**	05/15/18 10:20
Sample Matrix:	Water	**Date Received:**	05/18/18 09:30
Sample Name:	MW-213-0518	**Basis:**	NA
Lab Code:	K1804750-015		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**1.12**	ug/L	0.10	0.02	1	06/07/18 09:07	06/05/18	
Lead	200.8	**0.483**	ug/L	0.020	0.004	1	06/07/18 09:07	06/05/18	
Zinc	200.8	**12.4**	ug/L	0.50	0.07	1	06/07/18 09:07	06/05/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	AECOM	**Service Request:**	K1804750
Project:	HISGOU/60148169	**Date Collected:**	05/16/18 11:50
Sample Matrix:	Water	**Date Received:**	05/18/18 09:30
Sample Name:	TD-06A-0518	**Basis:**	NA
Lab Code:	K1804750-016		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	**0.11**	ug/L	0.10	0.02	1	06/07/18 09:10	06/05/18	
Lead	200.8	**0.054**	ug/L	0.020	0.004	1	06/07/18 09:10	06/05/18	
Zinc	200.8	**0.62**	ug/L	0.50	0.07	1	06/07/18 09:10	06/05/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	AECOM	**Service Request:**	K1804750
Project:	HISGOU/60148169	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	KQ1807314-01		

Total Metals

Analyte Name	Analysis Method	Result		Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	ND	U	ug/L	0.10	0.02	1	06/07/18 07:26	06/05/18	
Lead	200.8	ND	U	ug/L	0.020	0.004	1	06/07/18 07:26	06/05/18	
Zinc	200.8	ND	U	ug/L	0.50	0.07	1	06/07/18 07:26	06/05/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	AECOM	**Service Request:**	K1804750
Project:	HISGOU/60148169	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	KQ1806689-01		

Total Metals

Analyte Name	Analysis Method	Result		Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	ND	U	ug/L	0.10	0.04	1	06/05/18 13:47	05/25/18	
Lead	200.8	**0.009**	**J**	ug/L	0.020	0.004	1	06/05/18 13:47	05/25/18	
Zinc	200.8	ND	U	ug/L	2.0	0.2	1	06/05/18 13:47	05/25/18	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client:	AECOM	**Service Request:**	K1804750
Project	HISGOU/60148169	**Date Collected:**	05/16/18
Sample Matrix:	Water	**Date Received:**	05/18/18
		Date Analyzed:	06/05/18

Replicate Sample Summary
Total Metals

Sample Name:	HI-1-0518	**Units:**	ug/L
Lab Code:	K1804750-001	**Basis:**	NA

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample KQ1806689-04 Result	Average	RPD	RPD Limit
Copper	200.8	0.10	0.04	0.15	0.11	0.13	31 #	20
Lead	200.8	0.020	0.004	0.042	0.051	0.047	19	20
Zinc	200.8	2.0	0.2	1.4 J	1.5 J	1.5	7	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference:

ALS Group USA, Corp.

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QA/QC Report

Client:	AECOM	**Service Request:**	K1804750
Project	HISGOU/60148169	**Date Collected:**	05/17/18
Sample Matrix:	Water	**Date Received:**	05/18/18
		Date Analyzed:	06/05/18

Replicate Sample Summary
Total Metals

Sample Name:	HI-4-0518	**Units:**	ug/L
Lab Code:	K1804750-004	**Basis:**	NA

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample KQ1806689-06 Result	Average	RPD	RPD Limit
Copper	200.8	0.10	0.04	0.12	0.13	0.13	8	20
Lead	200.8	0.020	0.004	0.071	0.083	0.077	16	20
Zinc	200.8	2.0	0.2	1.9 J	1.7 J	1.8	11	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	AECOM	**Service Request:**	K1804750
Project:	HISGOU/60148169	**Date Collected:**	05/17/18
Sample Matrix:	Water	**Date Received:**	05/18/18
		Date Analyzed:	06/5/18
		Date Extracted:	05/25/18

Matrix Spike Summary
Total Metals

Sample Name:	HI-4-0518	**Units:**	ug/L
Lab Code:	K1804750-004	**Basis:**	NA
Analysis Method:	200.8		
Prep Method:	EPA CLP-METALS ILM04.0		

Matrix Spike
KQ1806689-03

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Copper	0.12	12.0	12.5	95	70-130
Lead	0.071	49.7	50.0	99	70-130
Zinc	1.9 J	25.0	25.0	92	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference:

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QA/QC Report

Client:	AECOM	**Service Request:**	K1804750
Project:	HISGOU/60148169	**Date Collected:**	05/16/18
Sample Matrix:	Water	**Date Received:**	05/18/18
		Date Analyzed:	06/5/18
		Date Extracted:	05/25/18

Matrix Spike Summary
Total Metals

Sample Name:	HI-1-0518	**Units:**	ug/L
Lab Code:	K1804750-001	**Basis:**	NA
Analysis Method:	200.8		
Prep Method:	EPA CLP-METALS ILM04.0		

Matrix Spike
KQ1806689-05

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Copper	0.15	12.3	12.5	97	70-130
Lead	0.042	50.2	50.0	100	70-130
Zinc	1.4 J	24.8	25.0	93	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference:

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QA/QC Report

Client: AECOM
Project: HISGOU/60148169
Sample Matrix: Water

Service Request: K1804750
Date Analyzed: 06/07/18

Lab Control Sample Summary
Total Metals

Units:ug/L
Basis:NA

Lab Control Sample
KQ1807314-02

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Copper	200.8	1.85	2.00	92	63-128
Lead	200.8	1.86	2.00	93	82-113
Zinc	200.8	1.91	2.00	95	79-133

ALS Group USA, Corp.
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QA/QC Report

Client: AECOM
Project: HISGOU/60148169
Sample Matrix: Water

Service Request: K1804750
Date Analyzed: 06/05/18

Lab Control Sample Summary
Total Metals

Units:ug/L
Basis:NA

Lab Control Sample
KQ1806689-02

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Copper	200.8	13.1	12.5	105	85-115
Lead	200.8	53.5	50.0	107	85-115
Zinc	200.8	24.3	25.0	97	85-115

ALS Group USA, Corp.
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Prep Summary Report

Client: AECOM **Service Request:** K1804750
Project: HISGOU/60148169
Sample Matrix: Water

Metals

Prep Method: EPA 1640 **Extraction Lot:** 315058
Analytical Method: 200.8 **Extraction Date:** 06/05/18 12:30

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
HI-2-0518	K1804750-002	5/16/18	5/18/18	500 mL	50 mL	
HI-5-0518	K1804750-005	5/17/18	5/18/18	500 mL	50 mL	
HI-6A-0518	K1804750-006	5/17/18	5/18/18	500 mL	50 mL	
HI-9A-0518	K1804750-007	5/15/18	5/18/18	500 mL	50 mL	
HI-10-0518	K1804750-008	5/15/18	5/18/18	500 mL	50 mL	
HI-11-0518	K1804750-009	5/15/18	5/18/18	500 mL	50 mL	
HI-12-0518	K1804750-010	5/17/18	5/18/18	500 mL	50 mL	
HI-90-0518	K1804750-013	5/15/18	5/18/18	500 mL	50 mL	
MW-213-0518	K1804750-015	5/15/18	5/18/18	500 mL	50 mL	
TD-06A-0518	K1804750-016	5/16/18	5/18/18	500 mL	50 mL	
Method Blank	KQ1807314-01MB	NA	NA	500 mL	50 mL	
Lab Control Sample	KQ1807314-02LCS	NA	NA	500 mL	50 mL	

ALS Group USA, Corp.
dba ALS Environmental

Prep Summary Report

Client: AECOM **Service Request:** K1804750
Project: HISGOU/60148169
Sample Matrix: Water

Metals

Prep Method: EPA CLP-METALS ILM04.0 **Extraction Lot:** 314340
Analytical Method: 200.8 **Extraction Date:** 05/25/18 15:47

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
HI-1-0518	K1804750-001	5/16/18	5/18/18	10 mL	10 mL	
HI-3-0518	K1804750-003	5/17/18	5/18/18	10 mL	10 mL	
HI-4-0518	K1804750-004	5/17/18	5/18/18	10 mL	10 mL	
HI-16-0518	K1804750-011	5/16/18	5/18/18	10 mL	10 mL	
HI-18-0518	K1804750-012	5/15/18	5/18/18	10 mL	10 mL	
MW-01R-0518	K1804750-014	5/16/18	5/18/18	10 mL	10 mL	
Method Blank	KQ1806689-01MB	NA	NA	10 mL	10 mL	
Lab Control Sample	KQ1806689-02LCS	NA	NA	10 mL	10.3 mL	
Matrix Spike	KQ1806689-03MS	5/17/18	5/18/18	10 mL	10.3 mL	
Duplicate	KQ1806689-04DUP	5/16/18	5/18/18	10 mL	10 mL	
Matrix Spike	KQ1806689-05MS	5/16/18	5/18/18	10 mL	10.3 mL	
Duplicate	KQ1806689-06DUP	5/17/18	5/18/18	10 mL	10 mL	

Client: AECOM **Service Request:** K1804750
Project: HISGOU/60148169

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Concentration Units: ug/L

Sample ID / Analyte	Method	Analysis Batch:	Result	True Value	% Rec	% Rec. Limits
CCV 06/05/18 12:45						
Copper	200.8	593568	24.5	25.0	98	90-110
Lead	200.8	593568	24.7	25.0	99	90-110
Zinc	200.8	593568	26.6	25.0	106	90-110
CCV 06/05/18 13:07						
Copper	200.8	593568	24.8	25.0	99	90-110
Lead	200.8	593568	25.3	25.0	101	90-110
Zinc	200.8	593568	25.6	25.0	102	90-110
CCV 06/05/18 13:22						
Copper	200.8	593568	25.4	25.0	102	90-110
Lead	200.8	593568	25.9	25.0	104	90-110
Zinc	200.8	593568	25.2	25.0	101	90-110
CCV 06/05/18 13:36						
Copper	200.8	593568	24.8	25.0	99	90-110
Lead	200.8	593568	25.2	25.0	101	90-110
Zinc	200.8	593568	24.6	25.0	99	90-110
CCV 06/05/18 13:43						
Copper	200.8	593568	24.7	25.0	99	90-110
Lead	200.8	593568	25.2	25.0	101	90-110
Zinc	200.8	593568	25.0	25.0	100	90-110
CCV 06/05/18 13:58						
Copper	200.8	593568	24.7	25.0	99	90-110
Lead	200.8	593568	25.4	25.0	102	90-110
Zinc	200.8	593568	25.0	25.0	100	90-110
CCV 06/05/18 14:04						
Copper	200.8	593568	24.9	25.0	100	90-110
Lead	200.8	593568	25.5	25.0	102	90-110
Zinc	200.8	593568	24.8	25.0	99	90-110
ICV 06/05/18 12:44						
Copper	200.8	593568	12.0	12.5	96	90-110
Lead	200.8	593568	24.6	25.0	98	90-110
Zinc	200.8	593568	23.3	25.0	93	90-110
CCV 06/07/18 07:50						
Copper	200.8	593844	24.8	25.0	99	90-110
Lead	200.8	593844	25.2	25.0	101	90-110
Zinc	200.8	593844	24.7	25.0	99	90-110

Client: AECOM **Service Request:** K1804750
Project: HISGOU/60148169

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Concentration Units: ug/L

Sample ID / Analyte	Method	Analysis Batch:	Result	True Value	% Rec	% Rec. Limits
CCV 06/07/18 08:22						
Copper	200.8	593844	24.6	25.0	98	90-110
Lead	200.8	593844	24.9	25.0	100	90-110
Zinc	200.8	593844	24.9	25.0	100	90-110
CCV 06/07/18 08:55						
Copper	200.8	593844	24.6	25.0	98	90-110
Lead	200.8	593844	24.9	25.0	100	90-110
Zinc	200.8	593844	25.0	25.0	100	90-110
CCV 06/07/18 09:13						
Copper	200.8	593844	24.8	25.0	99	90-110
Lead	200.8	593844	25.0	25.0	100	90-110
Zinc	200.8	593844	24.9	25.0	100	90-110
CCV 06/07/18 07:08						
Copper	200.8	593844	24.8	25.0	99	90-110
Lead	200.8	593844	25.1	25.0	100	90-110
Zinc	200.8	593844	24.9	25.0	100	90-110
ICV 06/07/18 07:05						
Copper	200.8	593844	12.7	12.5	102	90-110
Lead	200.8	593844	25.5	25.0	102	90-110
Zinc	200.8	593844	25.2	25.0	101	90-110

Client: AECOM **Service Request:** K1804750
Project: HISGOU/60148169

INITIAL AND CONTINUING CALIBRATION BLANKS

Concentration Units: ug/L

Sample ID / Analyte	Method	Analysis Batch:	Result	C
CCB 06/05/18 12:49				
Copper	200.8	593568	0.10	U
Lead	200.8	593568	0.020	U
Zinc	200.8	593568	2.0	U
CCB 06/05/18 13:08				
Copper	200.8	593568	0.10	U
Lead	200.8	593568	0.020	U
Zinc	200.8	593568	2.0	U
CCB 06/05/18 13:23				
Copper	200.8	593568	0.10	U
Lead	200.8	593568	0.020	U
Zinc	200.8	593568	2.0	U
CCB 06/05/18 13:37				
Copper	200.8	593568	0.10	U
Lead	200.8	593568	0.020	U
Zinc	200.8	593568	2.0	U
CCB 06/05/18 13:44				
Copper	200.8	593568	0.10	U
Lead	200.8	593568	0.020	U
Zinc	200.8	593568	2.0	U
CCB 06/05/18 13:59				
Copper	200.8	593568	0.10	U
Lead	200.8	593568	0.020	U
Zinc	200.8	593568	2.0	U
CCB 06/05/18 14:05				
Copper	200.8	593568	0.10	U
Lead	200.8	593568	0.020	U
Zinc	200.8	593568	2.0	U
ICB 06/05/18 12:46				
Copper	200.8	593568	0.10	U
Lead	200.8	593568	0.020	U
Zinc	200.8	593568	2.0	U
CCB 06/07/18 07:53				
Copper	200.8	593844	1.0	U
Lead	200.8	593844	0.20	U
Zinc	200.8	593844	5.0	U

Client: AECOM **Service Request:** K1804750
Project: HISGOU/60148169

INITIAL AND CONTINUING CALIBRATION BLANKS

Concentration Units: ug/L

Sample ID / Analyte	Method	Analysis Batch:	Result	C
CCB 06/07/18 08:25				
Copper	200.8	593844	1.0	U
Lead	200.8	593844	0.20	U
Zinc	200.8	593844	5.0	U
CCB 06/07/18 08:58				
Copper	200.8	593844	1.0	U
Lead	200.8	593844	0.20	U
Zinc	200.8	593844	5.0	U
CCB 06/07/18 09:16				
Copper	200.8	593844	1.0	U
Lead	200.8	593844	0.20	U
Zinc	200.8	593844	5.0	U
CCB 06/07/18 07:14				
Copper	200.8	593844	1.0	U
Lead	200.8	593844	0.20	U
Zinc	200.8	593844	5.0	U
ICB 06/07/18 07:11				
Copper	200.8	593844	1.0	U
Lead	200.8	593844	0.20	U
Zinc	200.8	593844	5.0	U

Client: AECOM **Service Request:** K1804750
Project: HISGOU/60148169

LOW LEVEL INITIAL AND LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Concentration Units: ug/L

Sample ID / Analyte	Method	Analysis Batch:	Result	True Value	% Rec	% Rec. Limits	Analysis Date
LLICV							
Copper	200.8	593568	0.11	0.1	110	50-199	06/05/18 12:51
Lead	200.8	593568	0.023	0.02	113	50-199	06/05/18 12:51
Zinc	200.8	593568	1.9	2.0	95	50-199	06/05/18 12:51
LLICVR							
Copper	200.8	593844	0.95	1.0	95	50-199	06/07/18 07:17
Lead	200.8	593844	0.19	0.2	95	50-199	06/07/18 07:17
Zinc	200.8	593844	4.6	5.0	92	50-199	06/07/18 07:17

Client: AECOM **Service Request:** K1804750
Project: HISGOU/60148169

Detection Limits

Instrument: K-ICP-MS-03 **Matrix:** Water

Analyte	Mass	Units	MRL	MDL	Method
Copper	65	ug/L	1.00	0.2	200.8
Lead	208	ug/L	0.200	0.04	200.8
Zinc	66	ug/L	5.00	0.7	200.8

Client: AECOM **Service Request:** K1804750
Project: HISGOU/60148169

ICP Linear Range (Quarterly)

Instrument: K-ICP-MS-03

Analyte	Concentration (ug/L)	Method
Copper 65	2000	200.8
Lead 208	2000	200.8
Zinc 66	2000	200.8

Client: AECOM **Service Request:** K1804750
Project: HISGOU/60148169

ICP Linear Range (Quarterly)

Instrument: K-ICP-MS-05

Analyte	Concentration (ug/L)	Method
Copper 65	3000	200.8
Lead 208	3000	200.8
Zinc 66	3000	200.8

Client: AECOM **Service Request:** K1804750
Project: HISGOU/60148169

Analysis Run Log

Instrument ID: **K-ICP-MS-05** **Analytical BatchID:** **593568**

Sample	Dilution Factor	Date/Time	Cu	Pb	Zn
ZZZZZZ	1	06/05/18 12:41			
ZZZZZZ	1	06/05/18 12:42			
ICV	1	06/05/18 12:44	X	X	X
CCV	1	06/05/18 12:45	X	X	X
ICB	1	06/05/18 12:46	X	X	X
ZZZZZZ	1	06/05/18 12:47			
CCB	1	06/05/18 12:49	X	X	X
LLICVW	1	06/05/18 12:51	X	X	X
ZZZZZZ	1	06/05/18 12:52			
ZZZZZZ	1	06/05/18 12:53			
ZZZZZZ	5	06/05/18 12:55			
ZZZZZZ	5	06/05/18 12:56			
ZZZZZZ	5	06/05/18 12:57			
ZZZZZZ	5	06/05/18 12:58			
ZZZZZZ	5	06/05/18 13:00			
ZZZZZZ	5	06/05/18 13:01			
ZZZZZZ	5	06/05/18 13:03			
ZZZZZZ	5	06/05/18 13:04			
CCV	1	06/05/18 13:07	X	X	X
CCB	1	06/05/18 13:08	X	X	X
ZZZZZZ	1	06/05/18 13:10			
ZZZZZZ	1	06/05/18 13:11			
ZZZZZZ	1	06/05/18 13:13			
ZZZZZZ	1	06/05/18 13:14			
ZZZZZZ	1	06/05/18 13:15			
ZZZZZZ	1	06/05/18 13:16			
ZZZZZZ	1	06/05/18 13:17			
ZZZZZZ	5	06/05/18 13:19			
ZZZZZZ	1	06/05/18 13:20			
ZZZZZZ	1	06/05/18 13:21			
CCV	1	06/05/18 13:22	X	X	X
CCB	1	06/05/18 13:23	X	X	X
ZZZZZZ	1	06/05/18 13:25			
ZZZZZZ	1	06/05/18 13:26			
ZZZZZZ	1	06/05/18 13:27			
ZZZZZZ	1	06/05/18 13:28			
ZZZZZZ	1	06/05/18 13:30			

Client: AECOM **Service Request:** K1804750
Project: HISGOU/60148169

Analysis Run Log

Instrument ID: **K-ICP-MS-05** **Analytical BatchID:** **593568**

Sample	Dilution Factor	Date/Time	Cu	Pb	Zn
ZZZZZZ	1	06/05/18 13:31			
ZZZZZZ	1	06/05/18 13:32			
ZZZZZZ	1	06/05/18 13:33			
ZZZZZZ	1	06/05/18 13:34			
CCV	1	06/05/18 13:36	X	X	X
CCB	1	06/05/18 13:37	X	X	X
ZZZZZZ	1	06/05/18 13:38			
ZZZZZZ	1	06/05/18 13:39			
ZZZZZZ	1	06/05/18 13:41			
ZZZZZZ	1	06/05/18 13:42			
CCV	1	06/05/18 13:43	X	X	X
CCB	1	06/05/18 13:44	X	X	X
ZZZZZZ	1	06/05/18 13:45			
KQ1806689-01MB	1	06/05/18 13:47	X	X	X
KQ1806689-02LCS	1	06/05/18 13:48	X	X	X
K1804750-001	1	06/05/18 13:49	X	X	X
K1804750-001DUP	1	06/05/18 13:50	X	X	X
K1804750-001MS	1	06/05/18 13:51	X	X	X
K1804750-003	1	06/05/18 13:53	X	X	X
K1804750-004	1	06/05/18 13:54	X	X	X
K1804750-004DUP	1	06/05/18 13:55	X	X	X
K1804750-004MS	1	06/05/18 13:56	X	X	X
CCV	1	06/05/18 13:58	X	X	X
CCB	1	06/05/18 13:59	X	X	X
K1804750-011	1	06/05/18 14:00	X	X	X
K1804750-012	1	06/05/18 14:01	X	X	X
K1804750-014	1	06/05/18 14:03	X	X	X
CCV	1	06/05/18 14:04	X	X	X
CCB	1	06/05/18 14:05	X	X	X

Client: AECOM **Service Request:** K1804750
Project: HISGOU/60148169

Analysis Run Log

Instrument ID: **K-ICP-MS-03** **Analytical BatchID:** **593844**

Sample	Dilution Factor	Date/Time	Cu	Pb	Zn
ZZZZZZ	1	06/07/18 06:59			
ZZZZZZ	1	06/07/18 07:02			
ICV1	1	06/07/18 07:05	X	X	X
CCV1	1	06/07/18 07:08	X	X	X
ICB1	1	06/07/18 07:11	X	X	X
CCB1	1	06/07/18 07:14	X	X	X
LLICVR	1	06/07/18 07:17	X	X	X
ZZZZZZ	1	06/07/18 07:20			
ZZZZZZ	1	06/07/18 07:23			
KQ1807314-01MB	1	06/07/18 07:26	X	X	X
KQ1807314-02LCS	1	06/07/18 07:29	X	X	X
ZZZZZZ	1	06/07/18 07:32			
ZZZZZZ	1	06/07/18 07:35			
ZZZZZZ	5	06/07/18 07:38			
ZZZZZZ	1	06/07/18 07:41			
ZZZZZZ	1	06/07/18 07:44			
ZZZZZZ	1	06/07/18 07:47			
CCV	1	06/07/18 07:50	X	X	X
CCB	1	06/07/18 07:53	X	X	X
ZZZZZZ	1	06/07/18 07:56			
ZZZZZZ	1	06/07/18 07:59			
ZZZZZZ	5	06/07/18 08:02			
ZZZZZZ	1	06/07/18 08:05			
ZZZZZZ	1	06/07/18 08:08			
ZZZZZZ	1	06/07/18 08:11			
ZZZZZZ	1	06/07/18 08:13			
ZZZZZZ	1	06/07/18 08:16			
ZZZZZZ	1	06/07/18 08:19			
CCV	1	06/07/18 08:22	X	X	X
CCB	1	06/07/18 08:25	X	X	X
ZZZZZZ	1	06/07/18 08:28			
ZZZZZZ	1	06/07/18 08:31			
ZZZZZZ	1	06/07/18 08:34			
K1804750-002	1	06/07/18 08:37	X	X	X
K1804750-005	1	06/07/18 08:40	X	X	X
K1804750-006	1	06/07/18 08:43	X	X	X
K1804750-007	1	06/07/18 08:46	X	X	X

Client: AECOM **Service Request:** K1804750
Project: HISGOU/60148169

Analysis Run Log

Instrument ID: **K-ICP-MS-03** **Analytical BatchID:** **593844**

Sample	Dilution Factor	Date/Time	Cu	Pb	Zn
K1804750-008	1	06/07/18 08:49	X	X	X
K1804750-009	1	06/07/18 08:52	X	X	X
CCV	1	06/07/18 08:55	X	X	X
CCB	1	06/07/18 08:58	X	X	X
K1804750-010	1	06/07/18 09:01	X	X	X
K1804750-013	1	06/07/18 09:04	X	X	X
K1804750-015	1	06/07/18 09:07	X	X	X
K1804750-016	1	06/07/18 09:10	X	X	X
CCV	1	06/07/18 09:13	X	X	X
CCB	1	06/07/18 09:16	X	X	X
ZZZZZZ	1	06/07/18 09:19			

Client: AECOM **Service Request:** K1804750
Project: HISGOU/60148169

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Instrument ID: **K-ICP-MS-03** **Analytical BatchID:** **593844**

Sample	Date/Time	Ga71	Lu175
ZZZZZZ	06/07/18 06:59		
ZZZZZZ	06/07/18 07:02		
ICV1	06/07/18 07:05	90	95
CCV1	06/07/18 07:08	89	93
ICB1	06/07/18 07:11	86	92
CCB1	06/07/18 07:14	84	91
LLICVR	06/07/18 07:17	84	91
ZZZZZZ	06/07/18 07:20		
ZZZZZZ	06/07/18 07:23		
KQ1807314-01MB	06/07/18 07:26	88	95
KQ1807314-02LCS	06/07/18 07:29	94	96
ZZZZZZ	06/07/18 07:32		
ZZZZZZ	06/07/18 07:35		
ZZZZZZ	06/07/18 07:38		
ZZZZZZ	06/07/18 07:41		
ZZZZZZ	06/07/18 07:44		
ZZZZZZ	06/07/18 07:47		
CCV	06/07/18 07:50	88	93
CCB	06/07/18 07:53	90	94
ZZZZZZ	06/07/18 07:56		
ZZZZZZ	06/07/18 07:59		
ZZZZZZ	06/07/18 08:02		
ZZZZZZ	06/07/18 08:05		
ZZZZZZ	06/07/18 08:08		
ZZZZZZ	06/07/18 08:11		
ZZZZZZ	06/07/18 08:13		
ZZZZZZ	06/07/18 08:16		
ZZZZZZ	06/07/18 08:19		
CCV	06/07/18 08:22	89	94
CCB	06/07/18 08:25	89	93
ZZZZZZ	06/07/18 08:28		
ZZZZZZ	06/07/18 08:31		
ZZZZZZ	06/07/18 08:34		
K1804750-002	06/07/18 08:37	85	91
K1804750-005	06/07/18 08:40	86	92
K1804750-006	06/07/18 08:43	85	91
K1804750-007	06/07/18 08:46	86	92

Client: AECOM **Service Request:** K1804750
Project: HISGOU/60148169

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Instrument ID: **K-ICP-MS-03** **Analytical BatchID:** **593844**

Sample	Date/Time	Ga71	Lu175
K1804750-008	06/07/18 08:49	87	93
K1804750-009	06/07/18 08:52	85	90
CCV	06/07/18 08:55	92	95
CCB	06/07/18 08:58	94	96
K1804750-010	06/07/18 09:01	86	92
K1804750-013	06/07/18 09:04	85	92
K1804750-015	06/07/18 09:07	87	93
K1804750-016	06/07/18 09:10	83	90
CCV	06/07/18 09:13	87	93
CCB	06/07/18 09:16	91	95
ZZZZZZ	06/07/18 09:19		

Client: AECOM **Service Request:** K1804750
Project: HISGOU/60148169

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Instrument ID: **K-ICP-MS-05** **Analytical BatchID:** **593568**

Sample	Date/Time	Ge72He	Lu175He
ZZZZZZ	06/05/18 12:41		
ZZZZZZ	06/05/18 12:42		
ICV	06/05/18 12:44	99	97
CCV	06/05/18 12:45	98	98
ICB	06/05/18 12:46	98	98
ZZZZZZ	06/05/18 12:47		
CCB	06/05/18 12:49	96	95
LLICVW	06/05/18 12:51	95	94
ZZZZZZ	06/05/18 12:52		
ZZZZZZ	06/05/18 12:53		
ZZZZZZ	06/05/18 12:55		
ZZZZZZ	06/05/18 12:56		
ZZZZZZ	06/05/18 12:57		
ZZZZZZ	06/05/18 12:58		
ZZZZZZ	06/05/18 13:00		
ZZZZZZ	06/05/18 13:01		
ZZZZZZ	06/05/18 13:03		
ZZZZZZ	06/05/18 13:04		
CCV	06/05/18 13:07	100	99
CCB	06/05/18 13:08	104	102
ZZZZZZ	06/05/18 13:10		
ZZZZZZ	06/05/18 13:11		
ZZZZZZ	06/05/18 13:13		
ZZZZZZ	06/05/18 13:14		
ZZZZZZ	06/05/18 13:15		
ZZZZZZ	06/05/18 13:16		
ZZZZZZ	06/05/18 13:17		
ZZZZZZ	06/05/18 13:19		
ZZZZZZ	06/05/18 13:20		
ZZZZZZ	06/05/18 13:21		
CCV	06/05/18 13:22	96	96
CCB	06/05/18 13:23	99	99
ZZZZZZ	06/05/18 13:25		
ZZZZZZ	06/05/18 13:26		
ZZZZZZ	06/05/18 13:27		
ZZZZZZ	06/05/18 13:28		
ZZZZZZ	06/05/18 13:30		

Client: AECOM **Service Request:** K1804750
Project: HISGOU/60148169

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Instrument ID: **K-ICP-MS-05** **Analytical BatchID:** **593568**

Sample	Date/Time	Ge72He	Lu175He
ZZZZZZ	06/05/18 13:31		
ZZZZZZ	06/05/18 13:32		
ZZZZZZ	06/05/18 13:33		
ZZZZZZ	06/05/18 13:34		
CCV	06/05/18 13:36	101	101
CCB	06/05/18 13:37	100	100
ZZZZZZ	06/05/18 13:38		
ZZZZZZ	06/05/18 13:39		
ZZZZZZ	06/05/18 13:41		
ZZZZZZ	06/05/18 13:42		
CCV	06/05/18 13:43	103	103
CCB	06/05/18 13:44	101	101
ZZZZZZ	06/05/18 13:45		
KQ1806689-01MB	06/05/18 13:47	100	100
KQ1806689-02LCS	06/05/18 13:48	98	101
K1804750-001	06/05/18 13:49	95	98
K1804750-001DUP	06/05/18 13:50	96	98
K1804750-001MS	06/05/18 13:51	95	97
K1804750-003	06/05/18 13:53	96	97
K1804750-004	06/05/18 13:54	96	98
K1804750-004DUP	06/05/18 13:55	96	99
K1804750-004MS	06/05/18 13:56	95	99
CCV	06/05/18 13:58	98	101
CCB	06/05/18 13:59	98	100
K1804750-011	06/05/18 14:00	92	98
K1804750-012	06/05/18 14:01	97	99
K1804750-014	06/05/18 14:03	96	99
CCV	06/05/18 14:04	99	101
CCB	06/05/18 14:05	101	102

Volatile Organic Compounds

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Client: AECOM **Service Request:** K1804750
Project: HISGOU/60148169

Cover Page - Organic Analysis Data Package
Volatile Organic Compounds

Sample Name	Lab Code	Date Collected	Date Received
TD-06A-0518	K1804750-016	05/16/2018	05/18/2018
EB-0518	K1804750-017	05/16/2018	05/18/2018
TB-0518	K1804750-018		05/18/2018

Analytical Results

Client:	AECOM	**Service Request:**	K1804750
Project:	HISGOU/60148169	**Date Collected:**	05/16/2018
Sample Matrix:	Water	**Date Received:**	05/18/2018

Volatile Organic Compounds

Sample Name:	TD-06A-0518	**Units:**	ug/L
Lab Code:	K1804750-016	**Basis:**	NA
Extraction Method:	EPA 5030B	**Level:**	Low
Analysis Method:	8260C		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzene	ND	U	0.20	0.062	1	05/24/18	05/24/18	KWG1802664	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	108	73-122	05/24/18	Acceptable
Toluene-d8	96	65-144	05/24/18	Acceptable
4-Bromofluorobenzene	98	68-117	05/24/18	Acceptable

Comments:

Analytical Results

Client:	AECOM	**Service Request:**	K1804750
Project:	HISGOU/60148169	**Date Collected:**	05/16/2018
Sample Matrix:	Water	**Date Received:**	05/18/2018

Volatile Organic Compounds

Sample Name:	EB-0518	**Units:**	ug/L
Lab Code:	K1804750-017	**Basis:**	NA
Extraction Method:	EPA 5030B	**Level:**	Low
Analysis Method:	8260C		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzene	**0.080**	J	0.20	0.062	1	05/24/18	05/24/18	KWG1802664	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	108	73-122	05/24/18	Acceptable
Toluene-d8	95	65-144	05/24/18	Acceptable
4-Bromofluorobenzene	98	68-117	05/24/18	Acceptable

Comments:

Analytical Results

Client:	AECOM	**Service Request:**	K1804750
Project:	HISGOU/60148169	**Date Collected:**	
Sample Matrix:	Water	**Date Received:**	05/18/2018

Volatile Organic Compounds

Sample Name:	TB-0518	**Units:**	ug/L
Lab Code:	K1804750-018	**Basis:**	NA
Extraction Method:	EPA 5030B	**Level:**	Low
Analysis Method:	8260C		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzene	ND	U	0.20	0.062	1	05/24/18	05/24/18	KWG1802664	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	111	73-122	05/24/18	Acceptable
Toluene-d8	97	65-144	05/24/18	Acceptable
4-Bromofluorobenzene	96	68-117	05/24/18	Acceptable

Comments:

Analytical Results

Client:	AECOM	**Service Request:**	K1804750
Project:	HISGOU/60148169	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Volatile Organic Compounds

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1802664-4	**Basis:**	NA
Extraction Method:	EPA 5030B	**Level:**	Low
Analysis Method:	8260C		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzene	ND	U	0.20	0.062	1	05/24/18	05/24/18	KWG1802664	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	110	73-122	05/24/18	Acceptable
Toluene-d8	98	65-144	05/24/18	Acceptable
4-Bromofluorobenzene	98	68-117	05/24/18	Acceptable

Comments:

QA/QC Report

Client: AECOM
Project: HISGOU/60148169
Sample Matrix: Water

Service Request: K1804750

Surrogate Recovery Summary
Volatile Organic Compounds

Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: Percent
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3
TD-06A-0518	K1804750-016	108	96	98
EB-0518	K1804750-017	108	95	98
TB-0518	K1804750-018	111	97	96
Method Blank	KWG1802664-4	110	98	98
Lab Control Sample	KWG1802664-3	102	98	107

Surrogate Recovery Control Limits (%)

Sur1	=	Dibromofluoromethane	73-122
Sur2	=	Toluene-d8	65-144
Sur3	=	4-Bromofluorobenzene	68-117

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

QA/QC Report

Client: AECOM
Project: HISGOU/60148169

Service Request: K1804750
Date Analyzed: 05/24/2018
Time Analyzed: 12:35

Internal Standard Area and RT Summary
Volatile Organic Compounds

File ID: J:\MS46\DATA\052418\0524F004.D
Instrument ID: MS46
Analysis Method: 8260C

Lab Code: KWG1802662-2
Analysis Lot: KWG1802662

		Fluorobenzene		Chlorobenzene-d5		1,4-Dichlorobenzene-d4	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	187,476	6.58	75,971	10.04	65,465	12.61
	Upper Limit ==>	374,952	7.08	151,942	10.54	130,930	13.11
	Lower Limit ==>	93,738	6.08	37,986	9.54	32,733	12.11
	ICAL Result ==>	154,265	6.58	70,113	10.04	56,459	12.62
Associated Analyses							
Lab Control Sample	KWG1802664-3	188,246	6.59	76,837	10.04	65,757	12.61
Method Blank	KWG1802664-4	171,600	6.59	73,414	10.04	57,383	12.61
TB-0518	K1804750-018	166,145	6.59	71,195	10.04	56,569	12.61
TD-06A-0518	K1804750-016	168,518	6.59	70,271	10.04	57,963	12.61
EB-0518	K1804750-017	168,843	6.59	69,984	10.04	56,903	12.61

Results flagged with an asterisk (*) indicate values outside control criteria.

QA/QC Report

Client:	AECOM	**Service Request:**	K1804750
Project:	HISGOU/60148169	**Date Extracted:**	05/24/2018
Sample Matrix:	Water	**Date Analyzed:**	05/24/2018

Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method:	EPA 5030B	**Units:**	ug/L
Analysis Method:	8260C	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1802664

	Lab Control Sample KWG1802664-3 Lab Control Spike			
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**
Benzene	8.96	10.0	90	69-124

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

QA/QC Report

Client:	AECOM	**Service Request:**	K1804750
Project:	HISGOU/60148169	**Date Extracted:**	05/24/2018
Sample Matrix:	Water	**Date Analyzed:**	05/24/2018
		Time Analyzed:	14:58

Method Blank Summary
Volatile Organic Compounds

Sample Name:	Method Blank	**Instrument ID:**	MS46
Lab Code:	KWG1802664-4	**File ID:**	J:\MS46\DATA\052418\0524F009.D
Extraction Method:	EPA 5030B	**Level:**	Low
Analysis Method:	8260C	**Extraction Lot:**	KWG1802664

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG1802664-3	J:\MS46\DATA\052418\0524F005.D	05/24/18	13:13
TB-0518	K1804750-018	J:\MS46\DATA\052418\0524F013.D	05/24/18	16:45
TD-06A-0518	K1804750-016	J:\MS46\DATA\052418\0524F022.D	05/24/18	20:42
EB-0518	K1804750-017	J:\MS46\DATA\052418\0524F023.D	05/24/18	21:08

QA/QC Report

Client:	AECOM	**Service Request:**	K1804750
Project:	HISGOU/60148169	**Date Extracted:**	05/24/2018
Sample Matrix:	Water	**Date Analyzed:**	05/24/2018
		Time Analyzed:	13:13

Lab Control Sample Summary
Volatile Organic Compounds

Sample Name:	Lab Control Sample	**Instrument ID:**	MS46
Lab Code:	KWG1802664-3	**File ID:**	J:\MS46\DATA\052418\0524F005.D
Extraction Method:	EPA 5030B	**Level:**	Low
Analysis Method:	8260C	**Extraction Lot:**	KWG1802664

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG1802664-4	J:\MS46\DATA\052418\0524F009.D	05/24/18	14:58
TB-0518	K1804750-018	J:\MS46\DATA\052418\0524F013.D	05/24/18	16:45
TD-06A-0518	K1804750-016	J:\MS46\DATA\052418\0524F022.D	05/24/18	20:42
EB-0518	K1804750-017	J:\MS46\DATA\052418\0524F023.D	05/24/18	21:08

ALS Group USA, Corp. dba ALS Environmental

QA/QC Results

Client: AECOM
Project: HISGOU/60148169

Service Request: K1804750
Date Analyzed: 05/24/2018
Time Analyzed: 12:00

Tune Summary
Volatile Organic Compounds

File ID: J:\MS46\DATA\052418\0524F003.D
Instrument ID: GCMS46
Column:

Analysis Method: 8260C
Analysis Lot: KWG1802662

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
50	95	15	40	17.2	2450	PASS
75	95	30	60	51.2	7278	PASS
95	95	100	100	100.0	14217	PASS
96	95	5	9	7.2	1024	PASS
173	174	0	2	2.0	235	PASS
174	95	50	120	84.2	11967	PASS
175	174	5	9	7.6	912	PASS
176	174	95	101	100.4	12017	PASS
177	176	5	9	6.3	756	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1802662-2	J:\MS46\DATA\052418\0524F004.D	05/24/2018	12:35	
Lab Control Sample	KWG1802664-3	J:\MS46\DATA\052418\0524F005.D	05/24/2018	13:13	
Method Blank	KWG1802664-4	J:\MS46\DATA\052418\0524F009.D	05/24/2018	14:58	
TB-0518	K1804750-018	J:\MS46\DATA\052418\0524F013.D	05/24/2018	16:45	
TD-06A-0518	K1804750-016	J:\MS46\DATA\052418\0524F022.D	05/24/2018	20:42	
EB-0518	K1804750-017	J:\MS46\DATA\052418\0524F023.D	05/24/2018	21:08	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

Client: AECOM
Project: HISGOU/60148169

Service Request: K1804750
Calibration Date: 09/15/2017

Initial Calibration Summary
Volatile Organic Compounds

Calibration ID: CAL15549
Instrument ID: MS46

Column: MS

Level ID	File ID	Level ID	File ID
A	J:\MS46\DATA\091517\0915F008.D	G	J:\MS46\DATA\091517\0915F014.D
B	J:\MS46\DATA\091517\0915F009.D	H	J:\MS46\DATA\091517\0915F015.D
C	J:\MS46\DATA\091517\0915F010.D	I	J:\MS46\DATA\091517\0915F016.D
D	J:\MS46\DATA\091517\0915F011.D	J	J:\MS46\DATA\091517\0915F017.D
E	J:\MS46\DATA\091517\0915F012.D	K	J:\MS46\DATA\091517\0915F018.D
F	J:\MS46\DATA\091517\0915F013.D		

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Benzene				B	0.20	1.25	C	0.50	1.16	D	1.0	1.12	E	2.0	1.08
	F	5.0	1.20	G	10	1.12	H	20	1.14	I	40	1.11	J	60	1.19
	K	80	1.19												
Dibromofluoromethane										D	4.0	0.234	E	6.0	0.282
	F	8.0	0.260	G	10	0.271	H	12	0.251	I	14	0.261	J	16	0.266
	K	20	0.281												
Toluene-d8										D	4.0	0.764	E	6.0	1.00
	F	8.0	0.867	G	10	1.01	H	12	1.01	I	14	0.959	J	16	1.01
	K	20	1.20												
4-Bromofluorobenzene										D	4.0	0.622	E	6.0	0.869
	F	8.0	0.745	G	10	0.833	H	12	0.777	I	14	0.769	J	16	0.824
	K	20	0.732												

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: AECOM **Service Request:** K1804750
Project: HISGOU/60148169 **Calibration Date:** 09/15/2017

Initial Calibration Summary
Volatile Organic Compounds

Calibration ID: CAL15549 **Column:** MS
Instrument ID: MS46

		Calibration Evaluation					RRF Evaluation		
Analyte Name	**Compound Type**	**Fit Type**	**Eval.**	**Eval. Result**	**Q**	**Control Criteria**	**Average RRF**	**Q**	**Minimum RRF**
Benzene	MS	AverageRF	% RSD	4.4		≤ 20	1.16		0.500
Dibromofluoromethane	SURR	AverageRF	% RSD	5.9		≤ 20	0.263		0.01
Toluene-d8	SURR	AverageRF	% RSD	12.9		≤ 20	0.977		0.01
4-Bromofluorobenzene	SURR	AverageRF	% RSD	9.9		≤ 20	0.771		0.01

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

QA/QC Results

Client: AECOM
Project: HISGOU/60148169

Service Request: K1804750
Calibration Date: 09/15/2017
Date Analyzed: 09/15/2017

Second Source Calibration Verification
Volatile Organic Compounds

Calibration Type: Internal Standard
Analysis Method: 8260C

Calibration ID: CAL15549
Units: PPB

File ID: J:\MS46\DATA\091517\0915F021.D
J:\MS46\DATA\091717\0917F004.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Benzene	10	9.4	1.16	1.09	-6	NA	± 30 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

QA/QC Results

Client: AECOM
Project: HISGOU/60148169

Service Request: K1804750
Date Analyzed: 05/24/2018

Continuing Calibration Verification Summary
Volatile Organic Compounds

Calibration Type: Internal Standard
Analysis Method: 8260C

Calibration Date: 09/15/2017
Calibration ID: CAL15549
Analysis Lot: KWG1802662
Units: PPB

File ID: J:\MS46\DATA\052418\0524F004.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Benzene	10	9.4	0.500	1.16	1.08	-6	NA	± 20	AverageRF
Dibromofluoromethane	10	10	0.01	0.263	0.265	1	NA	± 20	AverageRF
Toluene-d8	10	10	0.01	0.977	0.989	1	NA	± 20	AverageRF
4-Bromofluorobenzene	10	10	0.01	0.771	0.807	5	NA	± 20	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound **‡ CCC Compound**

ALS Group USA, Corp. dba ALS Environmental

QA/QC Results

Client: AECOM **Service Request:** K1804750
Project: HISGOU/60148169

Analysis Run Log
Volatile Organic Compounds

Analysis Method: 8260C **Analysis Lot:** KWG1802662
Instrument ID: MS46

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0524F003.D	GC/MS Tuning - Bromofluorobenzene	KWG1802662-1	5/24/2018	12:00		5/24/2018	12:17
0524F004.D	Continuing Calibration Verification	KWG1802662-2	5/24/2018	12:35		5/24/2018	12:52
0524F005.D	Lab Control Sample	KWG1802664-3	5/24/2018	13:13		5/24/2018	13:30
0524F006.D	ZZZZZZ	ZZZZZZ	5/24/2018	13:39		5/24/2018	13:56
0524F007.D	ZZZZZZ	ZZZZZZ	5/24/2018	14:06		5/24/2018	14:23
0524F009.D	Method Blank	KWG1802664-4	5/24/2018	14:58		5/24/2018	15:15
0524F010.D	ZZZZZZ	ZZZZZZ	5/24/2018	15:25		5/24/2018	15:42
0524F011.D	ZZZZZZ	ZZZZZZ	5/24/2018	15:51		5/24/2018	16:08
0524F012.D	ZZZZZZ	ZZZZZZ	5/24/2018	16:18		5/24/2018	16:35
0524F013.D	TB-0518	K1804750-018	5/24/2018	16:45		5/24/2018	17:02
0524F014.D	ZZZZZZ	ZZZZZZ	5/24/2018	17:11		5/24/2018	17:28
0524F015.D	ZZZZZZ	ZZZZZZ	5/24/2018	17:37		5/24/2018	17:54
0524F016.D	ZZZZZZ	ZZZZZZ	5/24/2018	18:04		5/24/2018	18:21
0524F017.D	ZZZZZZ	ZZZZZZ	5/24/2018	18:30		5/24/2018	18:47
0524F018.D	ZZZZZZ	ZZZZZZ	5/24/2018	18:56		5/24/2018	19:13
0524F019.D	ZZZZZZ	ZZZZZZ	5/24/2018	19:23		5/24/2018	19:40
0524F020.D	ZZZZZZ	ZZZZZZ	5/24/2018	19:49		5/24/2018	20:06
0524F021.D	ZZZZZZ	ZZZZZZ	5/24/2018	20:16		5/24/2018	20:33
0524F022.D	TD-06A-0518	K1804750-016	5/24/2018	20:42		5/24/2018	20:59
0524F023.D	EB-0518	K1804750-017	5/24/2018	21:08		5/24/2018	21:25
0524F024.D	ZZZZZZ	ZZZZZZ	5/24/2018	21:35		5/24/2018	21:52
0524F025.D	ZZZZZZ	ZZZZZZ	5/24/2018	22:01		5/24/2018	22:18
0524F026.D	ZZZZZZ	ZZZZZZ	5/24/2018	22:28		5/24/2018	22:45
0524F027.D	ZZZZZZ	ZZZZZZ	5/24/2018	22:54		5/24/2018	23:11
0524F028.D	ZZZZZZ	ZZZZZZ	5/24/2018	23:20		5/24/2018	23:37
0524F029.D	ZZZZZZ	ZZZZZZ	5/24/2018	23:47		5/25/2018	00:04

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

Client: AECOM
Project: HISGOU/60148169
Sample Matrix: Water

Service Request: K1804750
Date Extracted: 05/24/2018

Extraction Prep Log
Volatile Organic Compounds

Extraction Method: EPA 5030B
Analysis Method: 8260C

Extraction Lot: KWG1802664
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
TD-06A-0518	K1804750-016	05/16/18	05/18/18	10ml	10ml	NA	
EB-0518	K1804750-017	05/16/18	05/18/18	10ml	10ml	NA	
TB-0518	K1804750-018		05/18/18	10ml	10ml	NA	
Method Blank	KWG1802664-4	NA	NA	10ml	10ml	NA	
Lab Control Sample	KWG1802664-3	NA	NA	10ml	10ml	NA	

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

Raw Data

ALS Environmental—Kelso Laboratory
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Metals

ALS Environmental—Kelso Laboratory
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Preparation Information Benchsheet

Prep Run:	314340	**Prep Workflow**:	MetDigAqMS	**Status**:	Prepped	**Prep Date**:	05/25/2018 15:47
Team:	Metals	**Prep Method**:	EPA CLP-METALS ILM04.0	**Current Step**:	Digestion	**Due Date**:	06/04/2018
Analyst:	Anna Boyer	**Rush/NPDES**:	N/A			**Hold Date**:	11/11/2018

Lab Code	Client ID	Bottle #	Initial Amt	Final Volume	Spike Amt	Spike ID	TestNo List	Comments
KQ1806689-01	Method Blank		10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
KQ1806689-02	Lab Control Sample		10 mL	10.3 mL	0.1 mL 0.1 mL 0.02 mL 0.1 mL	184106 184108 188524 189768	Metals T	1%HNO3, 0.02mL HCl
K1804750-001	HI-1-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-001: KQ1806689-04	Duplicate	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-001: KQ1806689-05	Matrix Spike	.01	10 mL	10.3 mL	0.1 mL 0.1 mL 0.02 mL 0.1 mL	184106 184108 188524 189768	Metals T	1%HNO3, 0.02mL HCl
K1804750-002	HI-2-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-003	HI-3-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-004	HI-4-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-004: KQ1806689-06	Duplicate	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-004: KQ1806689-03	Matrix Spike	.01	10 mL	10.3 mL	0.1 mL 0.1 mL 0.02 mL 0.1 mL	184106 184108 188524 189768	Metals T	1%HNO3, 0.02mL HCl
K1804750-005	HI-5-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-006	HI-6A-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-007	HI-9A-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-008	HI-10-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-009	HI-11-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-010	HI-12-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-011	HI-16-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-012	HI-18-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-013	HI-90-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-014	MW-01R-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-015	MW-213-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-016	TD-06A-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl

22 Total Samples consisting of 16 Client Samples, 4 Client QC Samples, 2 Batch QC Samples associated with the current Prep Run.

Spiking Solutions

Name	Type	ID	Expires	Name	Type	ID	Expires
K-MET Mo/U 10ppm	Spike	188524	11/3/2018	k-met 1/100 QCP-CICV-3	Spike	184108	9/15/2018
k-met 1/100 QCP CICV-1	Spike	184106	9/15/2018	k-met Sb 1ug/mL Sb	Spike	189768	6/18/2019

Preparation Materials

Step	Name	ID
Digestion	K-MET HCl ULTREX	184998
Digestion	K-MET HNO3	186553

Step	Name	ID
Digestion	K-MET 16 mL Tube	188364

Preparation Hardware / Equipment

Step	Name	Property	Value	
Digestion	K- CR 20-200			
Digestion	K-BlockDigester-18	Corrected Temperature	95	deg C
Digestion	K-BlockDigester-18	Correction Factor	0	deg C
Digestion	K-BlockDigester-18	Observed Temperature	95	deg C

Step	Name	Property	Value	
Digestion	K-BlockDigester-18	Thermometer ID 4185236		NONE
Digestion	K-BlockDigester-18	Thermometer Location	20	NONE
Digestion	K-CR 100A			

Preparation Steps

Step	Started	Finished	By	Assisted By	Training?	Comments
Digestion	25-MAY-18 15:47	25-MAY-18 17:47	Anna Boyer	J. Hinson	N	

Comments

Review

Reviewed by: _____ Date: 5/29/18

ICP-MS LCSW AND SPIKING SOLUTIONS

5.00mL to 500mL Dilution of Inorganics Ventures QCP-CICV-1

k-met 1/100 QCP-CICV-1

Analyte	Concentration in solution (ppb)	Concentration in digest (ppb)
Al	10000	100
Ag	1250	12.5
Ba	10000	100
Be	250	2.5
Ca	25000	250
Co	2500	25
Cu	1250	12.5
Cr	1000	10
Fe	5000	50
K	25000	250
Mg	25000	250
Mn	2500	25
Na	25000	250
Ni	2500	25
V	2500	25
Zn	2500	25

0.50mL to 500mL Dilution of 1000ppm Sb

k-met 1ug/mL Sb

Analyte	Concentration in solution (ppb)	Concentration in digest (ppb)
Sb	1000	10

5.00mL to 500mL Dilution of Inorganics Ventures QCP-CICV-3

k-met 1/100 QCP-CICV-3

Analyte	Concentration in solution (ppb)	Concentration in digest (ppb)
As	5000	50
Pb	5000	50
Se	5000	50
Tl	5000	50
Cd	2500	25

2.00mL to 200mL Dilution of 1,000 ppm Mo and 1,000 ppm U

k-met Mo/U 10ppm

Analyte	Concentration in solution (ppb)	Concentration in digest (ppb)
Mo	10000	20
U	10000	20

3:47-5:47

BL18/L20/95°C

Preparation Information Benchsheet

6/11

Prep Run:	314340	**Prep Workflow**:	MetDigAqMS	**Status**:	Draft	**Prep Date**:	05/21/2018 12:59
Team:	Metals	**Prep Method**:	EPA CLP-METALS ILM04.0	**Current Step**:	Digestion	**Due Date**:	05/25/2018
Analyst:	ABOYER	**Rush/NPDES**:	N/A			**Hold Date**:	11/11/2018

22

Lab Code	Client ID	Bottle #	Initial Amt	Final Volume	Spike Amt	Spike ID	TestNo List	Comments
KQ1806689-01	Method Blank		10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
KQ1806689-02	Lab Control Sample		10 mL	10.3 mL	0.1 mL 0.1 mL 0.02 mL 0.1 mL	184106 184108 188524 189768	Metals T	1%HNO3, 0.02mL HCl
K1804750-001	HI-1-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-001: KQ1806689-04	Duplicate	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-001: KQ1806689-05	Matrix Spike	.01	10 mL	10.3 mL	0.1 mL 0.1 mL 0.02 mL 0.1 mL	184106 184108 188524 189768	Metals T	1%HNO3, 0.02mL HCl
K1804750-002	HI-2-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-003	HI-3-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-004	HI-4-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-004: KQ1806689-06	Duplicate	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-004: KQ1806689-03	Matrix Spike	.01	10 mL	10.3 mL	0.1 mL 0.1 mL 0.02 mL 0.1 mL	184106 184108 188524 189768	Metals T	1%HNO3, 0.02mL HCl
K1804750-005	HI-5-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-006	HI-6A-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-007	HI-9A-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-008	HI-10-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-009	HI-11-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-010	HI-12-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-011	HI-16-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-012	HI-18-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-013	HI-90-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-014	MW-01R-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-015	MW-213-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl
K1804750-016	TD-06A-0518	.01	10 mL	10 mL			Metals T	1%HNO3, 0.02mL HCl

22 Total Samples consisting of 16 Client Samples, 4 Client QC Samples, 2 Batch QC Samples associated with the current Prep Run.

Spiking Solutions

Name	Type	ID	Expires	Name	Type	ID	Expires
K-MET Mo/U 10ppm	Spike	188524	11/3/2018	k-met 1/100 QCP-CICV-3	Spike	184108	9/15/2018
k-met 1/100 QCP CICV-1	Spike	184106	9/15/2018	k-met Sb 1ug/mL Sb	Spike	189768	6/18/2019

Preparation Materials

Preparation Hardware / Equipment

Preparation Steps

Step	Started	Finished	By	Assisted By	Training?	Comments
Digestion					N	

Comments

Review

Reviewed by: _____ Date: _____

Preparation Information Benchsheet

Prep Run: 315058
Team: Metals
Analyst: Anna Boyer
Prep Workflow: MetDigRedPptAq
Prep Method: EPA 1640
Rush/NPDES: N/A
Status: Prepped
Current Step: Digestion
Prep Date: 06/05/2018 12:30
Due Date: 06/02/2018
Hold Date: 11/11/2018

Lab Code	Client ID	Bottle #	Initial Amt	Final Volume	Spike Amt	Spike ID	TestNo List	Comments
KQ1807314-01	Method Blank		500 mL	50 mL	1 mL	185954	Metals Redppt T	1.25mL HNO3, 0.2mL HCl
KQ1807314-02	Lab Control Sample		500 mL	50 mL	1 mL 1 mL 1 mL	185954 190121 190329	Metals Redppt T	1.25mL HNO3, 0.2mL HCl
K1804637-002	LMW30-051518	.07	500 mL	50 mL	1 mL	185954	Metals RedPpt D	1.25mL HNO3, 0.2mL HCl
K1804637-002	LMW30-051518	.05	500 mL	50 mL	1 mL	185954	Metals RedPpt T	1.25mL HNO3, 0.2mL HCl
K1804637-003	LMW32D-051518	.07	500 mL	50 mL	1 mL	185954	Metals RedPpt D	1.25mL HNO3, 0.2mL HCl
K1804637-003	LMW32D-051518	.05	500 mL	50 mL	1 mL	185954	Metals RedPpt T	1.25mL HNO3, 0.2mL HCl
K1804637-004	LMW32S-051518	.07	500 mL	50 mL	1 mL	185954	Metals RedPpt D	1.25mL HNO3, 0.2mL HCl
K1804637-004	LMW32S-051518	.05	500 mL	50 mL	1 mL	185954	Metals RedPpt T	1.25mL HNO3, 0.2mL HCl
K1804750-002	HI-2-0518	.02	500 mL	50 mL	1 mL	185954	Metals Redppt T	1.25mL HNO3, 0.2mL HCl
K1804750-005	HI-5-0518	.02	500 mL	50 mL	1 mL	185954	Metals Redppt T	1.25mL HNO3, 0.2mL HCl
K1804750-006	HI-6A-0518	.02	500 mL	50 mL	1 mL	185954	Metals Redppt T	1.25mL HNO3, 0.2mL HCl
K1804750-007	HI-9A-0518	.02	500 mL	50 mL	1 mL	185954	Metals Redppt T	1.25mL HNO3, 0.2mL HCl
K1804750-008	HI-10-0518	.02	500 mL	50 mL	1 mL	185954	Metals Redppt T	1.25mL HNO3, 0.2mL HCl
K1804750-009	HI-11-0518	.02	500 mL	50 mL	1 mL	185954	Metals Redppt T	1.25mL HNO3, 0.2mL HCl
K1804750-010	HI-12-0518	.02	500 mL	50 mL	1 mL	185954	Metals Redppt T	1.25mL HNO3, 0.2mL HCl
K1804750-013	HI-90-0518	.02	500 mL	50 mL	1 mL	185954	Metals Redppt T	1.25mL HNO3, 0.2mL HCl
K1804750-015	MW-213-0518	.02	500 mL	50 mL	1 mL	185954	Metals Redppt T	1.25mL HNO3, 0.2mL HCl
K1804750-016	TD-06A-0518	.02	500 mL	50 mL	1 mL	185954	Metals Redppt T	1.25mL HNO3, 0.2mL HCl
K1804765-002	LMW33-051718	.07	500 mL	50 mL	1 mL	185954	Metals RedPpt D	1.25mL HNO3, 0.2mL HCl
K1804765-002	LMW33-051718	.05	500 mL	50 mL	1 mL	185954	Metals RedPpt T	1.25mL HNO3, 0.2mL HCl
K1804765-002: KQ1807314-03	Duplicate	.05	500 mL	50 mL	1 mL	185954	Metals RedPpt T	1.25mL HNO3, 0.2mL HCl
K1804765-002: KQ1807314-05	Duplicate	.05	500 mL	50 mL	1 mL	185954	Metals RedPpt D	1.25mL HNO3, 0.2mL HCl
K1804765-002: KQ1807314-04	Matrix Spike	.05	500 mL	50 mL	1 mL 1 mL 1 mL	185954 190121 190329	Metals RedPpt T	1.25mL HNO3, 0.2mL HCl
K1804765-002: KQ1807314-06	Matrix Spike	.05	500 mL	50 mL	1 mL 1 mL 1 mL	185954 190121 190329	Metals RedPpt D	1.25mL HNO3, 0.2mL HCl

K1804765-003	LMW31-051718	.07	500 mL	50 mL	1 mL	185954	Metals RedPpt D	1.25mL HNO3, 0.2mL HCl
K1804765-003	LMW31-051718	.05	500 mL	50 mL	1 mL	185954	Metals RedPpt T	1.25mL HNO3, 0.2mL HCl

21 Total Samples consisting of 15 Client Samples, 4 Client QC Samples, 2 Batch QC Samples associated with the current Prep Run.

Spiking Solutions

Name	Type	ID	Expires	Name	Type	ID	Expires
K-MET 500ppb Ag	Spike	190329	9/14/2018	K-MET ICP-MS CAL STOCK STANDARD	Spike	190121	8/13/2018
K-MET Fe Pd 1000ppm	Spike	185954	11/28/2018				

Preparation Materials

Step	Name	ID	Step	Name	ID
Digestion	K-MET HCl ULTREX	184998	Digestion	K-MET 50ml Centrifuge Tube	190622
Digestion	K-MET HNO3	186553			

Preparation Hardware / Equipment

Step	Name	Property	Value		Step	Name	Property	Value	
Digestion	K- CR 1000				Digestion	K- CR Adjustable			
Digestion	K- CR 20-200								

Preparation Steps

Step	Started	Finished	By	Assisted By	Training?	Comments
Digestion	05-JUN-18 12:30	06-JUN-18 14:00	Anna Boyer		N	

Comments

All samples spiked with 0.04mL 50ppm Ni61 (ms22-63-H).

Review

Reviewed by: _____ Date: 6/6/18

ICP-MS LCSW AND SPIKING SOLUTIONS

5.00mL to 500mL Dilution of Inorganics Ventures QCP-CICV-1

k-met 1/100 QCP-CICV-1

Analyte	Concentration in solution (ppb)	Concentration in digest (ppb)
Al	10000	100
Ag	1250	12.5
Ba	10000	100
Be	250	2.5
Ca	25000	250
Co	2500	25
Cu	1250	12.5
Cr	1000	10
Fe	5000	50
K	25000	250
Mg	25000	250
Mn	2500	25
Na	25000	250
Ni	2500	25
V	2500	25
Zn	2500	25

0.50mL to 500mL Dilution of 1000ppm Sb

k-met 1ug/mL Sb

Analyte	Concentration in solution (ppb)	Concentration in digest (ppb)
Sb	1000	10

5.00mL to 500mL Dilution of Inorganics Ventures QCP-CICV-3

k-met 1/100 QCP-CICV-3

Analyte	Concentration in solution (ppb)	Concentration in digest (ppb)
As	5000	50
Pb	5000	50
Se	5000	50
Tl	5000	50
Cd	2500	25

2.00mL to 200mL Dilution of 1,000 ppm Mo and 1,000 ppm U

k-met Mo/U 10ppm

Analyte	Concentration in solution (ppb)	Concentration in digest (ppb)
Mo	10000	20
U	10000	20

Preparation Information Benchsheet

Prep Run: 315058 **Prep Workflow**: MetDigRedPptAq **Status**: Draft **Prep Date**: 06/01/2018 10:06
Team: Metals **Prep Method**: EPA 1640 **Current Step**: Digestion
Analyst: ABOYER **Rush/NPDES**: N/A 26 **Due Date**: 05/24/2018
Hold Date: 11/11/2018

Lab Code	Client ID	Bottle #	Initial Amt	Final Volume	Spike Amt	Spike ID	TestNo List	Comments
KQ1807314-01	Method Blank		500 mL	50 mL	1 mL	185954	Metals Redppt T	1.25mL HNO3, 0.2mL HCl
KQ1807314-02	Lab Control Sample		500 mL	50 mL	1 mL 1 mL 1 mL	185954 190121 190329	Metals Redppt T	1.25mL HNO3, 0.2mL HCl
K1804637-002	LMW30-051518	.05 T .07 D	500 mL	50 mL	1 mL	185954	Metals RedPpt D, Metals RedPpt T	1.25mL HNO3, 0.2mL HCl
K1804637-003	LMW32D-051518	.05 T .07 D	500 mL	50 mL	1 mL	185954	Metals RedPpt D, Metals RedPpt T	1.25mL HNO3, 0.2mL HCl
K1804637-004	LMW32S-051518	.05 T .07 D	500 mL	50 mL	1 mL	185954	Metals RedPpt D, Metals RedPpt T	1.25mL HNO3, 0.2mL HCl
K1804750-002	HI-2-0518	.02	500 mL	50 mL	1 mL	185954	Metals Redppt T	1.25mL HNO3, 0.2mL HCl
K1804750-005	HI-5-0518	.02	500 mL	50 mL	1 mL	185954	Metals Redppt T	1.25mL HNO3, 0.2mL HCl
K1804750-006	HI-6A-0518	.02	500 mL	50 mL	1 mL	185954	Metals Redppt T	1.25mL HNO3, 0.2mL HCl
K1804750-007	HI-9A-0518	.02	500 mL	50 mL	1 mL	185954	Metals Redppt T	1.25mL HNO3, 0.2mL HCl
K1804750-008	HI-10-0518	.02	500 mL	50 mL	1 mL	185954	Metals Redppt T	1.25mL HNO3, 0.2mL HCl
K1804750-009	HI-11-0518	.02	500 mL	50 mL	1 mL	185954	Metals Redppt T	1.25mL HNO3, 0.2mL HCl
K1804750-010	HI-12-0518	.02	500 mL	50 mL	1 mL	185954	Metals Redppt T	1.25mL HNO3, 0.2mL HCl
K1804750-013	HI-90-0518	.02	500 mL	50 mL	1 mL	185954	Metals Redppt T	1.25mL HNO3, 0.2mL HCl
K1804750-015	MW-213-0518	.02	500 mL	50 mL	1 mL	185954	Metals Redppt T	1.25mL HNO3, 0.2mL HCl
K1804750-016	TD-06A-0518	.02	500 mL	50 mL	1 mL	185954	Metals Redppt T	1.25mL HNO3, 0.2mL HCl
K1804765-002	LMW33-051718	.05 T .07 D	500 mL	50 mL	1 mL	185954	Metals RedPpt D, Metals RedPpt T	1.25mL HNO3, 0.2mL HCl
K1804765-002: KQ1807314-03	Duplicate	.05 T .07 D	500 mL	50 mL	1 mL	185954	Metals RedPpt T	1.25mL HNO3, 0.2mL HCl
K1804765-002: KQ1807314-05	Duplicate	.05 T .07 D	500 mL	50 mL	1 mL	185954	Metals RedPpt D	1.25mL HNO3, 0.2mL HCl
K1804765-002: KQ1807314-04	Matrix Spike	.05 T .07 D	500 mL	50 mL	1 mL 1 mL 1 mL	185954 190121 190329	Metals RedPpt T	1.25mL HNO3, 0.2mL HCl
K1804765-002: KQ1807314-06	Matrix Spike	.05 T .07 D	500 mL	50 mL	1 mL 1 mL 1 mL	185954 190121 190329	Metals RedPpt D	1.25mL HNO3, 0.2mL HCl
K1804765-003	LMW31-051718	.05 T ~~.07 D~~ .07 D	500 mL	50 mL	1 mL	185954	Metals RedPpt D, Metals RedPpt T	1.25mL HNO3, 0.2mL HCl

21 Total Samples consisting of 15 Client Samples, 4 Client QC Samples, 2 Batch QC Samples associated with the current Prep Run.

Spiking Solutions

Name	Type	ID	Expires	Name	Type	ID	Expires
K-MET 500ppb Ag	Spike	190329	9/14/2018	K-MET ICP-MS CAL STOCK STANDARD (0.04mL 50ppm Ni 61 (MS2263-H))	Spike	190121	8/13/2018

K-MET Fe Pd 1000ppm	Spike	185954	11/28/2018

Preparation Materials

Preparation Hardware / Equipment

Preparation Steps

Step	Started	Finished	By	Assisted By	Training?	Comments
Digestion	12:30pm 6/5/18	2:00pm 6/6/18	AD		N	

Comments

Review

Reviewed by: _____ Date: _____

Service Request : K1804765,K1804637,K1804750

Instrument ID # K-ICP-MS-03
Calibration 060718AMS03_____
STARLIMS Run # 593844_____

Cal Std: MS23-52-H
ICV Std: MS23-51-I
LLICV Std: MS23-51-J
I.S. Solution: MS23-38-D

ICSA: MS23-52A
ICSAB: MS23-52-B

ICP-MS Data Review Form

	Yes	No	NA
1. Appropriate standardization completed	X		
2. ICV in control (+/- 10%)	X		
3. CCV's in control (+/- 10%)	X		
4. ICB/CCB's below MRL	X		
5. LLICV standard analyzed and in control	X		
6. ICS standards within 20% of true value	X		
6. All analytes within instrument linear range	X		
7. Adequate rinse out time allowed	X		
8. Internal standards in control	X		
9. Interferences checked	X		
10. Was the run terminated? If so, why.		X	

See Benchsheet exception report for sample batch QC information.

Comments:

Primary Review by _____ Date 6/7/18
Secondary Review by _____ Date 6/7/18

Data Review Form

Instrument ID#: **K-ICP-MS-03**
DataFile Name: **R:\ICP\WIP\DATA\K-ICP-MS-03 (X-Series)\060718AMS03.csv**
RUNNO: **593844**

K1804637

No exceptions to report.

K1804750

No exceptions to report.

K1804765

No exceptions to report.

Primary Approver: 6/7/18
Secondary Approver: RPM 6/7/18

Sample List

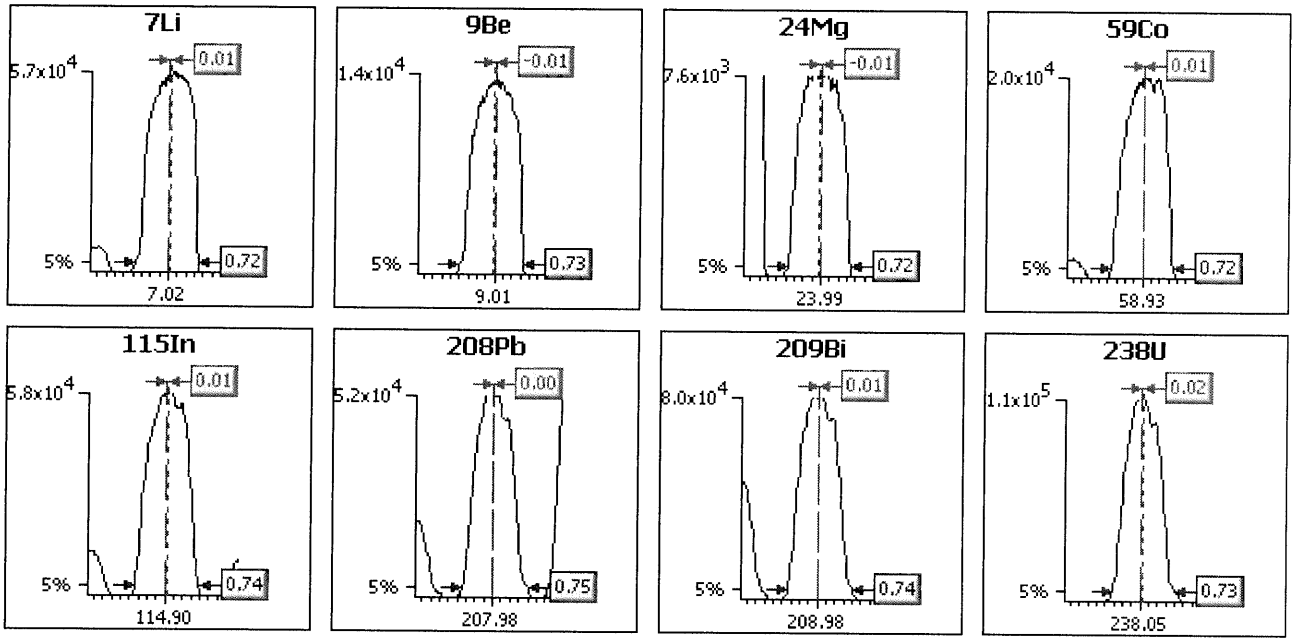
No	Label	Type	Weight	Rack	Row	Col	Height
1	Cal. Blk	Blank	1.000	0	1	1	145
2	Cal. Stn	Fully Quant Standard	1.000	0	1	2	145
3	ICV1	Unknown	1.000	0	1	3	145
4	CCV1	Unknown	1.000	0	1	2	145
5	ICB1	Unknown	1.000	0	1	1	145
6	CCB1	Unknown	1.000	0	1	1	145
7	LLICVR	Unknown	1.000	0	1	4	145
8	ICSA	Unknown	1.000	0	1	5	145
9	ICSAB	Unknown	1.000	0	1	6	145
10	KQ1807314-01	Unknown	1.000	1	1	1	145
11	KQ1807314-02	Unknown	1.000	1	1	2	145
12	K1804765-002	Unknown	1.000	1	1	3	145
13	KQ1807314-03	Unknown	1.000	1	1	4	145
14	K1804765-002L 5X	Unknown	1.000	1	1	5	145
15	K1804765-002A	Unknown	1.000	1	1	6	145
16	KQ1807314-04	Unknown	1.000	1	1	7	145
17	K1804765-003	Unknown	1.000	1	1	8	145
18	CCV	Unknown	1.000	0	1	2	145
19	CCB	Unknown	1.000	0	1	1	145
20	K1804765-002 DISS	Unknown	1.000	1	1	9	145
21	KQ1807314-05	Unknown	1.000	1	1	10	145
22	K1804765-002L 5X DISS	Unknown	1.000	1	1	11	145
23	K1804765-002A DISS	Unknown	1.000	1	1	12	145
24	KQ1807314-06	Unknown	1.000	1	2	1	145
25	K1804765-003	Unknown	1.000	1	2	2	145
26	K1804637-002	Unknown	1.000	1	2	3	145
27	K1804637-003	Unknown	1.000	1	2	4	145
28	K1804637-004	Unknown	1.000	1	2	5	145
29	CCV	Unknown	1.000	0	1	2	145
30	CCB	Unknown	1.000	0	1	1	145
31	K1804637-002 DISS	Unknown	1.000	1	2	6	145
32	K1804637-003 DISS	Unknown	1.000	1	2	7	145
33	K1804637-004 DISS	Unknown	1.000	1	2	8	145
34	K1804750-002	Unknown	1.000	1	2	9	145
35	K1804750-005	Unknown	1.000	1	2	10	145
36	K1804750-006	Unknown	1.000	1	2	11	145
37	K1804750-007	Unknown	1.000	1	2	12	145
38	K1804750-008	Unknown	1.000	1	3	1	145
39	K1804750-009	Unknown	1.000	1	3	2	145
40	CCV	Unknown	1.000	0	1	2	145
41	CCB	Unknown	1.000	0	1	1	145
42	K1804750-010	Unknown	1.000	1	3	3	145
43	K1804750-013	Unknown	1.000	1	3	4	145
44	K1804750-015	Unknown	1.000	1	3	5	145
45	K1804750-016	Unknown	1.000	1	3	6	145
46	CCV	Unknown	1.000	0	1	2	145
47	CCB	Unknown	1.000	0	1	1	145
48	LLCCVR	Unknown	1.000	0	1	4	145

Performance Report

Sample details
Acquired at : 6/7/2018 6:36:52 AM
Report name : Kelso Performance Report 3 [4/10/2018 7:16:20 AM]

Mass Calibration verification

Acquisition parameters
Sweeps : 100
Dwell : 1.0 mSecs
Point spacing : 0.01 amu
Peak width measured at 5% of the peak maximum



Analyte	Limits			Results	
	Max. width	Min. width	Max. error	Peak width	Peak error
7Li	0.90	0.60	0.10	0.72	0.01
9Be	0.90	0.60	0.10	0.73	-0.01
24Mg	0.90	0.60	0.10	0.72	-0.01
59Co	0.90	0.60	0.10	0.72	0.01
115In	0.90	0.60	0.10	0.74	0.01
208Pb	0.90	0.60	0.10	0.75	0.00
209Bi	0.90	0.60	0.10	0.74	0.01
238U	0.90	0.60	0.10	0.73	0.02

Sample details
Acquired at : 6/7/2018 6:36:52 AM
Report name : Kelso Performance Report 3 [4/10/2018 7:16:20 AM]

Tune conditions

Major	
Extraction	-122
Lens 1	3.8
Focus	18.0
D1	-43.1
Pole Bias	0.3
Hexapole Bias	0.3
Nebuliser	0.76
Sampling Depth	63

Minor	
Lens 2	-25.9
Lens 3	-149.8
Forward power	1341
Horizontal	122
Vertical	447
D2	-157
DA	-35.3
Cool	13.0
Auxiliary	0.80

Global	
Standard resolution	105
High resolution	71
Analogue Detector	1800
PC Detector	3630

Add. Gases

Sensitivity and stability results

Acquisition parameters
Sweeps : 143

Run	Time	5Bkg	7Li	9Be	24Mg	59Co	115In	140Ce	156Ce O	208Pb
Dwell (mSecs)		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Limits	%RSD	-	5.0%	5.0%	5.0%	5.0%	5.0%	-	-	5.0%
	Countrate	-	>1000	>1000	>1000	>1000	>1000	-	-	>1000
1	6:39:24 AM	0.699	54794.006	13028.910	8266.694	20938.771	56811.226	68509.625	774.159	52277.151
2	6:40:27 AM	0.000	55411.015	12647.953	8353.487	20925.454	56811.930	68428.598	767.865	51885.406
3	6:41:29 AM	0.000	55086.675	12909.859	8469.678	20708.875	56773.931	68654.065	769.263	52043.649
4	6:42:31 AM	0.000	55354.730	12808.317	8356.986	20811.206	57407.261	68791.461	783.251	51945.890
5	6:43:34 AM	0.000	56213.823	12947.675	8226.098	20894.614	57483.967	69346.705	703.524	52690.014
x		0.140	55372.050	12868.543	8334.588	20855.784	57057.663	68746.091	759.612	52168.422
σ		0.31	530.56	146.61	94.19	95.94	355.52	363.31	31.93	327.52
%RSD		223.607	0.958	1.139	1.130	0.460	0.623	0.528	4.203	0.628

Run	Time	209Bi	220Bkg	238U
Dwell (mSecs)		10.0	10.0	10.0
Limits	%RSD	5.0%	-	5.0%
	Countrate	>1000	-	>1000
1	6:39:24 AM	81361.764	0.000	105523.59
2	6:40:27 AM	81542.393	0.000	105620.51
3	6:41:29 AM	82375.024	0.000	106548.73
4	6:42:31 AM	81315.197	0.000	106513.35
5	6:43:34 AM	82180.972	0.000	106909.57
x		81755.070	0.000	106223.15
σ		489.68	0.00	615.21
%RSD		0.599	0.000	0.579

Ratio results

Run	Time	156Ce O/140Ce
Ratio limits		<0.0300
1	6:39:24 AM	0.011
2	6:40:27 AM	0.011
3	6:41:29 AM	0.011
4	6:42:31 AM	0.011
5	6:43:34 AM	0.010
x		0.0111
σ		0.00
%RSD		4.6309

Result : The performance report passed.

Dilution Corrected Concentrations

Cal. Blk 6/7/2018 6:59:34 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:59:34	-0.0047	0.0006	0.0216	0.0101	0.0731	99.4%	100.3%	0.0017	0.0002	0.0007
2	06:59:57	-0.0032	-0.0022	-0.0080	0.0314	-0.0103	100.2%	99.6%	-0.0001	-0.0012	-0.0011
3	07:00:19	0.0079	0.0016	-0.0136	-0.0415	-0.0627	100.4%	100.2%	-0.0015	0.0011	0.0004
x		0.0000	-0.0000	0.0000	-0.0000	0.0000	100.0%	100.0%	-0.0000	-0.0000	0.0000
σ		0.0069	0.0019	0.0189	0.0375	0.0685	0.5%	0.4%	0.0016	0.0012	0.0010
%RSD		0.0000	0.0000	0.0000	0.0000	0.0000	0.5	0.4	0.0000	0.0000	0.0000

Cal. Stn 6/7/2018 7:02:32 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:02:32	25.3155	24.9817	24.9752	25.5930	25.3435	95.8%	97.6%	25.0648	25.0942	25.0581
2	07:02:55	24.9068	24.8944	25.2273	24.3467	25.0825	95.1%	98.0%	24.7654	24.8415	24.7963
3	07:03:17	24.7777	25.1239	24.7975	25.0602	24.5740	95.1%	97.0%	25.1698	25.0643	25.1456
x		25.0000	25.0000	25.0000	25.0000	25.0000	95.3%	97.5%	25.0000	25.0000	25.0000
σ		0.2807	0.1158	0.2160	0.6253	0.3913	0.4%	0.5%	0.2098	0.1381	0.1817
%RSD		1.1230	0.4633	0.8640	2.5013	1.5653	0.4	0.5	0.8393	0.5524	0.7270

ICV1 6/7/2018 7:05:32 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:05:32	12.7957	12.9928	25.4450	28.6883	27.7891	89.3%	94.4%	25.2106	26.3621	25.7169
2	07:05:54	12.7163	12.7890	25.2792	28.0846	27.5404	89.8%	94.8%	25.0382	25.8988	25.4374
3	07:06:17	12.3269	12.4584	24.9861	27.2972	26.6387	91.0%	95.7%	24.9139	25.8474	25.3827
x		12.6130	12.7467	25.2368	28.0234	27.3227	90.0%	95.0%	25.0542	26.0361	25.5123
σ		0.2509	0.2697	0.2324	0.6976	0.6053	0.9%	0.7%	0.1490	0.2835	0.1792
%RSD		1.9892	2.1162	0.9207	2.4892	2.2153	1.0	0.7	0.5947	1.0889	0.7026

CCV1 6/7/2018 7:08:29 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:08:29	24.7935	24.8643	24.9925	24.9829	24.4779	88.7%	94.1%	24.9520	24.9833	24.9353
2	07:08:52	24.6975	24.9227	24.8790	24.6634	24.7059	88.7%	93.2%	25.2481	25.2390	25.2649
3	07:09:15	24.5486	24.6122	24.7903	24.4509	24.6953	88.9%	93.0%	24.9514	25.0943	25.1385
x		24.6799	24.7997	24.8873	24.6990	24.6264	88.8%	93.4%	25.0505	25.1055	25.1129
σ		0.1234	0.1650	0.1014	0.2678	0.1287	0.1%	0.6%	0.1712	0.1282	0.1663
%RSD		0.5000	0.6653	0.4073	1.0842	0.5225	0.2	0.6	0.6833	0.5107	0.6622

ICB1 6/7/2018 7:11:27 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:11:27	0.0106	-0.0025	0.0943	0.0910	0.0288	85.8%	92.2%	0.0023	0.0051	0.0036
2	07:11:50	0.0066	-0.0049	0.0536	-0.0127	0.0264	85.9%	92.3%	0.0021	0.0046	0.0042
3	07:12:13	-0.0011	0.0267	0.0446	0.0060	-0.0160	85.9%	91.9%	0.0056	0.0023	0.0035
x		0.0054	0.0065	0.0642	0.0281	0.0131	85.9%	92.1%	0.0033	0.0040	0.0038
σ		0.0060	0.0176	0.0265	0.0553	0.0252	0.1%	0.2%	0.0020	0.0015	0.0004
%RSD		110.3945	272.5501	41.3383	196.9017	193.0006	0.1	0.2	60.6654	36.7527	10.2171

CCB1 6/7/2018 7:14:26 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:14:26	-0.0110	-0.0053	0.0854	0.0226	-0.0308	84.1%	90.6%	-0.0054	0.0011	-0.0021
2	07:14:48	-0.0026	-0.0006	0.0702	0.0802	-0.0204	84.1%	91.7%	-0.0011	0.0031	0.0005
3	07:15:11	0.0167	-0.0055	0.0158	0.0884	-0.0770	84.4%	91.0%	-0.0012	0.0028	0.0014
x		0.0010	-0.0038	0.0571	0.0637	-0.0427	84.2%	91.1%	-0.0026	0.0023	-0.0001
σ		0.0142	0.0028	0.0366	0.0359	0.0302	0.2%	0.5%	0.0024	0.0010	0.0018
%RSD		1373.8586	72.2348	64.0620	56.3069	70.5935	0.2	0.6	93.7103	44.5257	2137.5703

LLICVR 6/7/2018 7:17:25 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:17:25	0.9092	0.9518	4.6026	4.5403	4.5271	83.1%	90.5%	0.1885	0.2011	0.1909
2	07:17:47	0.9576	0.9184	4.5425	4.3324	4.4498	84.2%	90.4%	0.1833	0.1968	0.1904
3	07:18:09	0.9572	0.9927	4.5986	4.6873	4.2712	83.7%	90.7%	0.1830	0.2033	0.1915
x		0.9413	0.9543	4.5812	4.5200	4.4160	83.6%	90.6%	0.1850	0.2004	0.1909
σ		0.0278	0.0372	0.0336	0.1784	0.1312	0.6%	0.2%	0.0031	0.0033	0.0006
%RSD		2.9530	3.9005	0.7339	3.9459	2.9720	0.7	0.2	1.6573	1.6311	0.2973

ICSA 6/7/2018 7:20:25 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:20:25	1.3488	1.0216	1.1193	2.1726	0.7224	79.2%	87.6%	0.1646	0.1607	0.1573
2	07:20:47	1.3615	0.9828	1.0774	2.1104	0.8320	78.9%	87.3%	0.1736	0.1611	0.1637
3	07:21:10	1.3609	0.9355	1.0620	2.1192	0.8821	79.6%	87.5%	0.1679	0.1589	0.1602
x		1.3571	0.9800	1.0862	2.1341	0.8122	79.2%	87.4%	0.1687	0.1602	0.1604
σ		0.0072	0.0432	0.0297	0.0337	0.0817	0.4%	0.2%	0.0045	0.0011	0.0032
%RSD		0.5271	4.4041	2.7308	1.5783	10.0574	0.4	0.2	2.6793	0.7143	1.9971

ICSAB 6/7/2018 7:23:26 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:23:26	48.1311	48.1078	24.6423	24.2393	23.4518	79.6%	88.0%	0.1668	0.1562	0.1599
2	07:23:49	47.5281	47.9645	24.1181	24.1257	23.0553	80.8%	87.8%	0.1746	0.1422	0.1589
3	07:24:11	47.5535	46.8421	24.1147	24.9926	23.6534	80.1%	88.0%	0.1655	0.1574	0.1566
x		47.7376	47.6381	24.2917	24.4525	23.3868	80.2%	87.9%	0.1690	0.1519	0.1584
σ		0.3411	0.6931	0.3036	0.4711	0.3043	0.6%	0.1%	0.0049	0.0084	0.0017
%RSD		0.7144	1.4549	1.2499	1.9267	1.3013	0.7	0.1	2.9205	5.5470	1.0703

KQ1807314-01 6/7/2018 7:26:26 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:26:26	0.3226	-0.0155	-0.0793	0.0915	-0.0945	87.6%	93.6%	-0.0007	0.0050	0.0009
2	07:26:49	0.2799	-0.0021	-0.0672	-0.0768	-0.1544	88.6%	94.8%	-0.0027	-0.0026	-0.0022
3	07:27:11	0.2956	-0.0006	-0.0962	-0.0064	-0.1639	89.2%	95.3%	0.0005	-0.0022	-0.0010
x		0.2994	-0.0061	-0.0809	0.0028	-0.1376	88.5%	94.6%	-0.0010	0.0001	-0.0008
σ		0.0216	0.0082	0.0146	0.0845	0.0376	0.8%	0.9%	0.0016	0.0043	0.0015
%RSD		7.2235	134.7313	17.9920	3059.6365	27.3292	0.9	0.9	165.0799	5128.3993	194.5975

KQ1807314-02 6/7/2018 7:29:23 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:29:23	18.4786	17.9958	19.1409	18.7607	18.8132	95.0%	96.0%	18.6978	18.7088	18.6268
2	07:29:45	18.6365	18.8102	19.0305	18.8356	19.0381	94.4%	97.1%	18.6184	18.6840	18.5946
3	07:30:07	18.5297	18.6686	19.1094	18.8556	19.3368	94.2%	96.3%	18.6626	18.7059	18.6455
x		18.5483	18.4915	19.0936	18.8173	19.0627	94.5%	96.4%	18.6596	18.6995	18.6223
σ		0.0806	0.4351	0.0569	0.0500	0.2627	0.4%	0.6%	0.0398	0.0136	0.0257
%RSD		0.4345	2.3531	0.2977	0.2659	1.3779	0.4	0.6	0.2131	0.0725	0.1381

K1804765-002 6/7/2018 7:32:20 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:32:20	17.4116	15.4408	184.2606	176.1221	178.7952	85.2%	91.8%	1.7619	1.8100	1.7944
2	07:32:42	17.1489	15.5369	183.7188	175.7056	178.7904	85.6%	91.8%	1.8340	1.8370	1.8313
3	07:33:04	17.2073	15.5951	184.7794	178.2362	179.5360	85.5%	91.7%	1.7931	1.8753	1.8172
x		17.2559	15.5243	184.2529	176.6880	179.0406	85.4%	91.8%	1.7963	1.8408	1.8143
σ		0.1379	0.0779	0.5303	1.3569	0.4291	0.2%	0.1%	0.0361	0.0328	0.0187
%RSD		0.7994	0.5019	0.2878	0.7679	0.2397	0.2	0.1	2.0115	1.7832	1.0289

KQ1807314-03 6/7/2018 7:35:17 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:35:17	17.2030	15.0628	182.7473	177.4882	178.4414	86.1%	92.5%	1.8263	1.8872	1.8492
2	07:35:39	17.2589	15.3395	184.4280	176.9325	179.2161	85.6%	92.4%	1.8325	1.8312	1.8387
3	07:36:02	16.7739	15.3095	180.8577	172.6245	176.2147	86.8%	91.8%	1.8409	1.8700	1.8379
x		17.0786	15.2373	182.6777	175.6817	177.9574	86.2%	92.2%	1.8332	1.8628	1.8419
σ		0.2654	0.1519	1.7862	2.6622	1.5581	0.6%	0.4%	0.0073	0.0287	0.0063
%RSD		1.5538	0.9967	0.9778	1.5153	0.8756	0.7	0.4	0.3998	1.5395	0.3432

K1804765-002L 5X 6/7/2018 7:38:15 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:38:15	3.4491	3.1408	36.8239	35.0768	36.0292	92.3%	96.4%	0.3663	0.3682	0.3621
2	07:38:37	3.5163	3.1257	36.6222	34.4334	35.9886	92.5%	95.6%	0.3586	0.3799	0.3701
3	07:39:00	3.5144	3.1188	36.3413	35.0791	36.3775	91.9%	95.9%	0.3510	0.3604	0.3583
x		3.4933	3.1284	36.5958	34.8631	36.1318	92.2%	96.0%	0.3587	0.3695	0.3635
σ		0.0383	0.0113	0.2424	0.3721	0.2138	0.3%	0.4%	0.0076	0.0098	0.0061
%RSD		1.0952	0.3599	0.6622	1.0674	0.5916	0.3	0.4	2.1320	2.6574	1.6674

K1804765-002A 6/7/2018 7:41:14 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:41:14	64.3950	62.9137	232.6668	225.5550	229.0245	84.2%	91.2%	48.8384	49.1791	49.0453
2	07:41:36	63.5363	62.5998	231.7574	223.7910	226.6635	84.7%	90.8%	49.0597	49.2879	49.2282
3	07:41:59	64.0061	62.8148	231.5199	224.7806	227.5168	84.2%	91.3%	48.7013	48.7688	48.7819
x		63.9791	62.7761	231.9813	224.7089	227.7349	84.4%	91.1%	48.8665	49.0786	49.0185
σ		0.4300	0.1605	0.6054	0.8842	1.1955	0.3%	0.3%	0.1808	0.2737	0.2244
%RSD		0.6720	0.2557	0.2610	0.3935	0.5250	0.4	0.3	0.3700	0.5578	0.4577

KQ1807314-04 6/7/2018 7:44:12 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:44:12	34.9421	33.2370	204.0012	195.3597	199.1852	84.2%	91.0%	19.3340	19.4023	19.3006
2	07:44:34	34.3499	32.8918	203.8192	194.4341	197.9706	84.5%	91.4%	19.2572	19.3265	19.2374
3	07:44:56	33.9151	32.2306	201.3879	193.3933	196.4231	85.1%	90.9%	19.4523	19.4595	19.3029
x		34.4024	32.7865	203.0694	194.3957	197.8596	84.6%	91.1%	19.3478	19.3961	19.2803
σ		0.5155	0.5114	1.4591	0.9838	1.3844	0.4%	0.3%	0.0983	0.0667	0.0371
%RSD		1.4985	1.5599	0.7185	0.5061	0.6997	0.5	0.3	0.5080	0.3439	0.1927

K1804765-003 6/7/2018 7:47:10 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:47:10	1046.5898	1344.4055	1101.1453	1037.4157	1067.3146	81.5%	87.1%	82.9602	81.0408	81.9309
2	07:47:33	1023.5691	1323.5275	1091.2187	1022.2057	1062.3923	81.6%	87.8%	81.9071	79.9617	81.0283
3	07:47:56	1027.5275	1333.1342	1102.2705	1042.3751	1071.1364	80.3%	87.5%	81.5368	79.9295	80.7023
x		1032.5621	1333.6891	1098.2115	1033.9988	1066.9478	81.1%	87.5%	82.1347	80.3107	81.2205
σ		12.3085	10.4501	6.0820	10.5099	4.3836	0.7%	0.3%	0.7385	0.6325	0.6364
%RSD		1.1920	0.7835	0.5538	1.0164	0.4109	0.9	0.4	0.8992	0.7876	0.7836

CCV 6/7/2018 7:50:10 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:50:10	24.7172	24.5354	24.2405	24.8448	24.8480	88.1%	92.7%	25.2421	25.0530	25.0575
2	07:50:32	24.4823	24.7922	24.7439	25.0425	24.7410	88.6%	92.9%	25.3361	25.0788	25.1775
3	07:50:54	24.7496	25.0296	25.1400	24.7048	25.3830	88.3%	93.0%	25.2176	25.1776	25.2840
x		24.6497	24.7857	24.7082	24.8640	24.9907	88.3%	92.9%	25.2653	25.1031	25.1730
σ		0.1459	0.2472	0.4508	0.1697	0.3439	0.2%	0.1%	0.0626	0.0658	0.1133
%RSD		0.5919	0.9972	1.8246	0.6823	1.3762	0.3	0.1	0.2477	0.2619	0.4500

CCB 6/7/2018 7:53:07 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:53:07	0.0927	0.0214	0.1752	0.1398	0.0771	90.7%	94.5%	0.0032	0.0018	0.0019
2	07:53:30	0.1157	0.0306	0.1305	0.2045	0.0275	90.2%	94.1%	0.0061	0.0001	0.0033
3	07:53:52	0.1055	0.0264	0.0527	0.1605	0.0568	90.1%	94.3%	0.0024	0.0021	0.0024
x		0.1046	0.0261	0.1195	0.1682	0.0538	90.4%	94.3%	0.0039	0.0013	0.0025
σ		0.0115	0.0046	0.0620	0.0330	0.0250	0.3%	0.2%	0.0019	0.0011	0.0007
%RSD		11.0286	17.5036	51.8618	19.6430	46.3683	0.3	0.2	49.5259	83.5596	27.8508

K1804765-002 DISS 6/7/2018 7:56:06 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:56:06	16.4713	14.8105	183.9628	174.5720	179.1195	83.7%	90.1%	0.8241	0.8005	0.8174
2	07:56:28	16.4591	14.6949	184.5859	178.6371	178.8905	83.7%	90.8%	0.8294	0.8119	0.8213
3	07:56:51	16.2795	14.8521	183.7672	174.4191	177.6129	84.8%	90.3%	0.8324	0.8161	0.8216
x		16.4033	14.7858	184.1053	175.8761	178.5410	84.1%	90.4%	0.8286	0.8095	0.8201
σ		0.1074	0.0814	0.4276	2.3923	0.8119	0.6%	0.4%	0.0042	0.0081	0.0023
%RSD		0.6547	0.5508	0.2322	1.3602	0.4547	0.8	0.4	0.5068	0.9956	0.2821

KQ1807314-05 6/7/2018 7:59:06 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:59:06	14.8741	12.8106	178.5663	169.9121	174.5696	84.5%	91.1%	0.8533	0.8214	0.8518
2	07:59:28	14.6095	12.9305	179.1009	169.3298	173.5654	85.3%	90.8%	0.8801	0.8773	0.8671
3	07:59:51	14.5580	13.1027	177.7078	169.4897	172.2952	85.5%	91.5%	0.8125	0.8605	0.8310
x		14.6805	12.9479	178.4583	169.5772	173.4767	85.1%	91.1%	0.8486	0.8531	0.8500
σ		0.1696	0.1468	0.7028	0.3009	1.1397	0.5%	0.3%	0.0341	0.0287	0.0182
%RSD		1.1553	1.1337	0.3938	0.1774	0.6570	0.6	0.4	4.0135	3.3641	2.1361

K1804765-002L 5X DISS 6/7/2018 8:02:06 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:02:06	3.4555	3.1530	37.8779	36.2033	36.2606	89.4%	93.5%	0.1691	0.1783	0.1786
2	08:02:28	3.4948	2.9826	37.2175	35.8227	36.1837	90.1%	94.1%	0.1798	0.1750	0.1747
3	08:02:51	3.4297	2.8514	37.1990	36.2531	36.4022	90.2%	94.6%	0.1778	0.1937	0.1835
x		3.4600	2.9957	37.4315	36.0930	36.2822	89.9%	94.1%	0.1756	0.1823	0.1789
σ		0.0328	0.1512	0.3867	0.2354	0.1108	0.4%	0.5%	0.0057	0.0100	0.0044
%RSD		0.9472	5.0471	1.0332	0.6523	0.3055	0.5	0.5	3.2415	5.4850	2.4637

K1804765-002A DISS 6/7/2018 8:05:06 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:05:06	62.5077	60.8806	230.3817	220.7845	224.8982	82.9%	89.1%	48.2077	48.4488	48.1660
2	08:05:28	63.8498	62.5246	235.4936	229.6456	230.6923	81.1%	89.5%	48.0490	48.1774	48.0732
3	08:05:51	63.3413	61.2606	232.0672	224.5485	226.6899	82.2%	89.5%	48.3806	48.1636	48.2258
x		63.2329	61.5553	232.6475	224.9929	227.4268	82.1%	89.4%	48.2124	48.2633	48.1550
σ		0.6776	0.8607	2.6049	4.4472	2.9665	0.9%	0.2%	0.1659	0.1609	0.0769
%RSD		1.0716	1.3983	1.1197	1.9766	1.3044	1.1	0.2	0.3440	0.3333	0.1597

KQ1807314-06 6/7/2018 8:08:04 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:08:04	31.8000	29.7082	198.3652	188.2390	194.8180	83.0%	89.9%	18.2846	18.1384	18.2265
2	08:08:27	31.9977	29.7349	199.4263	188.5458	194.6545	82.5%	89.6%	18.2434	18.3600	18.2589
3	08:08:49	31.4523	29.3272	197.7303	190.1845	193.3373	83.0%	90.2%	18.1585	18.2116	18.1780
x		31.7500	29.5901	198.5073	188.9897	194.2699	82.8%	89.9%	18.2289	18.2367	18.2211
σ		0.2761	0.2281	0.8569	1.0460	0.8118	0.3%	0.3%	0.0643	0.1129	0.0407
%RSD		0.8696	0.7707	0.4316	0.5535	0.4179	0.3	0.4	0.3527	0.6192	0.2233

K1804765-003 6/7/2018 8:11:00 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:11:00	98.7869	95.5344	303.9255	289.2993	296.7220	79.9%	87.1%	3.7222	3.6841	3.6871
2	08:11:23	98.6229	95.0180	302.6925	288.2856	295.5178	80.2%	88.2%	3.6667	3.6735	3.6798
3	08:11:46	98.2725	94.4284	305.6858	290.3949	294.4845	79.7%	88.2%	3.6679	3.6402	3.6761
x		98.5608	94.9936	304.1013	289.3266	295.5748	80.0%	87.8%	3.6856	3.6660	3.6810
σ		0.2628	0.5534	1.5044	1.0549	1.1198	0.3%	0.6%	0.0317	0.0229	0.0056
%RSD		0.2666	0.5825	0.4947	0.3646	0.3789	0.3	0.7	0.8598	0.6248	0.1513

K1804637-002 6/7/2018 8:13:58 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:13:58	8.0472	6.1654	7.3562	7.2290	7.2062	84.4%	90.5%	1.8559	1.8275	1.8461
2	08:14:21	8.2587	6.2841	7.2316	7.0928	7.4063	84.2%	90.8%	1.8705	1.8214	1.8329
3	08:14:43	8.1285	6.1433	7.4489	7.5140	7.1966	85.5%	90.9%	1.8538	1.8882	1.8391
x		8.1448	6.1976	7.3456	7.2786	7.2697	84.7%	90.7%	1.8601	1.8457	1.8394
σ		0.1067	0.0757	0.1091	0.2149	0.1184	0.7%	0.2%	0.0091	0.0370	0.0066
%RSD		1.3097	1.2219	1.4848	2.9528	1.6284	0.8	0.2	0.4898	2.0029	0.3611

K1804637-003 6/7/2018 8:16:56 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:16:56	5.1687	3.6463	102.4069	102.0794	101.4893	82.9%	89.2%	2.8092	2.7064	2.7525
2	08:17:18	5.1051	3.5570	101.7801	99.5727	100.9101	83.5%	89.9%	2.8025	2.6834	2.7407
3	08:17:41	5.1023	3.4916	101.8195	99.0525	100.2495	83.8%	89.6%	2.8241	2.7279	2.7490
x		5.1254	3.5650	102.0022	100.2349	100.8830	83.4%	89.6%	2.8119	2.7059	2.7474
σ		0.0375	0.0777	0.3511	1.6185	0.6204	0.5%	0.3%	0.0111	0.0222	0.0060
%RSD		0.7326	2.1794	0.3442	1.6147	0.6149	0.6	0.4	0.3937	0.8210	0.2194

K1804637-004 6/7/2018 8:19:54 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:19:54	19.0475	16.1956	555.5472	525.4731	540.5469	82.0%	88.7%	25.4293	25.4590	25.3840
2	08:20:17	19.1563	16.6135	561.5675	533.5608	546.3446	80.9%	89.0%	25.5399	25.3650	25.3828
3	08:20:39	19.0573	16.2034	551.4674	522.0575	534.3191	82.3%	88.6%	25.4410	25.3662	25.4088
x		19.0870	16.3375	556.1940	527.0305	540.4035	81.7%	88.8%	25.4701	25.3967	25.3919
σ		0.0602	0.2390	5.0810	5.9077	6.0140	0.7%	0.2%	0.0607	0.0539	0.0147
%RSD		0.3153	1.4630	0.9135	1.1209	1.1129	0.9	0.2	0.2385	0.2123	0.0577

CCV 6/7/2018 8:22:53 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:22:53	24.9350	24.3603	24.8748	25.6106	24.9452	89.0%	93.7%	24.8465	24.7462	24.7827
2	08:23:16	24.8052	24.4908	24.7814	25.0669	25.3988	88.6%	93.3%	24.8343	24.9138	24.8583
3	08:23:38	24.9243	24.8002	24.9855	24.9323	25.0791	88.6%	93.4%	25.2594	25.0289	25.0176
x		24.8882	24.5504	24.8806	25.2033	25.1410	88.7%	93.5%	24.9800	24.8963	24.8862
σ		0.0720	0.2259	0.1022	0.3591	0.2331	0.2%	0.2%	0.2420	0.1421	0.1199
%RSD		0.2895	0.9202	0.4107	1.4249	0.9271	0.3	0.2	0.9688	0.5708	0.4818

CCB 6/7/2018 8:25:51 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:25:51	0.0619	0.0149	0.1104	0.0759	0.0235	89.0%	92.7%	0.0024	0.0059	0.0031
2	08:26:13	0.0846	0.0008	0.1413	0.2125	0.0240	88.9%	93.7%	0.0046	0.0031	0.0035
3	08:26:36	0.0720	-0.0191	0.0949	-0.0065	0.0126	89.3%	93.8%	-0.0015	0.0092	0.0045
x		0.0729	-0.0011	0.1155	0.0940	0.0200	89.1%	93.4%	0.0018	0.0061	0.0037
σ		0.0113	0.0171	0.0236	0.1106	0.0064	0.2%	0.6%	0.0031	0.0030	0.0007
%RSD		15.5541	1498.6428	20.4443	117.6761	32.2093	0.2	0.7	169.2816	49.5039	18.7336

K1804637-002 DISS 6/7/2018 8:28:49 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:28:49	3.7495	1.8770	6.3469	6.6444	6.7448	81.7%	89.2%	0.5369	0.5500	0.5468
2	08:29:11	3.7953	1.9247	6.4631	7.1485	6.5452	80.8%	88.7%	0.5658	0.5581	0.5479
3	08:29:34	3.7212	1.7701	6.4402	5.9784	6.4510	82.0%	88.4%	0.5574	0.5599	0.5469
x		3.7553	1.8573	6.4168	6.5904	6.5803	81.5%	88.8%	0.5534	0.5560	0.5472
σ		0.0374	0.0792	0.0615	0.5869	0.1500	0.6%	0.4%	0.0149	0.0052	0.0006
%RSD		0.9953	4.2625	0.9590	8.9049	2.2799	0.8	0.4	2.6861	0.9430	0.1166

K1804637-003 DISS 6/7/2018 8:31:48 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:31:48	3.8901	2.3714	26.7601	28.7502	28.2587	81.9%	88.8%	1.4290	1.3644	1.3844
2	08:32:10	3.9060	2.2745	26.9223	28.0547	28.2453	82.0%	89.7%	1.4078	1.3592	1.3613
3	08:32:33	3.8172	2.3001	26.5132	27.2516	27.3830	84.4%	89.9%	1.3975	1.3363	1.3584
x		3.8711	2.3154	26.7319	28.0188	27.9623	82.8%	89.5%	1.4114	1.3533	1.3681
σ		0.0474	0.0503	0.2060	0.7499	0.5018	1.4%	0.6%	0.0161	0.0150	0.0142
%RSD		1.2237	2.1703	0.7706	2.6765	1.7945	1.7	0.7	1.1410	1.1049	1.0414

K1804637-004 DISS 6/7/2018 8:34:47 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:34:47	17.0543	14.5799	561.0584	527.1300	542.5354	81.6%	89.0%	0.3749	0.3622	0.3758
2	08:35:09	17.0115	14.2771	554.0283	527.1470	537.9232	82.2%	89.0%	0.3772	0.3765	0.3731
3	08:35:32	16.7730	14.2008	555.0520	527.8324	538.7751	82.4%	88.8%	0.3949	0.3765	0.3751
x		16.9463	14.3526	556.7129	527.3698	539.7446	82.1%	88.9%	0.3823	0.3717	0.3747
σ		0.1516	0.2005	3.7980	0.4007	2.4542	0.4%	0.1%	0.0109	0.0083	0.0014
%RSD		0.8946	1.3969	0.6822	0.0760	0.4547	0.5	0.2	2.8606	2.2319	0.3669

K1804750-002 6/7/2018 8:37:46 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:37:46	1.3569	0.6336	5.9693	10.0156	8.8569	85.0%	90.4%	0.3692	0.3550	0.3650
2	08:38:09	1.3839	0.6668	5.8973	9.9847	8.6195	85.5%	91.3%	0.3686	0.3461	0.3549
3	08:38:31	1.3573	0.6466	5.9290	10.2065	8.6376	84.7%	90.3%	0.3771	0.3674	0.3722
x		1.3660	0.6490	5.9318	10.0689	8.7047	85.1%	90.7%	0.3716	0.3562	0.3640
σ		0.0155	0.0168	0.0361	0.1202	0.1322	0.4%	0.5%	0.0047	0.0107	0.0087
%RSD		1.1332	2.5815	0.6081	1.1933	1.5184	0.5	0.6	1.2750	3.0068	2.3882

K1804750-005 6/7/2018 8:40:47 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:40:47	0.6753	0.3828	0.9679	1.3742	1.0169	86.0%	92.1%	1.2790	1.1589	1.2043
2	08:41:09	0.7064	0.3710	0.9695	1.2974	1.0797	86.1%	92.3%	1.2573	1.1779	1.2118
3	08:41:32	0.6858	0.3353	1.0632	1.3588	1.0540	85.3%	92.3%	1.2852	1.1584	1.1973
x		0.6891	0.3630	1.0002	1.3435	1.0502	85.8%	92.3%	1.2738	1.1651	1.2044
σ		0.0158	0.0247	0.0546	0.0406	0.0316	0.4%	0.1%	0.0146	0.0111	0.0072
%RSD		2.2925	6.8099	5.4583	3.0231	3.0083	0.5	0.1	1.1488	0.9541	0.6015

K1804750-006 6/7/2018 8:43:47 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:43:47	5.0337	3.8956	10.6098	10.7419	10.2680	84.9%	90.8%	0.5926	0.6084	0.6018
2	08:44:10	5.0615	3.8851	10.2476	9.8876	9.9118	86.0%	91.0%	0.6156	0.6029	0.6107
3	08:44:32	5.0461	3.8639	10.1629	10.3583	10.3445	85.4%	91.9%	0.6095	0.5891	0.5921
x		5.0471	3.8816	10.3401	10.3293	10.1748	85.4%	91.2%	0.6059	0.6001	0.6015
σ		0.0139	0.0162	0.2374	0.4279	0.2309	0.6%	0.6%	0.0119	0.0099	0.0093
%RSD		0.2763	0.4163	2.2959	4.1424	2.2693	0.6	0.7	1.9680	1.6540	1.5422

K1804750-007 6/7/2018 8:46:47 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:46:47	0.9030	0.6297	2.7351	4.7978	3.8049	86.1%	91.9%	0.2921	0.2951	0.2972
2	08:47:10	0.9374	0.5786	2.7654	4.6686	3.9557	85.6%	92.9%	0.3021	0.2909	0.3015
3	08:47:32	0.9381	0.6179	2.8038	4.6918	4.1098	85.4%	92.8%	0.3128	0.3097	0.3104
x		0.9262	0.6088	2.7681	4.7194	3.9568	85.7%	92.5%	0.3023	0.2986	0.3030
σ		0.0200	0.0268	0.0345	0.0689	0.1524	0.4%	0.5%	0.0104	0.0098	0.0067
%RSD		2.1645	4.3967	1.2456	1.4592	3.8518	0.4	0.6	3.4296	3.2953	2.2130

K1804750-008 6/7/2018 8:49:46 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:49:46	14.8923	14.7124	12.4061	11.9763	11.8038	88.0%	93.1%	0.3139	0.2960	0.3031
2	08:50:09	15.1838	14.4308	12.1796	11.8460	11.9508	87.2%	93.2%	0.3087	0.3154	0.3180
3	08:50:31	14.9284	14.3860	11.8811	11.6644	11.5304	87.0%	93.6%	0.3281	0.3102	0.3121
x		15.0015	14.5097	12.1556	11.8289	11.7617	87.4%	93.3%	0.3169	0.3072	0.3111
σ		0.1589	0.1770	0.2633	0.1566	0.2133	0.5%	0.2%	0.0100	0.0101	0.0075
%RSD		1.0590	1.2196	2.1663	1.3242	1.8139	0.6	0.2	3.1713	3.2807	2.4118

K1804750-009 6/7/2018 8:52:44 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:52:44	5.7949	5.0472	10.8590	11.9220	11.8809	85.4%	91.2%	1.2529	1.2236	1.2276
2	08:53:06	5.9397	5.1475	11.1313	11.9570	12.0357	84.9%	90.6%	1.2555	1.2479	1.2370
3	08:53:29	6.0158	5.0895	11.0132	12.0147	12.0756	84.5%	89.8%	1.2521	1.2839	1.2671
x		5.9168	5.0948	11.0011	11.9646	11.9974	84.9%	90.5%	1.2535	1.2518	1.2439
σ		0.1122	0.0504	0.1365	0.0468	0.1028	0.5%	0.7%	0.0017	0.0303	0.0206
%RSD		1.8966	0.9885	1.2410	0.3911	0.8571	0.5	0.8	0.1391	2.4239	1.6559

CCV 6/7/2018 8:55:42 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:55:42	24.8824	24.3844	24.9146	25.4775	24.2376	92.0%	94.8%	24.9861	25.0173	24.9091
2	08:56:05	25.1462	24.7941	24.8661	24.8059	24.7535	92.3%	95.2%	24.9044	24.9347	24.8217
3	08:56:27	25.0524	24.6094	25.3149	24.5243	24.7151	92.6%	95.2%	24.9887	24.8551	24.9165
x		25.0270	24.5960	25.0319	24.9359	24.5687	92.3%	95.1%	24.9597	24.9357	24.8824
σ		0.1337	0.2052	0.2463	0.4897	0.2874	0.3%	0.2%	0.0480	0.0811	0.0527
%RSD		0.5343	0.8342	0.9840	1.9640	1.1699	0.3	0.2	0.1922	0.3252	0.2119

CCB 6/7/2018 8:58:40 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:58:40	0.0326	0.0099	0.0977	0.0627	-0.0285	94.2%	95.3%	0.0050	0.0017	0.0041
2	08:59:02	0.0625	0.0220	0.0646	0.0566	-0.0538	93.6%	95.9%	0.0023	0.0027	0.0016
3	08:59:25	0.0380	0.0078	0.0380	0.0834	0.0862	93.3%	95.9%	-0.0005	0.0016	0.0032
x		0.0444	0.0132	0.0668	0.0676	0.0013	93.7%	95.7%	0.0023	0.0020	0.0030
σ		0.0159	0.0077	0.0299	0.0141	0.0746	0.4%	0.3%	0.0027	0.0006	0.0012
%RSD		35.8301	58.0502	44.7407	20.8441	5797.5260	0.5	0.3	119.2573	31.2208	41.9525

K1804750-010 6/7/2018 9:01:38 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:01:38	23.4632	22.5463	92.2012	88.5758	89.4773	85.8%	92.1%	0.9958	1.0306	1.0125
2	09:02:01	23.2018	21.9287	91.4943	87.1418	89.1032	86.6%	92.5%	0.9791	1.0201	1.0080
3	09:02:23	22.9114	22.2237	90.4615	86.3623	88.3857	86.5%	92.3%	1.0214	1.0165	1.0069
x		23.1921	22.2329	91.3857	87.3600	88.9887	86.3%	92.3%	0.9987	1.0224	1.0091
σ		0.2760	0.3089	0.8749	1.1228	0.5547	0.5%	0.2%	0.0213	0.0073	0.0030
%RSD		1.1902	1.3893	0.9574	1.2852	0.6234	0.5	0.2	2.1344	0.7137	0.2949

K1804750-013 6/7/2018 9:04:36 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:04:36	0.9095	0.6949	2.0920	3.8313	3.3639	85.4%	91.4%	0.3100	0.3173	0.3164
2	09:04:59	0.9781	0.6977	2.2081	4.0227	3.1765	85.0%	92.0%	0.3103	0.3315	0.3064
3	09:05:21	1.0001	0.6980	1.9887	3.9745	3.1201	85.5%	92.0%	0.3196	0.3118	0.3135
x		0.9626	0.6969	2.0963	3.9428	3.2202	85.3%	91.8%	0.3133	0.3202	0.3121
σ		0.0473	0.0017	0.1098	0.0995	0.1276	0.3%	0.4%	0.0055	0.0102	0.0052
%RSD		4.9117	0.2445	5.2364	2.5248	3.9624	0.3	0.4	1.7440	3.1705	1.6535

K1804750-015 6/7/2018 9:07:34 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:07:34	11.8936	11.0980	123.8082	117.8464	120.0048	87.0%	92.8%	4.9549	4.8272	4.8610
2	09:07:57	11.9911	11.2087	124.2360	119.9863	120.3990	86.6%	93.2%	4.8397	4.7643	4.8090
3	09:08:19	11.9091	11.3388	124.2147	120.4719	121.1826	87.1%	93.0%	4.9134	4.7709	4.8136
x		11.9312	11.2152	124.0863	119.4349	120.5288	86.9%	93.0%	4.9026	4.7875	4.8279
σ		0.0524	0.1205	0.2411	1.3969	0.5996	0.2%	0.2%	0.0584	0.0346	0.0288
%RSD		0.4390	1.0743	0.1943	1.1696	0.4974	0.3	0.2	1.1903	0.7221	0.5963

K1804750-016 6/7/2018 9:10:33 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:10:33	1.9539	1.1763	6.3485	9.6680	8.6759	82.9%	90.1%	0.5341	0.5276	0.5366
2	09:10:56	1.9160	1.1104	6.0505	9.1855	8.3309	82.4%	90.6%	0.5431	0.5306	0.5442
3	09:11:18	1.8944	1.1614	6.1896	9.0629	8.5647	82.5%	90.9%	0.5469	0.5626	0.5432
x		1.9214	1.1494	6.1962	9.3055	8.5238	82.6%	90.5%	0.5414	0.5403	0.5413
σ		0.0302	0.0345	0.1491	0.3199	0.1761	0.2%	0.4%	0.0065	0.0194	0.0041
%RSD		1.5696	3.0048	2.4067	3.4381	2.0658	0.3	0.4	1.2094	3.5825	0.7624

CCV 6/7/2018 9:13:32 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:13:32	24.7445	24.6628	24.8140	25.0170	25.2941	86.6%	92.7%	25.2089	25.0087	25.0303
2	09:13:54	24.8203	24.4754	24.7592	26.0169	25.0050	88.1%	93.0%	25.3269	24.9056	25.0764
3	09:14:17	25.0869	25.1488	25.0875	26.0444	25.6089	87.3%	94.3%	25.0077	25.0201	24.9642
x		24.8839	24.7623	24.8869	25.6927	25.3027	87.3%	93.3%	25.1812	24.9781	25.0236
σ		0.1798	0.3476	0.1759	0.5854	0.3020	0.8%	0.9%	0.1614	0.0631	0.0564
%RSD		0.7226	1.4036	0.7068	2.2784	1.1937	0.9	0.9	0.6409	0.2525	0.2253

CCB 6/7/2018 9:16:30 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:16:30	0.0520	0.0115	0.0780	0.0854	0.0931	90.9%	94.9%	0.0043	0.0109	0.0052
2	09:16:53	0.0403	0.0209	0.1267	0.0670	0.0181	91.1%	95.3%	0.0064	0.0012	0.0036
3	09:17:15	0.0317	-0.0037	0.0556	-0.0397	0.0439	91.2%	95.0%	0.0049	0.0068	0.0045
x		0.0413	0.0096	0.0868	0.0376	0.0517	91.1%	95.1%	0.0052	0.0063	0.0045
σ		0.0102	0.0124	0.0364	0.0676	0.0381	0.2%	0.2%	0.0011	0.0049	0.0008
%RSD		24.6801	129.6877	41.9009	179.8306	73.6818	0.2	0.2	20.8005	77.1339	18.9927

LLCCVR 6/7/2018 9:19:28 AM

User Pre-dilution: 1.000

Run	Time	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:19:28	0.9647	0.9419	4.6616	4.4557	4.5332	90.8%	94.5%	0.1943	0.1835	0.1934
2	09:19:51	0.9668	0.9333	4.7592	4.4305	4.5016	91.2%	94.6%	0.1907	0.2030	0.1924
3	09:20:14	1.0247	0.9741	4.6425	4.5354	4.3831	90.9%	94.5%	0.1942	0.2012	0.1907
x		0.9854	0.9498	4.6878	4.4739	4.4726	91.0%	94.5%	0.1931	0.1959	0.1921
σ		0.0340	0.0215	0.0626	0.0548	0.0792	0.2%	0.1%	0.0021	0.0108	0.0014
%RSD		3.4554	2.2656	1.3363	1.2246	1.7698	0.3	0.1	1.0713	5.5115	0.7226

Service Request: K1804739(Cu & Pb),K1804718,K1804765,K1804750

Instrument ID # K-ICP-MS-05
Calibration 060518 CMS05
STAR LIMS Run # 593568

Cal Std: MS23-52-E
ICV Std: MS23-51-I
LLICV Std: MS23-51-J
I.S. Solution: MS23-38-E
Tune Standard: MS23-14-C
Pipette I.D. CH21996,CH84849,MS1000, MS500, MS250

ICSA: MS23-52-A
ICSAB: MS23-52-B

ICP-MS Data Review Form

	Yes	No	NA
1. Appropriate standardization completed	X		
2. ICV in control (+/- 10%)	X		
3. CCV's in control (+/- 10%)	X		
4. ICB/CCB's below MRL	X		
5. LLICV standard analyzed and in control	X		
6. ICS standards within 20% of true value	X		
6. All analytes within instrument linear range	X		
7. Adequate rinse out time allowed	X		
8. Internal standards in control	X		
9. Interferences checked	X		
10. Was the run terminated? If so, why.		X	

Comments: K1804739: BQC with 060518B/593550.

Primary Review by _____ Date 6/6/18
Secondary Review by _____ Date 6/8/18

Data Review Form

Instrument ID#: **K-ICP-MS-05**
DataFile Name: **R:\ICP\WIP\DATA\K-ICP-MS-05 (Agilent)\060518C.csv**
RUNNO: **593568**

K1804718

No exceptions to report.

K1804739

No exceptions to report.

K1804750

No exceptions to report.

K1804765

No exceptions to report.

Primary Approver: 6/6/18
Secondary Approver: 6/8/18

	Sample						
		Rjct	Data File	Acq. Date-Time	Type	Sample Name	Comment
1			001CALB.	6/5/2018 12:38:47 PM	CalBlk	Prime	
2			002CALB.	6/5/2018 12:40:06 PM	CalBlk	Rinse	
3			003CALB.	6/5/2018 12:41:23 PM	CalBlk	Blank	
4			004CALS.	6/5/2018 12:42:42 PM	CalStd	25ppb	
5			005_ICV.d	6/5/2018 12:44:01 PM	ICV	ICV	
6			006_CCV.	6/5/2018 12:45:20 PM	CCV	CCV	
7			007_ICB.d	6/5/2018 12:46:38 PM	ICB	ICB	
8	✓		008_CCB.	6/5/2018 12:47:55 PM	CCB	CCB	
9			009_CCB.	6/5/2018 12:49:13 PM	CCB	CCB	
10			010LICV.d	6/5/2018 12:51:18 PM	LLICV	LLICVW	
11			011ICSA.d	6/5/2018 12:52:36 PM	ICSA	ICSA	
12			012ICSB.d	6/5/2018 12:53:50 PM	ICSB	ICSAB	
13	✓		013SMPL.	6/5/2018 12:55:06 PM	Sample	K1804739-001	5X
14	✓		014SMPL.	6/5/2018 12:56:21 PM	Sample	K1804739-002	5X
15	✓		015SMPL.	6/5/2018 12:57:36 PM	Sample	K1804739-003	5X
16	✓		016SMPL.	6/5/2018 12:58:52 PM	Sample	K1804739-004	5X
17	✓		017SMPL.	6/5/2018 1:00:07 PM	Sample	K1804739-005	5X
18			018SMPL.	6/5/2018 1:01:23 PM	Sample	K1804739-006	5X
19			019SMPL.	6/5/2018 1:03:12 PM	Sample	K1804739-007	5X
20	✓		020SMPL.	6/5/2018 1:04:27 PM	Sample	K1804739-008	5X
21			021_CCV.	6/5/2018 1:07:00 PM	CCV	CCV	
22			022_CCB.	6/5/2018 1:08:32 PM	CCB	CCB	
23			023LCCV.	6/5/2018 1:10:35 PM	LLCCV	LLCCVW	
24			024_PB.d	6/5/2018 1:11:48 PM	PB	KQ1807332-01	
25			025_LCS.d	6/5/2018 1:13:01 PM	LCS	KQ1807332-02	
26			026_ARF.d	6/5/2018 1:14:13 PM	AllRef	K1804718-001	
27			027SMPL.	6/5/2018 1:15:27 PM	Sample	K1804718-002	
28			028_ARF.d	6/5/2018 1:16:40 PM	AllRef	K1804718-003	
29			029SMPL.	6/5/2018 1:17:53 PM	Sample	KQ1807332-03	
30			030SMPL.	6/5/2018 1:19:06 PM	Sample	K1804718-003L	
31			031_PDS.d	6/5/2018 1:20:19 PM	PDS	K1804718-003A	
32			032_Spk.d	6/5/2018 1:21:32 PM	Spike	KQ1807332-04	
33			033_CCV.	6/5/2018 1:22:45 PM	CCV	CCV	
34			034_CCB.	6/5/2018 1:23:58 PM	CCB	CCB	
35			035SMPL.	6/5/2018 1:25:11 PM	Sample	K1804718-004	

	Sample						
		Rjct	Data File	Acq. Date-Time	Type	Sample Name	Comment
36			036SMPL.	6/5/2018 1:26:24 PM	Sample	K1804718-005	
37			037SMPL.	6/5/2018 1:27:37 PM	Sample	K1804718-006	
38			038SMPL.	6/5/2018 1:28:50 PM	Sample	K1804718-007	
39			039SMPL.	6/5/2018 1:30:03 PM	Sample	K1804718-001	D
40			040SMPL.	6/5/2018 1:31:15 PM	Sample	K1804718-002	D
41			041SMPL.	6/5/2018 1:32:29 PM	Sample	K1804718-003	D
42			042SMPL.	6/5/2018 1:33:42 PM	Sample	K1804718-004	D
43			043SMPL.	6/5/2018 1:34:55 PM	Sample	K1804718-005	D
44			044_CCV.	6/5/2018 1:36:08 PM	CCV	CCV	
45			045_CCB.	6/5/2018 1:37:21 PM	CCB	CCB	
46			046SMPL.	6/5/2018 1:38:34 PM	Sample	K1804718-006	D
47			047SMPL.	6/5/2018 1:39:47 PM	Sample	K1804718-007	D
48			048SMPL.	6/5/2018 1:41:01 PM	Sample	K1804765-004	
49			049SMPL.	6/5/2018 1:42:14 PM	Sample	K1804765-004	D
50			050_CCV.	6/5/2018 1:43:27 PM	CCV	CCV	
51			051_CCB.	6/5/2018 1:44:39 PM	CCB	CCB	
52			052LCCV.	6/5/2018 1:45:53 PM	LLCCV	LLCCVW	
53			053_PB.d	6/5/2018 1:47:06 PM	PB	KQ1806689-01	
54			054_LCS.d	6/5/2018 1:48:19 PM	LCS	KQ1806689-02	
55			055_ARF.d	6/5/2018 1:49:32 PM	AllRef	K1804750-001	
56			056SMPL.	6/5/2018 1:50:44 PM	Sample	KQ1806689-04	
57			057_Spk.d	6/5/2018 1:51:58 PM	Spike	KQ1806689-05	
58			058SMPL.	6/5/2018 1:53:11 PM	Sample	K1804750-003	
59			059_ARF.d	6/5/2018 1:54:24 PM	AllRef	K1804750-004	
60			060SMPL.	6/5/2018 1:55:38 PM	Sample	KQ1806689-06	
61			061_Spk.d	6/5/2018 1:56:53 PM	Spike	KQ1806689-03	
62			062_CCV.	6/5/2018 1:58:06 PM	CCV	CCV	
63			063_CCB.	6/5/2018 1:59:20 PM	CCB	CCB	
64			064SMPL.	6/5/2018 2:00:33 PM	Sample	K1804750-011	
65			065SMPL.	6/5/2018 2:01:48 PM	Sample	K1804750-012	
66			066SMPL.	6/5/2018 2:03:00 PM	Sample	K1804750-014	
67			067_CCV.	6/5/2018 2:04:15 PM	CCV	CCV	
68			068_CCB.	6/5/2018 2:05:30 PM	CCB	CCB	

Analyte				
Name		Mass	ISTD	Tune Mode
1	Cu	63	72	He
2	Cu	65	72	He
3	Zn	66	72	He
4	[Pb]	206	175	He
5	[Pb]	207	175	He
6	Pb	208	175	He
7	Ge	72		He
8	Lu	175		He

US EPA Tune Check Sample Report

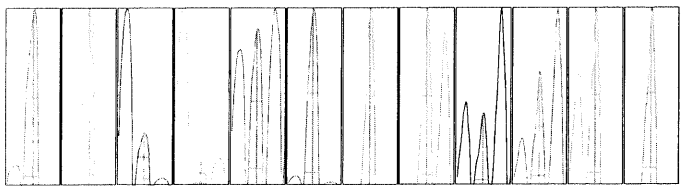
Batch Folder D:\Data\Experiments 2018\060518A.b
Report Comment ALS Tune
Instrument Name G3281A JP13482848

[No Gas]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	140383	0.99	5.00	
9	38554	0.55	5.00	
24	136180	1.17	5.00	
25	18357	0.98	5.00	
26	21001	0.70	5.00	
59	167669	0.53	5.00	
115	208794	0.76	5.00	
206	49192	0.87	5.00	
207	42900	1.09	5.00	
208	105233	0.99	5.00	
209	164599	0.39	5.00	
238	221433	1.16	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
7	142633	139088	139600	139866	140727
9	38679	38539	38194	38619	38737
24	138729	135930	134792	134917	136534
25	18508	18526	18354	18315	18082
26	21211	20916	20888	20889	21103
59	168695	168069	166713	166741	168127
115	210596	207477	207966	210445	207486
206	49509	49623	49280	48994	48555
207	43265	43432	42869	42660	42274
208	106366	106343	104681	104582	104195
209	165021	165164	164408	164835	163567
238	225186	222472	221374	218760	219373

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
7	23001	7.05	6.9 - 7.1		0.828	0.900	
9	6866	9.05	8.9 - 9.1		0.819	0.900	
24	22663	23.95	23.9 - 24.1		0.800	0.900	
25	2991	25.00	24.9 - 25.1		0.787	0.900	
26	3455	25.95	25.9 - 26.1		0.801	0.900	
59	30457	58.95	58.9 - 59.1		0.793	0.900	
115	43225	115.00	114.9 - 115.1		0.759	0.900	
206	10486	206.00	205.9 - 206.1		0.769	0.900	
207	9074	207.00	206.9 - 207.1		0.773	0.900	
208	22244	208.00	207.9 - 208.1		0.777	0.900	
209	34803	209.00	208.9 - 209.1		0.777	0.900	
238	45265	238.00	237.9 - 238.1		0.785	0.900	

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 279 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1600	W	Carrier Gas	0.57	L/min			
RF Matching	1.76	V	Option Gas	0.0	%			
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps			
S/C Temp	2	°C						

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	7.5	V			
Extract 2	-160.0	V	Cell Entrance	-30	V			
Omega Bias	-80	V	Cell Exit	-50	V			
Deflect	13.0	V						

Cell Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Use Gas	false		3rd Gas Flow	0	%			
He Flow	0.0	mL/min	OctP Bias	-8.0	V			
H2 Flow	0.0	mL/min	OctP RF	200	V			
Energy Discrimination	5.0	V						

Calibration Blank Report

Sample Table

Sample Name	Blank
Data File Name	003CALB.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T12:41:23-07:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Mode	CPS	%RSD
Cu	63	He	177	20.60
Cu	65	He	67	61.96
Zn	66	He	167	5.50
[Pb]	206	He	73	25.63
[Pb]	207	He	76	7.34
Pb	208	He	334	1.21

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD
Ge	72	He	155298	1.43
Lu	175	He	3020524	0.69

Calibration Standard Report

Sample Table

Sample Name	25ppb
Data File Name	004CALS.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T12:42:42-07:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	003CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	CPS	%RSD
Cu	63	He	175273	0.00
Cu	65	He	87826	0.00
Zn	66	He	25496	0.01
[Pb]	206	He	177964	0.00
[Pb]	207	He	154947	0.00
Pb	208	He	716576	0.00

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	151793	0.82	155298	97.74	70	125	
Lu	175	He	2928054	0.23	3020524	96.94	70	125	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV
Data File Name	005_ICV.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T12:44:01-07:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	QC Flag
Cu	63	He	12.122	3.004	86159	1.05	12.5	97	
Cu	65	He	12.019	1.088	42815	2.28	12.5	96	
Zn	66	He	23.333	2.597	24117	2.04	25	93	
[Pb]	206	He	23.945	0.928	170258	0.81	25	96	
[Pb]	207	He	24.991	0.667	154720	1.41	25	100	
Pb	208	He	24.564	0.599	703299	1.23	25	98	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	153832	3.34	155298	99.06	70	125	
Lu	175	He	2924962	1.72	3020524	96.84	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	006_CCV.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T12:45:20-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	QC Flag
Cu	63	He	25.077	0.376	175659	0.42	25	100	
Cu	65	He	24.532	1.647	86116	2.05	25	98	
Zn	66	He	26.612	13.785	27113	13.86	25	106	
[Pb]	206	He	24.632	1.736	176951	0.84	25	99	
[Pb]	207	He	24.796	1.532	155094	0.84	25	99	
Pb	208	He	24.712	1.349	714861	0.70	25	99	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	151669	0.57	155298	97.66	70	125	
Lu	175	He	2955261	0.89	3020524	97.84	70	125	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB
Data File Name	007_ICB.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T12:46:38-07:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Cu	63	He	-0.001	-80.0	167	3.5	0.1	
Cu	65	He	0.003	230.6	77	35.9	0.1	
Zn	66	He	-0.016	-216.7	147	23.9	2	
[Pb]	206	He	0.006	9.0	115	3.8	0.02	
[Pb]	207	He	0.003	58.3	90	11.6	0.02	
Pb	208	He	0.004	13.6	441	2.1	0.02	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	151444	0.57	155298	97.52	70	125	
Lu	175	He	2947349	1.39	3020524	97.58	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	008_CCB.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T12:47:55-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

See Review
3 6/8/18

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Cu	63	He	0.007	21.1	143	29.0	0.1	
Cu	65	He	0.013	16.0	70	25.8	0.1	
Zn	66	He	0.057	39.0	140	18.9	2	
[Pb]	206	He	0.006	24.3	73	21.9	0.02	
[Pb]	207	He	0.005	126.0	66	31.6	0.02	
Pb	208	He	0.007	54.1	319	14.7	0.02	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	98127	30.42	155298	63.19	70	125	Flag
Lu	175	He	1891031	28.72	3020524	62.61	70	125	Flag

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	009_CCB.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T12:49:13-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Cu	63	He	0.001	395.3	180	20.0	0.1	
Cu	65	He	0.003	238.0	75	35.3	0.1	
Zn	66	He	-0.024	-47.7	137	8.4	2	
[Pb]	206	He	0.000	-498.4	69	2.8	0.02	
[Pb]	207	He	-0.001	-244.9	65	26.0	0.02	
Pb	208	He	-0.001	-110.1	286	12.1	0.02	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	149765	1.07	155298	96.44	70	125	
Lu	175	He	2880264	0.54	3020524	95.36	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	LLICVW
Data File Name	010LICV.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T12:51:18-07:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	QC Flag
Cu	63	He	0.110	7.198	913	7.04	0.1	110	
Cu	65	He	0.110	3.306	438	4.61	0.1	110	
Zn	66	He	1.899	3.549	2023	1.74	2	95	
[Pb]	206	He	0.022	10.256	223	4.54	0.02	112	
[Pb]	207	He	0.021	16.374	196	8.58	0.02	103	
Pb	208	He	0.023	10.752	943	4.58	0.02	113	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	147253	3.17	155298	94.82	70	125	
Lu	175	He	2846380	2.69	3020524	94.23	70	125	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	011ICSA.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T12:52:36-07:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	CPS %RSD	QC Flag
Cu	63	He	0.866	3.6	5798	2.3	
Cu	65	He	0.798	2.2	2665	3.4	
Zn	66	He	0.752	11.0	860	9.1	
[Pb]	206	He	0.168	5.5	1214	5.5	
[Pb]	207	He	0.152	7.7	972	5.1	
Pb	208	He	0.158	4.6	4668	2.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	141166	1.46	155298	90.90	70	125	
Lu	175	He	2813947	2.28	3020524	93.16	70	125	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	012ICSB.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T12:53:50-07:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	QC Flag
Cu	63	He	45.822	1.142	308422	0.94	50	91.6	
Cu	65	He	45.901	1.932	154818	0.80	50	91.8	
Zn	66	He	21.973	2.945	21547	3.36	25	87.9	
[Pb]	206	He	0.154	4.548	1140	4.87	-1	-15.4	
[Pb]	207	He	0.138	6.632	910	6.78	-1	-13.8	
Pb	208	He	0.145	3.608	4389	3.97	-1	-14.5	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	145808	1.24	155298	93.89	70	125	
Lu	175	He	2864017	0.69	3020524	94.82	70	125	

Sample Report

Sample Table

Sample Name	K1804739-001
Data File Name	013SMPL.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T12:55:06-07:00
Sample Type	Sample
Dilution	1
Comment	5X
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	17.488	3.29	116614	0.01	
Cu	65	He	17.164	2.60	57351	0.03	
~~Zn~~	~~66~~	~~He~~	~~3320.735~~	~~2.87~~	~~3199678~~	~~0.10~~	~~>LDR~~
[Pb]	206	He	0.339	3.32	2396	0.01	
[Pb]	207	He	0.323	4.96	1995	0.02	
Pb	208	He	0.331	2.27	9433	0.00	

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QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	144367	1.92	155298	92.96	70	125	
Lu	175	He	2820961	2.25	3020524	93.39	70	125	

Sample Report

Sample Table

Sample Name	K1804739-002
Data File Name	014SMPL.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T12:56:21-07:00
Sample Type	Sample
Dilution	1
Comment	5X
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	94.777	2.35	629977	0.02	
Cu	65	He	94.817	2.01	315844	0.03	
~~Zn~~	~~66~~	~~He~~	~~8282.435~~	~~1.87~~	~~7963892~~	~~0.10~~	~~>LDR~~
[Pb]	206	He	2.931	0.90	20123	0.01	
[Pb]	207	He	2.810	2.06	16811	0.02	
Pb	208	He	2.847	0.92	78752	0.00	

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QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	144030	2.15	155298	92.74	70	125	
Lu	175	He	2815562	1.08	3020524	93.21	70	125	

Sample Report

Sample Table

Sample Name	K1804739-003
Data File Name	015SMPL.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T12:57:36-07:00
Sample Type	Sample
Dilution	1
Comment	5X
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	117.315	3.51	766502	0.02	
Cu	65	He	117.260	3.49	383997	0.03	
Zn	66	He	6624.770	2.81	6262523	0.11	>LDR
[Pb]	206	He	2.570	2.61	17336	0.01	
[Pb]	207	He	2.471	2.78	14522	0.02	
Pb	208	He	2.507	2.19	68119	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	141627	1.55	155298	91.20	70	125	
Lu	175	He	2764992	1.50	3020524	91.54	70	125	

Sample Report

Sample Table

Sample Name	K1804739-004
Data File Name	016SMPL.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T12:58:52-07:00
Sample Type	Sample
Dilution	1
Comment	5X
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	59.649	2.71	394972	0.02	
Cu	65	He	58.968	2.47	195693	0.03	
~~Zn~~	~~66~~	~~He~~	~~13908.538~~	~~2.74~~	~~13320631~~	~~0.10~~	~~>LDR~~
[Pb]	206	He	0.879	2.43	5803	0.02	
[Pb]	207	He	0.867	1.24	4997	0.02	
Pb	208	He	0.873	1.24	23240	0.00	

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QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	143472	0.80	155298	92.38	70	125	
Lu	175	He	2686065	1.43	3020524	88.93	70	125	

Sample Report

Sample Table

Sample Name	K1804739-005
Data File Name	017SMPL.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:00:07-07:00
Sample Type	Sample
Dilution	1
Comment	5X
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	63.218	1.67	431081	0.01	
Cu	65	He	62.967	0.63	215168	0.03	
~~Zn~~	~~66~~	~~He~~	~~3591.224~~	~~0.26~~	~~3541634~~	~~0.10~~	~~>LDR~~
[Pb]	206	He	0.601	2.70	4076	0.01	
[Pb]	207	He	0.577	1.51	3421	0.02	
Pb	208	He	0.586	1.60	16033	0.00	

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QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	147707	1.48	155298	95.11	70	125	
Lu	175	He	2744970	0.36	3020524	90.88	70	125	

Sample Report

Sample Table

Sample Name	K1804739-006
Data File Name	018SMPL.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:01:23-07:00
Sample Type	Sample
Dilution	1
Comment	5X
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	24.770	5.98	165196	0.01	
Cu	65	He	24.406	4.74	81508	0.03	
Zn	66	He	1331.691	2.98	1281216	0.10	
[Pb]	206	He	0.345	8.29	2061	0.02	
[Pb]	207	He	0.323	9.43	1689	0.02	
Pb	208	He	0.334	7.57	8074	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	144256	6.00	155298	92.89	70	125	
Lu	175	He	2396588	7.26	3020524	79.34	70	125	

Sample Report

Sample Table

Sample Name	K1804739-007
Data File Name	019SMPL.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:03:12-07:00
Sample Type	Sample
Dilution	1
Comment	5X
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	8.905	0.32	78060	0.01	
Cu	65	He	8.750	1.11	38420	0.02	
Zn	66	He	57.995	1.79	73551	0.08	
[Pb]	206	He	0.190	4.61	1536	0.01	
[Pb]	207	He	0.182	2.68	1294	0.01	
Pb	208	He	0.185	1.05	6072	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	189468	1.48	155298	122.00	70	125	
Lu	175	He	3154608	0.80	3020524	104.44	70	125	

Sample Report

Sample Table

Sample Name	K1804739-008
Data File Name	020SMPL.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:04:27-07:00
Sample Type	Sample
Dilution	1
Comment	5X
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	86.553	1.99	644876	0.01	
Cu	65	He	85.566	2.21	319531	0.03	
~~Zn~~	~~66~~	~~He~~	~~6796.058~~	~~2.85~~	~~7324200~~	~~0.09~~	~~>LDR~~
[Pb]	206	He	4.709	2.84	33219	0.01	
[Pb]	207	He	4.527	3.78	27816	0.02	
Pb	208	He	4.578	2.58	130086	0.00	

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QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	161499	3.12	155298	103.99	70	125	
Lu	175	He	2898566	2.97	3020524	95.96	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	021_CCV.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:07:00-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	QC Flag
Cu	63	He	25.008	0.904	179323	1.49	25	100	
Cu	65	He	24.823	0.233	89198	1.70	25	99	
Zn	66	He	25.610	2.466	26708	1.46	25	102	
[Pb]	206	He	25.312	1.010	184473	1.50	25	101	
[Pb]	207	He	25.271	0.546	160349	1.04	25	101	
Pb	208	He	25.317	0.183	742910	0.72	25	101	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	155264	1.83	155298	99.98	70	125	
Lu	175	He	2997713	0.57	3020524	99.24	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	022_CCB.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:08:32-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Cu	63	He	0.010	49.4	257	15.7	0.1	
Cu	65	He	0.008	103.6	100	31.2	0.1	
Zn	66	He	0.152	19.7	337	11.2	2	
[Pb]	206	He	0.002	228.4	88	35.6	0.02	
[Pb]	207	He	-0.002	-169.6	66	32.4	0.02	
Pb	208	He	-0.001	-110.1	304	15.0	0.02	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	161068	1.76	155298	103.72	70	125	
Lu	175	He	3089630	1.79	3020524	102.29	70	125	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	LLCCVW
Data File Name	023LCCV.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:10:35-07:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	QC Flag
Cu	63	He	0.091	18.332	843	15.75	0.1	91	
Cu	65	He	0.110	2.005	465	1.86	0.1	110	
Zn	66	He	1.937	11.269	2200	11.03	2	97	
[Pb]	206	He	0.022	20.134	235	13.53	0.02	111	
[Pb]	207	He	0.017	24.542	186	14.28	0.02	86	
Pb	208	He	0.019	14.886	895	8.84	0.02	95	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	157057	1.46	155298	101.13	70	125	
Lu	175	He	3021837	0.49	3020524	100.04	70	125	

Sample Report

Sample Table

Sample Name	KQ1807332-01
Data File Name	024_PB.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:11:48-07:00
Sample Type	PB
Dilution	1
Comment	
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	0.004	187.12	207	0.00	
Cu	65	He	0.001	466.19	72	0.00	
Zn	66	He	0.118	11.62	293	0.04	
[Pb]	206	He	0.010	17.20	147	0.01	
[Pb]	207	He	0.007	16.75	122	0.01	
Pb	208	He	0.007	18.59	556	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	157483	1.02	155298	101.41	70	125	
Lu	175	He	3029636	0.37	3020524	100.30	70	125	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	KQ1807332-02
Data File Name	025_LCS.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:13:01-07:00
Sample Type	LCS
Dilution	1
Comment	
ISTD Ref File Name	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	QC Flag
Cu	63	He	13.913	1.521	99896	1.68	12.5	111.3	
Cu	65	He	13.855	3.262	49827	1.61	12.5	110.8	
Zn	66	He	23.813	4.090	24855	2.62	25	95.3	
[Pb]	206	He	49.835	0.425	363732	0.59	50	99.7	
[Pb]	207	He	51.811	0.152	329224	0.40	50	103.6	
Pb	208	He	50.844	0.201	1494182	0.41	50	101.7	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	155352	1.72	155298	100.03	70	125	
Lu	175	He	3002766	0.27	3020524	99.41	70	125	

All Reference Sample Report

Sample Table

Sample Name	K1804718-001
Data File Name	026_ARF.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:14:13-07:00
Sample Type	AllRef
Dilution	1
Comment	
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	3.570	1.50	24718	0.01	
Cu	65	He	3.628	2.01	12565	0.03	
Zn	66	He	79.360	1.97	79092	0.10	
[Pb]	206	He	0.435	4.50	3205	0.01	
[Pb]	207	He	0.428	2.28	2762	0.02	
Pb	208	He	0.428	3.05	12748	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	149013	2.09	155298	95.95	70	125	
Lu	175	He	2968908	2.61	3020524	98.29	70	125	

Sample Report

Sample Table

Sample Name	K1804718-002
Data File Name	027SMPL.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:15:27-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	13.016	0.51	90360	0.01	
Cu	65	He	13.082	2.82	45495	0.03	
Zn	66	He	24.400	3.36	24625	0.10	
[Pb]	206	He	6.964	1.01	50403	0.01	
[Pb]	207	He	6.934	1.81	43703	0.02	
Pb	208	He	6.951	0.96	202627	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	150175	1.10	155298	96.70	70	125	
Lu	175	He	2974410	1.01	3020524	98.47	70	125	

All Reference Sample Report

Sample Table

Sample Name	K1804718-003
Data File Name	028_ARF.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:16:40-07:00
Sample Type	AllRef
Dilution	1
Comment	
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	13.533	8.60	90846	0.01	
Cu	65	He	13.384	6.39	45061	0.03	
Zn	66	He	30.048	10.41	29269	0.10	
[Pb]	206	He	3.080	8.39	21296	0.01	
[Pb]	207	He	3.053	10.82	18365	0.02	
Pb	208	He	3.080	9.51	85745	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	145819	7.10	155298	93.90	70	125	
Lu	175	He	2850042	8.56	3020524	94.36	70	125	

Sample Report

Sample Table

Sample Name	KQ1807332-03
Data File Name	029SMPL.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:17:53-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	13.648	1.92	91258	0.01	
Cu	65	He	13.389	4.49	44825	0.03	
Zn	66	He	30.046	3.78	29158	0.10	
[Pb]	206	He	3.182	2.01	21578	0.01	
[Pb]	207	He	3.188	1.43	18834	0.02	
Pb	208	He	3.200	1.99	87420	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	144717	3.77	155298	93.19	70	125	
Lu	175	He	2782689	2.27	3020524	92.13	70	125	

Sample Report

Sample Table

Sample Name	K1804718-003L
Data File Name	030SMPL.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:19:06-07:00
Sample Type	Sample
Dilution	1 5X 6/6/18
Comment	
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	2.673	4.01	19064	0.01	
Cu	65	He	2.652	2.18	9463	0.03	
Zn	66	He	6.078	3.42	6381	0.10	
[Pb]	206	He	0.592	3.48	4390	0.01	
[Pb]	207	He	0.597	3.93	3870	0.02	
Pb	208	He	0.597	2.67	17887	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	153192	1.18	155298	98.64	70	125	
Lu	175	He	3004044	1.54	3020524	99.45	70	125	

Post Digestion Spike Sample (PDS) Report

Sample Table

Sample Name	K1804718-003A
Data File Name	031_PDS.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:20:19-07:00
Sample Type	PDS
Dilution	1
Comment	
QC Ref File Name	028_ARF.d
ISTD Ref File Name	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	CPS %RSD	Spk Amt	%Rec	QC Flag
Cu	63	He	60.744	1.448	426865	1.12	50	94	
Cu	65	He	60.623	2.276	213487	1.25	50	94	
Zn	66	He	74.951	1.252	76343	0.59	50	90	
[Pb]	206	He	51.434	1.671	372558	0.45	50	97	
[Pb]	207	He	51.521	1.574	324917	0.88	50	97	
Pb	208	He	51.574	1.594	1504194	0.62	50	97	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	152251	1.13	155298	98.04	70	125	
Lu	175	He	2980620	1.69	3020524	98.68	70	125	

Matrix Spike Sample (MS) Report

Sample Table

Sample Name	KQ1807332-04
Data File Name	032_Spk.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:21:32-07:00
Sample Type	Spike
Dilution	1
Comment	
QC Ref File Name	028_ARF.d
ISTD Ref File Name	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	CPS %RSD	Spk Amt	%Rec	QC Flag
Cu	63	He	25.936	2.239	178202	1.18	12.5	99	
Cu	65	He	25.332	2.533	87214	1.20	12.5	96	
Zn	66	He	51.053	3.442	50852	0.20	25	84	
[Pb]	206	He	52.671	0.406	371719	0.96	50	99	
[Pb]	207	He	54.741	0.845	336340	1.12	50	103	
Pb	208	He	53.816	0.381	1529210	0.70	50	101	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	148838	3.26	155298	95.84	70	125	
Lu	175	He	2903498	0.56	3020524	96.13	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	033_CCV.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:22:45-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	QC Flag
Cu	63	He	25.854	2.213	178409	0.23	25	103	
Cu	65	He	25.404	2.808	87847	1.50	25	102	
Zn	66	He	25.161	4.596	25252	2.75	25	101	
[Pb]	206	He	25.809	2.078	181775	0.59	25	103	
[Pb]	207	He	25.919	2.595	158932	1.03	25	104	
Pb	208	He	25.918	2.140	735007	0.54	25	104	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	149467	2.34	155298	96.25	70	125	
Lu	175	He	2897780	1.63	3020524	95.94	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	034_CCB.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:23:58-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Cu	63	He	0.006	105.9	217	20.8	0.1	
Cu	65	He	0.010	62.4	100	22.9	0.1	
Zn	66	He	-0.008	-498.1	157	22.4	2	
[Pb]	206	He	0.005	33.1	108	6.7	0.02	
[Pb]	207	He	0.004	62.6	99	13.0	0.02	
Pb	208	He	0.004	33.7	444	5.6	0.02	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	154017	2.82	155298	99.17	70	125	
Lu	175	He	2991347	4.36	3020524	99.03	70	125	

Sample Report

Sample Table

Sample Name	K1804718-004
Data File Name	035SMPL.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:25:11-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	11.912	4.70	81523	0.01	
Cu	65	He	11.653	2.78	39968	0.03	
Zn	66	He	108.587	3.28	107498	0.10	
[Pb]	206	He	5.909	0.51	41342	0.01	
[Pb]	207	He	5.719	1.37	34847	0.02	
Pb	208	He	5.835	0.45	164415	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	148152	2.95	155298	95.40	70	125	
Lu	175	He	2874209	0.79	3020524	95.16	70	125	

Sample Report

Sample Table

Sample Name	K1804718-005
Data File Name	036SMPL.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:26:24-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	0.813	3.75	5644	0.01	
Cu	65	He	0.837	7.14	2889	0.03	
Zn	66	He	12.259	0.10	12111	0.10	
[Pb]	206	He	0.518	2.51	3674	0.01	
[Pb]	207	He	0.516	3.28	3196	0.02	
Pb	208	He	0.522	1.45	14935	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	146067	0.80	155298	94.06	70	125	
Lu	175	He	2863827	1.67	3020524	94.81	70	125	

Sample Report

Sample Table

Sample Name	K1804718-006
Data File Name	037SMPL.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:27:37-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	7.443	3.29	52634	0.01	
Cu	65	He	7.375	2.36	26120	0.03	
Zn	66	He	21.063	5.00	21651	0.10	
[Pb]	206	He	1.048	1.35	7392	0.01	
[Pb]	207	He	1.027	0.53	6318	0.02	
Pb	208	He	1.040	1.68	29572	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	152792	1.31	155298	98.39	70	125	
Lu	175	He	2874650	0.99	3020524	95.17	70	125	

Sample Report

Sample Table

Sample Name	K1804718-007
Data File Name	038SMPL.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:28:50-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	2.277	1.81	15931	0.01	
Cu	65	He	2.277	5.40	7962	0.03	
Zn	66	He	7.009	4.51	7178	0.10	
[Pb]	206	He	0.260	2.66	1947	0.01	
[Pb]	207	He	0.270	3.06	1768	0.02	
Pb	208	He	0.263	1.38	7951	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	150018	1.46	155298	96.60	70	125	
Lu	175	He	2965185	1.31	3020524	98.17	70	125	

Sample Report

Sample Table

Sample Name	K1804718-001
Data File Name	039SMPL.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:30:03-07:00
Sample Type	Sample
Dilution	1
Comment	D
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	3.212	5.09	22412	0.01	
Cu	65	He	3.155	0.91	11015	0.03	
Zn	66	He	81.457	0.84	81785	0.10	
[Pb]	206	He	0.180	2.95	1352	0.01	
[Pb]	207	He	0.180	3.77	1193	0.02	
Pb	208	He	0.176	1.59	5380	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	150095	0.61	155298	96.65	70	125	
Lu	175	He	2936803	0.45	3020524	97.23	70	125	

Sample Report

Sample Table

Sample Name	K1804718-002
Data File Name	040SMPL.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:31:15-07:00
Sample Type	Sample
Dilution	1
Comment	D
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	6.328	3.80	43135	0.01	
Cu	65	He	6.269	0.73	21410	0.03	
Zn	66	He	19.149	2.30	18977	0.10	
[Pb]	206	He	0.956	1.61	6739	0.01	
[Pb]	207	He	0.955	4.20	5869	0.02	
Pb	208	He	0.955	2.50	27156	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	147224	2.66	155298	94.80	70	125	
Lu	175	He	2872439	3.03	3020524	95.10	70	125	

Sample Report

Sample Table

Sample Name	K1804718-003
Data File Name	041SMPL.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:32:29-07:00
Sample Type	Sample
Dilution	1
Comment	D
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	5.903	3.95	42566	0.01	
Cu	65	He	5.929	0.19	21407	0.03	
Zn	66	He	18.244	1.31	19121	0.10	
[Pb]	206	He	0.766	5.86	5675	0.01	
[Pb]	207	He	0.760	4.12	4922	0.02	
Pb	208	He	0.762	5.14	22789	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	155631	1.73	155298	100.21	70	125	
Lu	175	He	3015937	4.48	3020524	99.85	70	125	

Sample Report

Sample Table

Sample Name	K1804718-004
Data File Name	042SMPL.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:33:42-07:00
Sample Type	Sample
Dilution	1
Comment	D
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	2.259	4.45	15364	0.01	
Cu	65	He	2.328	2.56	7912	0.03	
Zn	66	He	78.271	2.93	76350	0.10	
[Pb]	206	He	0.241	2.48	1753	0.01	
[Pb]	207	He	0.245	3.30	1563	0.02	
Pb	208	He	0.244	4.84	7183	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	145859	1.95	155298	93.92	70	125	
Lu	175	He	2879478	2.50	3020524	95.33	70	125	

Sample Report

Sample Table

Sample Name	K1804718-005
Data File Name	043SMPL.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:34:55-07:00
Sample Type	Sample
Dilution	1
Comment	D
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	0.296	0.38	2230	0.01	
Cu	65	He	0.304	8.86	1127	0.03	
Zn	66	He	10.811	2.52	11057	0.10	
[Pb]	206	He	0.194	4.84	1440	0.01	
[Pb]	207	He	0.189	7.36	1235	0.02	
Pb	208	He	0.190	4.89	5733	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	150925	1.29	155298	97.18	70	125	
Lu	175	He	2909397	3.27	3020524	96.32	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	044_CCV.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:36:08-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	QC Flag
Cu	63	He	24.505	0.831	176810	1.94	25	98	
Cu	65	He	24.815	1.328	89710	1.33	25	99	
Zn	66	He	24.627	0.569	25857	2.74	25	99	
[Pb]	206	He	25.236	0.699	187013	0.91	25	101	
[Pb]	207	He	25.176	0.777	162441	1.14	25	101	
Pb	208	He	25.244	0.575	753242	0.81	25	101	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	156233	2.44	155298	100.60	70	125	
Lu	175	He	3048206	0.61	3020524	100.92	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	045_CCB.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:37:21-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Cu	63	He	-0.001	-1192.3	173	29.6	0.1	
Cu	65	He	0.008	107.1	97	33.7	0.1	
Zn	66	He	-0.013	-155.5	153	13.6	2	
[Pb]	206	He	-0.001	-299.0	67	26.5	0.02	
[Pb]	207	He	-0.001	-117.9	71	8.2	0.02	
Pb	208	He	-0.002	-48.0	272	11.2	0.02	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	155584	0.61	155298	100.18	70	125	
Lu	175	He	3031631	0.72	3020524	100.37	70	125	

Sample Report

Sample Table

Sample Name	K1804718-006
Data File Name	046SMPL.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:38:34-07:00
Sample Type	Sample
Dilution	1
Comment	D
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	1.922	3.20	13682	0.01	
Cu	65	He	1.858	5.81	6610	0.03	
Zn	66	He	15.685	3.73	16114	0.10	
[Pb]	206	He	0.260	2.40	1907	0.01	
[Pb]	207	He	0.255	3.23	1639	0.02	
Pb	208	He	0.259	2.52	7672	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	152317	0.24	155298	98.08	70	125	
Lu	175	He	2904293	1.24	3020524	96.15	70	125	

Sample Report

Sample Table

Sample Name	K1804718-007
Data File Name	047SMPL.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:39:47-07:00
Sample Type	Sample
Dilution	1
Comment	D
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	1.466	3.87	10357	0.01	
Cu	65	He	1.471	0.28	5187	0.03	
Zn	66	He	3.775	5.42	3957	0.10	
[Pb]	206	He	0.091	1.70	726	0.01	
[Pb]	207	He	0.090	7.80	638	0.01	
Pb	208	He	0.090	4.09	2933	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	150613	0.27	155298	96.98	70	125	
Lu	175	He	2973088	0.81	3020524	98.43	70	125	

Sample Report

Sample Table

Sample Name	K1804765-004
Data File Name	048SMPL.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:41:01-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	1.415	1.35	10053	0.01	
Cu	65	He	1.494	3.85	5293	0.03	
Zn	66	He	36.287	1.95	36806	0.10	
[Pb]	206	He	0.635	3.03	4672	0.01	
[Pb]	207	He	0.613	1.19	3943	0.02	
Pb	208	He	0.628	3.41	18655	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	151275	1.07	155298	97.41	70	125	
Lu	175	He	2981967	2.55	3020524	98.72	70	125	

Sample Report

Sample Table

Sample Name	K1804765-004
Data File Name	049SMPL.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:42:14-07:00
Sample Type	Sample
Dilution	1
Comment	D
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	0.787	5.14	5698	0.01	
Cu	65	He	0.739	6.48	2665	0.03	
Zn	66	He	18.735	1.90	19191	0.10	
[Pb]	206	He	0.512	2.19	3790	0.01	
[Pb]	207	He	0.525	1.31	3394	0.02	
Pb	208	He	0.521	1.99	15554	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	152137	1.54	155298	97.96	70	125	
Lu	175	He	2985854	0.40	3020524	98.85	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	050_CCV.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:43:27-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	QC Flag
Cu	63	He	24.520	1.401	180890	1.68	25	98	
Cu	65	He	24.701	1.584	91303	0.70	25	99	
Zn	66	He	25.009	4.034	26831	2.78	25	100	
[Pb]	206	He	25.254	1.385	190476	0.50	25	101	
[Pb]	207	He	25.053	1.151	164525	0.84	25	100	
Pb	208	He	25.208	1.202	765572	0.30	25	101	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	159728	1.27	155298	102.85	70	125	
Lu	175	He	3102802	1.15	3020524	102.72	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	051_CCB.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:44:39-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Cu	63	He	0.012	17.2	267	4.3	0.1	
Cu	65	He	0.007	103.2	93	29.5	0.1	
Zn	66	He	-0.020	-398.1	147	56.8	2	
[Pb]	206	He	0.000	1664.7	74	22.9	0.02	
[Pb]	207	He	-0.001	-125.6	67	18.0	0.02	
Pb	208	He	-0.001	-110.8	318	5.8	0.02	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	157313	1.28	155298	101.30	70	125	
Lu	175	He	3052248	1.03	3020524	101.05	70	125	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	LLCCVW
Data File Name	052LCCV.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:45:53-07:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	QC Flag
Cu	63	He	0.110	8.716	963	7.86	0.1	110	
Cu	65	He	0.105	13.543	443	13.45	0.1	105	
Zn	66	He	1.824	5.320	2054	3.09	2	91	
[Pb]	206	He	0.020	19.651	214	12.33	0.02	98	
[Pb]	207	He	0.018	18.945	186	11.55	0.02	88	
Pb	208	He	0.019	5.323	896	2.31	0.02	97	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	155078	2.26	155298	99.86	70	125	
Lu	175	He	2986407	1.04	3020524	98.87	70	125	

Sample Report

Sample Table

Sample Name	KQ1806689-01
Data File Name	053_PB.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:47:06-07:00
Sample Type	PB
Dilution	1
Comment	
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	0.018	40.69	307	0.01	
Cu	65	He	0.029	31.28	170	0.02	
Zn	66	He	0.045	86.11	213	0.02	
[Pb]	206	He	0.009	41.82	140	0.01	
[Pb]	207	He	0.008	46.52	125	0.01	
Pb	208	He	0.009	7.63	585	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	154971	0.77	155298	99.79	70	125	
Lu	175	He	3018753	0.97	3020524	99.94	70	125	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	KQ1806689-02
Data File Name	054_LCS.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:48:19-07:00
Sample Type	LCS
Dilution	1
Comment	
ISTD Ref File Name	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	QC Flag
Cu	63	He	12.780	1.843	90260	2.14	12.5	102.2	
Cu	65	He	12.742	1.014	45084	1.44	12.5	101.9	
Zn	66	He	23.592	1.888	24224	1.51	25	94.4	
[Pb]	206	He	50.486	1.485	374457	0.43	50	101.0	
[Pb]	207	He	52.957	1.384	341964	0.37	50	105.9	
Pb	208	He	51.989	1.753	1552558	0.64	50	104.0	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	152762	0.43	155298	98.37	70	125	
Lu	175	He	3051808	1.11	3020524	101.04	70	125	

All Reference Sample Report

Sample Table

Sample Name	K1804750-001
Data File Name	055_ARF.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:49:32-07:00
Sample Type	AllRef
Dilution	1
Comment	
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	0.137	1.79	1097	0.01	
Cu	65	He	0.154	13.55	587	0.03	
Zn	66	He	1.435	12.75	1560	0.09	
[Pb]	206	He	0.045	11.80	397	0.01	
[Pb]	207	He	0.039	11.55	317	0.01	
Pb	208	He	0.042	6.33	1548	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	146868	4.03	155298	94.57	70	125	
Lu	175	He	2969158	2.70	3020524	98.30	70	125	

Sample Report

Sample Table

Sample Name	KQ1806689-04
Data File Name	056SMPL.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:50:44-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	0.111	10.60	933	0.01	
Cu	65	He	0.106	22.55	430	0.02	
Zn	66	He	1.451	8.99	1610	0.09	
[Pb]	206	He	0.053	3.72	451	0.01	
[Pb]	207	He	0.049	12.21	382	0.01	
Pb	208	He	0.051	3.22	1816	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	149607	1.50	155298	96.34	70	125	
Lu	175	He	2971775	0.99	3020524	98.39	70	125	

Matrix Spike Sample (MS) Report

Sample Table

Sample Name	KQ1806689-05
Data File Name	057_Spk.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:51:58-07:00
Sample Type	Spike
Dilution	1
Comment	
QC Ref File Name	055_ARF.d
ISTD Ref File Name	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	CPS %RSD	Spk Amt	%Rec	QC Flag
Cu	63	He	12.154	2.547	83214	0.74	12.5	96	
Cu	65	He	11.969	2.429	41061	1.66	12.5	95	
Zn	66	He	24.070	5.747	23947	3.72	25	91	
[Pb]	206	He	47.505	1.421	338006	1.04	50	95	
[Pb]	207	He	49.610	1.753	307295	0.64	50	99	
Pb	208	He	48.709	1.581	1395395	0.83	50	97	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	148155	2.63	155298	95.40	70	125	
Lu	175	He	2927872	2.36	3020524	96.93	70	125	

Sample Report

Sample Table

Sample Name	K1804750-003
Data File Name	058SMPL.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:53:11-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	0.203	6.68	1560	0.01	
Cu	65	He	0.226	13.61	840	0.03	
Zn	66	He	5.390	8.03	5504	0.10	
[Pb]	206	He	0.218	5.36	1612	0.01	
[Pb]	207	He	0.219	9.38	1423	0.02	
Pb	208	He	0.221	7.84	6610	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	148962	5.57	155298	95.92	70	125	
Lu	175	He	2920945	7.06	3020524	96.70	70	125	

All Reference Sample Report

Sample Table

Sample Name	K1804750-004
Data File Name	059_ARF.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:54:24-07:00
Sample Type	AllRef
Dilution	1
Comment	
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	0.112	28.79	947	0.01	
Cu	65	He	0.118	3.54	473	0.02	
Zn	66	He	1.932	4.99	2094	0.09	
[Pb]	206	He	0.076	3.32	620	0.01	
[Pb]	207	He	0.069	4.55	508	0.01	
Pb	208	He	0.071	0.85	2384	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	149792	1.07	155298	96.45	70	125	
Lu	175	He	2975066	0.40	3020524	98.50	70	125	

Sample Report

Sample Table

Sample Name	KQ1806689-06
Data File Name	060SMPL.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:55:38-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	0.110	16.97	930	0.01	
Cu	65	He	0.134	9.36	527	0.03	
Zn	66	He	1.693	4.65	1850	0.09	
[Pb]	206	He	0.086	9.50	692	0.01	
[Pb]	207	He	0.085	3.78	611	0.01	
Pb	208	He	0.083	7.41	2753	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	149410	1.63	155298	96.21	70	125	
Lu	175	He	2987417	2.03	3020524	98.90	70	125	

Matrix Spike Sample (MS) Report

Sample Table

Sample Name	KQ1806689-03
Data File Name	061_Spk.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:56:53-07:00
Sample Type	Spike
Dilution	1
Comment	
QC Ref File Name	059_ARF.d
ISTD Ref File Name	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	CPS %RSD	Spk Amt	%Rec	QC Flag
Cu	63	He	11.768	2.094	80240	2.04	12.5	93	
Cu	65	He	11.676	2.026	39885	1.79	12.5	92	
Zn	66	He	24.295	2.695	24077	2.41	25	89	
[Pb]	206	He	47.069	1.405	341327	0.32	50	94	
[Pb]	207	He	49.021	1.654	309481	0.75	50	98	
Pb	208	He	48.295	1.730	1410066	0.48	50	96	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	147475	0.30	155298	94.96	70	125	
Lu	175	He	2983720	1.33	3020524	98.78	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	062_CCV.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:58:06-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	QC Flag
Cu	63	He	24.689	1.455	174298	1.01	25	99	
Cu	65	He	24.735	0.920	87514	1.95	25	99	
Zn	66	He	24.987	2.555	25660	1.07	25	100	
[Pb]	206	He	25.379	1.929	187838	0.61	25	102	
[Pb]	207	He	25.367	1.848	163467	0.49	25	101	
Pb	208	He	25.390	1.679	756685	0.33	25	102	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	152870	1.63	155298	98.44	70	125	
Lu	175	He	3044967	1.40	3020524	100.81	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	063_CCB.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T13:59:20-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Cu	63	He	0.001	660.3	183	33.3	0.1	
Cu	65	He	0.009	165.9	95	50.8	0.1	
Zn	66	He	-0.065	-64.4	97	43.1	2	
[Pb]	206	He	0.004	65.7	100	18.6	0.02	
[Pb]	207	He	0.000	2298.0	76	22.4	0.02	
Pb	208	He	0.001	113.7	363	9.7	0.02	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	152664	1.71	155298	98.30	70	125	
Lu	175	He	3011005	0.50	3020524	99.68	70	125	

Sample Report

Sample Table

Sample Name	K1804750-011
Data File Name	064SMPL.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T14:00:33-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	0.182	7.50	1357	0.01	
Cu	65	He	0.172	20.32	627	0.03	
Zn	66	He	2.146	9.97	2194	0.10	
[Pb]	206	He	0.078	3.78	632	0.01	
[Pb]	207	He	0.078	8.04	562	0.01	
Pb	208	He	0.078	3.43	2572	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	142289	1.47	155298	91.62	70	125	
Lu	175	He	2950053	0.26	3020524	97.67	70	125	

Sample Report

Sample Table

Sample Name	K1804750-012
Data File Name	065SMPL.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T14:01:48-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	0.186	3.04	1463	0.01	
Cu	65	He	0.209	7.96	792	0.03	
Zn	66	He	0.596	4.33	760	0.08	
[Pb]	206	He	0.093	1.20	750	0.01	
[Pb]	207	He	0.095	6.80	678	0.01	
Pb	208	He	0.093	3.57	3049	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	150448	2.60	155298	96.88	70	125	
Lu	175	He	3000511	3.24	3020524	99.34	70	125	

Sample Report

Sample Table

Sample Name	K1804750-014
Data File Name	066SMPL.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T14:03:00-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	%RSD	QC Flag
Cu	63	He	0.146	8.87	1173	0.01	
Cu	65	He	0.136	10.44	532	0.03	
Zn	66	He	0.499	31.19	657	0.08	
[Pb]	206	He	0.063	5.49	532	0.01	
[Pb]	207	He	0.058	8.44	440	0.01	
Pb	208	He	0.059	1.96	2064	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	149184	1.20	155298	96.06	70	125	
Lu	175	He	2990915	1.17	3020524	99.02	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	067_CCV.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T14:04:15-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	QC Flag
Cu	63	He	25.034	1.398	177689	0.86	25	100	
Cu	65	He	24.914	0.204	88619	0.81	25	100	
Zn	66	He	24.844	0.885	25656	0.65	25	99	
[Pb]	206	He	25.442	1.742	189538	0.67	25	102	
[Pb]	207	He	25.448	1.739	165059	0.26	25	102	
Pb	208	He	25.501	1.920	764908	0.43	25	102	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	153690	0.64	155298	98.96	70	125	
Lu	175	He	3064884	1.68	3020524	101.47	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	068_CCB.d
Data Path Name	D:\Data\Experiments 2018\060518C.b
Acq Date Time	2018-06-05T14:05:30-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	003CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc. ug/L	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Cu	63	He	0.006	35.5	223	6.8	0.1	
Cu	65	He	-0.002	-338.5	58	51.7	0.1	
Zn	66	He	-0.056	-61.5	110	32.8	2	
[Pb]	206	He	0.000	-826.9	73	18.5	0.02	
[Pb]	207	He	0.000	1349.5	78	11.8	0.02	
Pb	208	He	-0.001	-65.9	302	9.4	0.02	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	He	156778	0.73	155298	100.95	70	125	
Lu	175	He	3081900	1.09	3020524	102.03	70	125	

Volatile Organic Compounds

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
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Exception Report

Data File: J:\MS46\DATA\052418\0524F022.D
Lab ID: K1804750-016
RunType: SMPL
Matrix: WATER

Date Acquired: 05/24/2018 20:42
Date Quantitated: 05/25/2018 15:25
Batch ID: KWG1802662
Analysis Method: 8260C
ListJoinID: LJ16508

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: LM 05-25-18

Secondary Review: MAY 2 9 2018

Quantitation Report

Data File:	J:\MS46\DATA\052418\0524F022.D			**Instrument:**	MS46
Acqu Date:	05/24/2018 20:42	**Quant Date:**	05/25/2018 15:25	**Vial:**	20
Run Type:	SMPL	**ListJoinID:**	LJ16508	**Dilution:**	1.0
Lab ID:	K1804750-016			**Soln Conc. Units:**	PPB

Bottle ID:		**Tier:**	IV	**Matrix:**	WATER
Prod Code:	8260C VOC FP	**Collect Date:**	05/16/2018	**Receive Date:**	05/18/2018

Analysis Lot:	KWG1802662	**Prep Lot:**	KWG1802664	**Report Group:**	K1804750
Analysis Method:	8260C	**Prep Method:**	EPA 5030B		
Prep Ref:	1677473	**Prep Date:**	05/24/2018		

Quant Method:	J:\MS46\METHODS\091517MS46_8	**Calibration ID:**	CAL15549
Title:	Volatile Organic Compounds	**Report List ID:**	LJ16508
Tune Ref:	J:\MS46\DATA\052418\0524F003.D	**Method ID:**	MJ119
MB Ref:	J:\MS46\DATA\052418\0524F009.D	**Quant based on Report List**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Fluorobenzene	6.59	0.01	96	168518	10.00	OK
2	Chlorobenzene-d5	10.04	0.00	82	70271	10.00	OK
3	1,4-Dichlorobenzene-d4	12.61	0.00	152	57963	10.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
1	Dibromofluoromethane	5.80	0.00	0.00	113	48032	10.83	108	73-122	OK
1	Toluene-d8	8.41	0.00	0.00	98	157378	9.56	96	65-144	OK
2	4-Bromofluorobenzene	11.35	0.00	0.00	95	53367	9.84	98	68-117	OK

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Benzene				78	0		0.062	U	

Prep Amount:	10 ml	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS46\DATA\052418\0524F022.D Vial: 20
Acq On : 24 May 2018 08:42 pm Operator: LM
Sample : K4750-016 BUBBLE Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 09:32:00 2018 Quant Results File: 091517MS46_8260

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 15:04:39 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

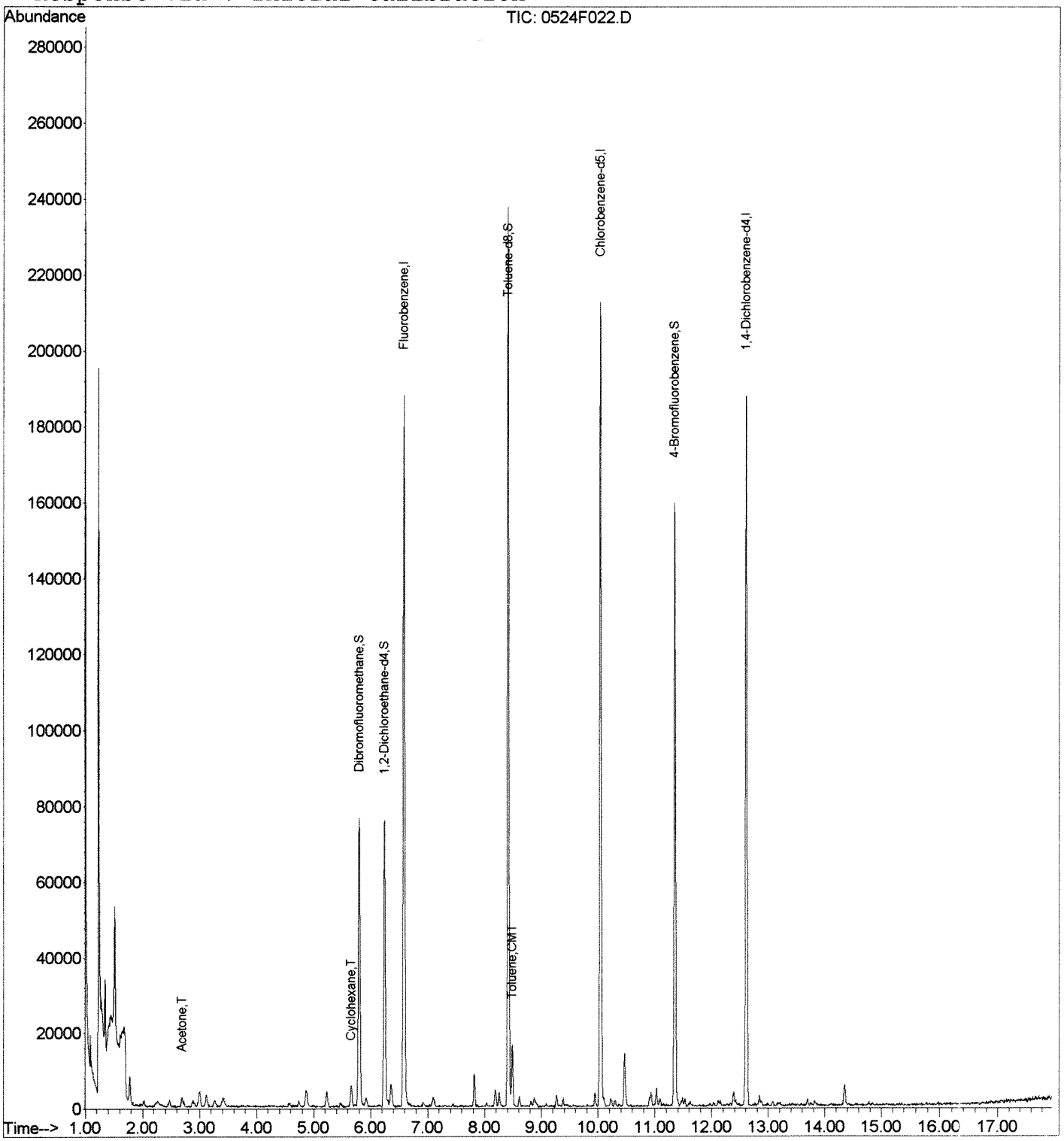
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	6.59	96	168518	10.00	PPB	0.01
64) Chlorobenzene-d5	10.04	82	70271	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	12.61	152	57963	10.00	PPB	0.00
System Monitoring Compounds						
43) Dibromofluoromethane	5.80	113	48032	10.83	PPB	0.02
Spiked Amount 10.000			Recovery	=	108.30%	
47) 1,2-Dichloroethane-d4	6.25	65	55402	10.36	PPB	0.02
Spiked Amount 10.000			Recovery	=	103.60%	
62) Toluene-d8	8.41	98	157378	9.56	PPB	0.00
Spiked Amount 10.000			Recovery	=	95.60%	
84) 4-Bromofluorobenzene	11.35	95	53367	9.84	PPB	0.00
Spiked Amount 10.000			Recovery	=	98.40%	
Target Compounds						Qvalue
14) Acetone	2.70	43	3686	4.24	PPB	90
41) Cyclohexane	5.66	56	2827	0.31	PPB	92
63) Toluene	8.48	92	6914	0.55	PPB	97

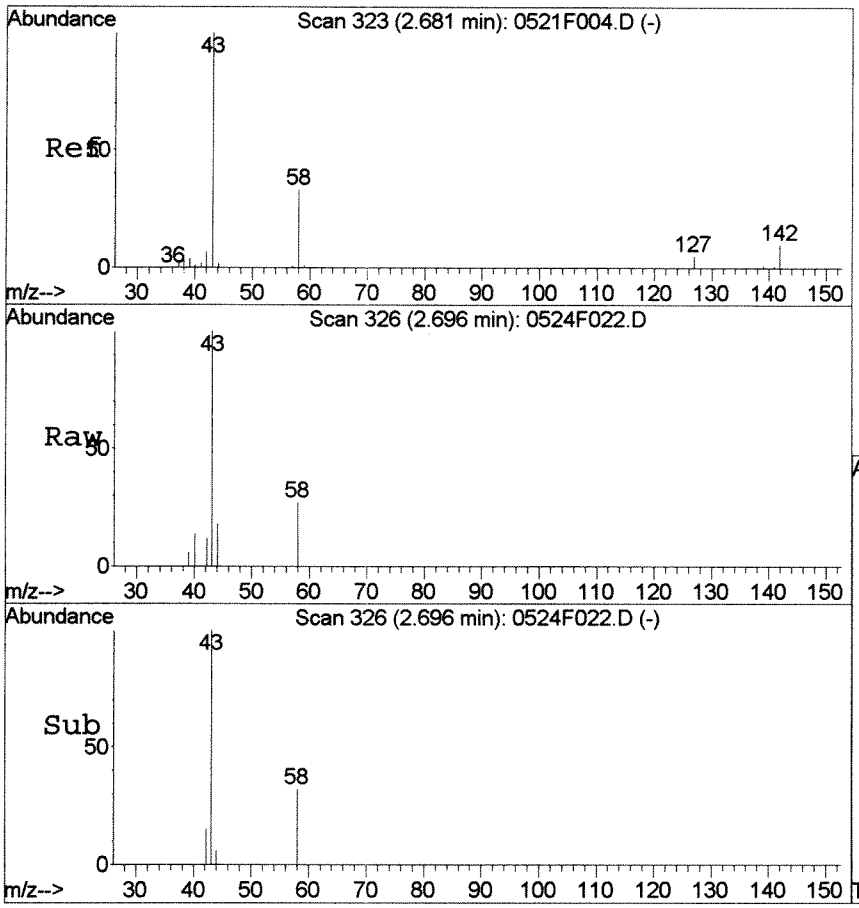
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS46\DATA\052418\0524F022.D Vial: 20
Acq On : 24 May 2018 08:42 pm Operator: LM
Sample : K4750-016 BUBBLE Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 15:25 2018 Quant Results File: 091517MS46_8

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 15:04:39 2017
Response via : Initial Calibration

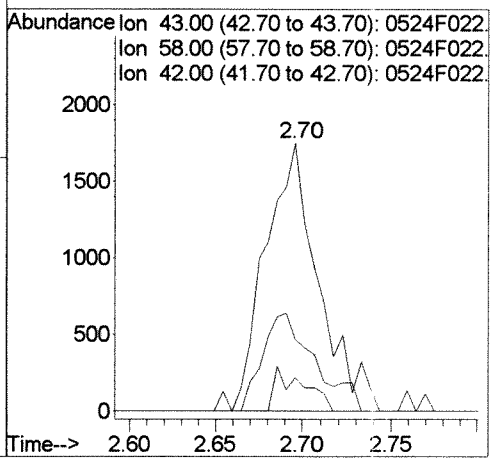


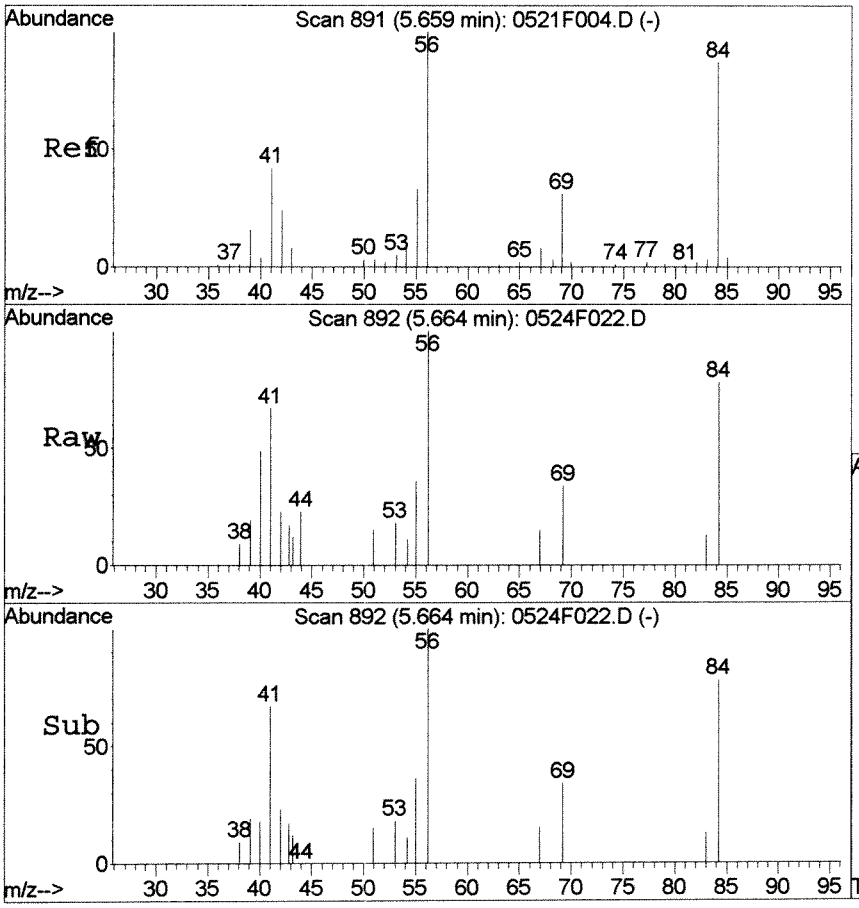


#14
Acetone
Concen: 4.24 PPB
RT: 2.70 min Scan# 326
Delta R.T. 0.03 min
Lab File: 0524F022.D
Acq: 24 May 2018 08:42 pm

Tgt Ion: 43 Resp: 3686

Ion	Ratio	Lower	Upper
43	100		
58	26.7	1.6	61.6
42	12.5	0.0	37.3

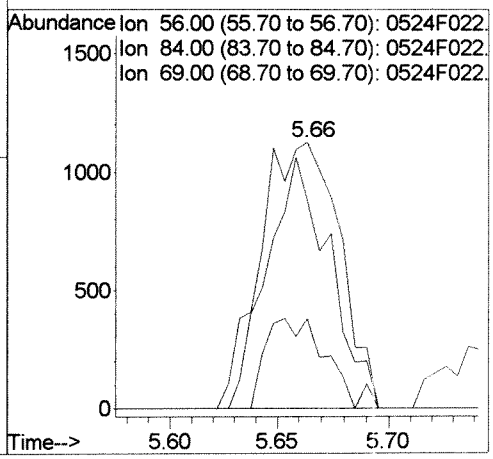


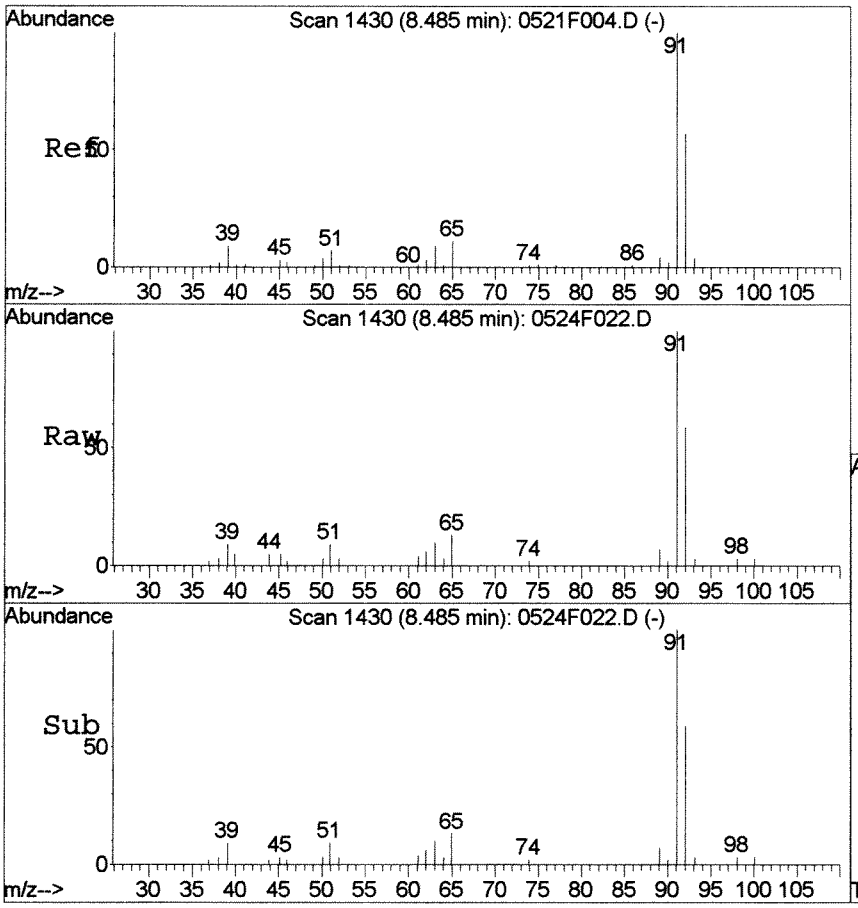


#41
Cyclohexane
Concen: 0.31 PPB
RT: 5.66 min Scan# 892
Delta R.T. 0.02 min
Lab File: 0524F022.D
Acq: 24 May 2018 08:42 pm

Tgt Ion: 56 Resp: 2827

Ion	Ratio	Lower	Upper
56	100		
84	78.2	57.3	117.3
69	33.8	1.2	61.2

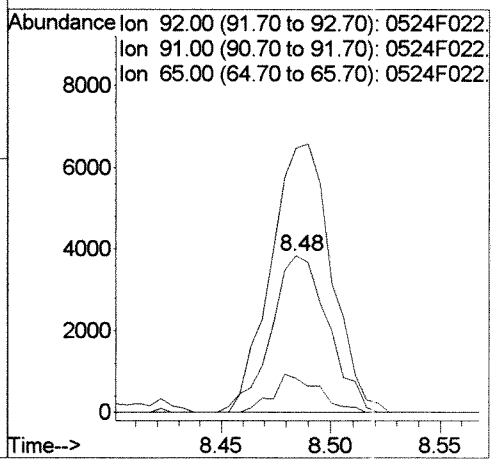




#63
Toluene
Concen: 0.55 PPB
RT: 8.48 min Scan# 1430
Delta R.T. 0.01 min
Lab File: 0524F022.D
Acq: 24 May 2018 08:42 pm

Tgt Ion: 92 Resp: 6914

Ion	Ratio	Lower	Upper
92	100		
91	168.6	143.1	203.1
65	21.9	0.0	50.7



Exception Report

Data File: J:\MS46\DATA\052418\0524F023.D
Lab ID: K1804750-017
RunType: SMPL
Matrix: WATER

Date Acquired: 05/24/2018 21:08
Date Quantitated: 05/25/2018 15:27
Batch ID: KWG1802662
Analysis Method: 8260C
ListJoinID: LJ16508

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: LM 05-25-18

Secondary Review: MAY 29 2018

Quantitation Report

Data File:	J:\MS46\DATA\052418\0524F023.D			**Instrument:**	MS46
Acqu Date:	05/24/2018 21:08	**Quant Date:**	05/25/2018 15:27	**Vial:**	21
Run Type:	SMPL	**ListJoinID:**	LJ16508	**Dilution:**	1.0
Lab ID:	K1804750-017			**Soln Conc. Units:**	PPB

Bottle ID:		**Tier:**	IV	**Matrix:**	WATER
Prod Code:	8260C VOC FP	**Collect Date:**	05/16/2018	**Receive Date:**	05/18/2018

Analysis Lot:	KWG1802662	**Prep Lot:**	KWG1802664	**Report Group:**	K1804750
Analysis Method:	8260C	**Prep Method:**	EPA 5030B		
Prep Ref:	1677474	**Prep Date:**	05/24/2018		

Quant Method:	J:\MS46\METHODS\091517MS46_8	**Calibration ID:**	CAL15549
Title:	Volatile Organic Compounds	**Report List ID:**	LJ16508
Tune Ref:	J:\MS46\DATA\052418\0524F003.D	**Method ID:**	MJ119
MB Ref:	J:\MS46\DATA\052418\0524F009.D	**Quant based on Report List**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Fluorobenzene	6.59	0.01	96	168843	10.00	OK
2	Chlorobenzene-d5	10.04	0.00	82	69984	10.00	OK
3	1,4-Dichlorobenzene-d4	12.61	0.00	152	56903	10.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
1	Dibromofluoromethane	5.80	0.00	0.00	113	47985	10.80	108	73-122	OK
1	Toluene-d8	8.41	0.00	0.00	98	157074	9.52	95	65-144	OK
2	4-Bromofluorobenzene	11.35	0.00	0.00	95	53008	9.82	98	68-117	OK

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Benzene	6.19		0.00	78	1585	0.0800	0.080	J	

Prep Amount:	10 ml	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS46\DATA\052418\0524F023.D Vial: 21
Acq On : 24 May 2018 09:08 pm Operator: LM
Sample : K4750-017 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 09:32:01 2018 Quant Results File: 091517MS46_8260

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 15:04:39 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

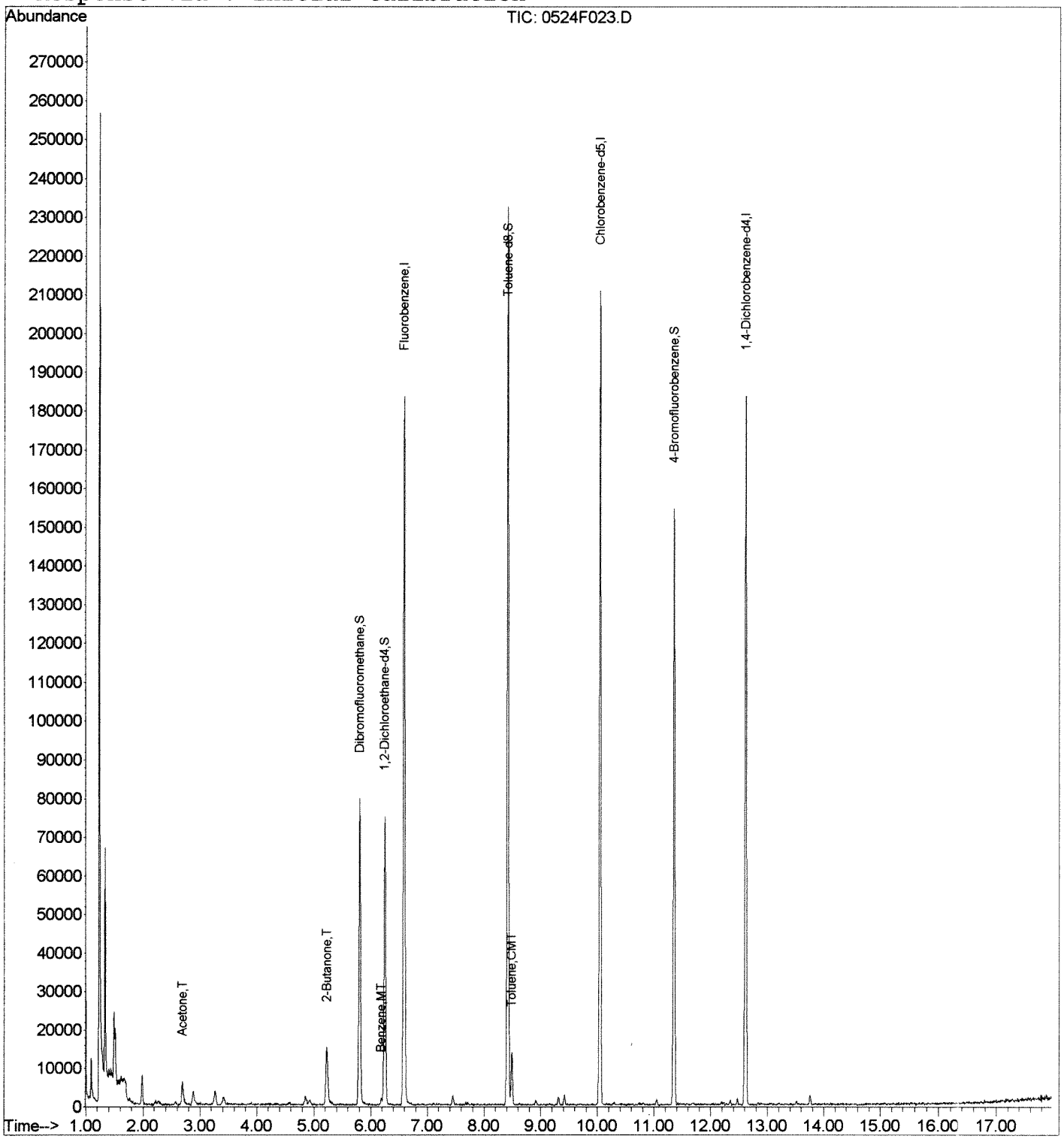
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	6.59	96	168843	10.00	PPB	0.01
64) Chlorobenzene-d5	10.04	82	69984	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	12.61	152	56903	10.00	PPB	0.00
System Monitoring Compounds						
43) Dibromofluoromethane	5.80	113	47985	10.80	PPB	0.02
Spiked Amount 10.000			Recovery	=	108.00%	
47) 1,2-Dichloroethane-d4	6.25	65	56528	10.55	PPB	0.02
Spiked Amount 10.000			Recovery	=	105.50%	
62) Toluene-d8	8.41	98	157074	9.52	PPB	0.00
Spiked Amount 10.000			Recovery	=	95.20%	
84) 4-Bromofluorobenzene	11.35	95	53008	9.82	PPB	0.00
Spiked Amount 10.000			Recovery	=	98.20%	
Target Compounds						Qvalue
14) Acetone	2.69	43	7923	9.09	PPB	96
34) 2-Butanone	5.22	72	3190	9.58	PPB #	58
48) Benzene	6.19	78	1585	0.08	PPB	78
63) Toluene	8.49	92	5674	0.45	PPB	96

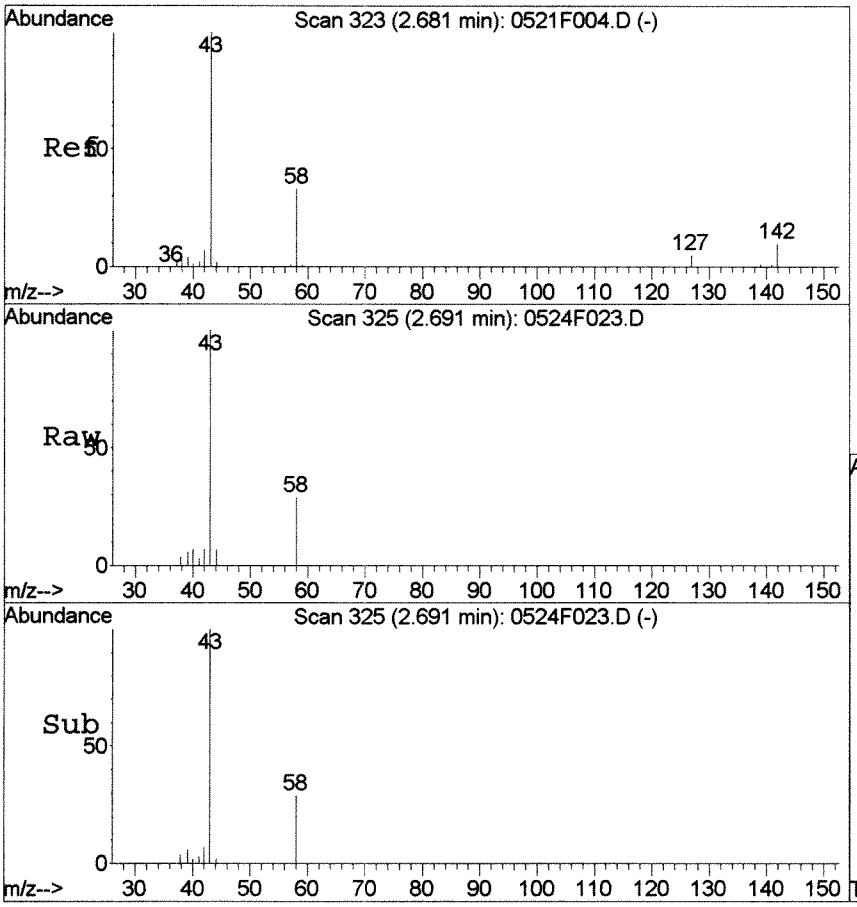
(#) = qualifier out of range (m) = manual integration
0524F023.D 091517MS46_8260.M Fri May 25 15:39:26 2018 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS46\DATA\052418\0524F023.D Vial: 21
Acq On : 24 May 2018 09:08 pm Operator: LM
Sample : K4750-017 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 15:27 2018 Quant Results File: 091517MS46_8

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 15:04:39 2017
Response via : Initial Calibration

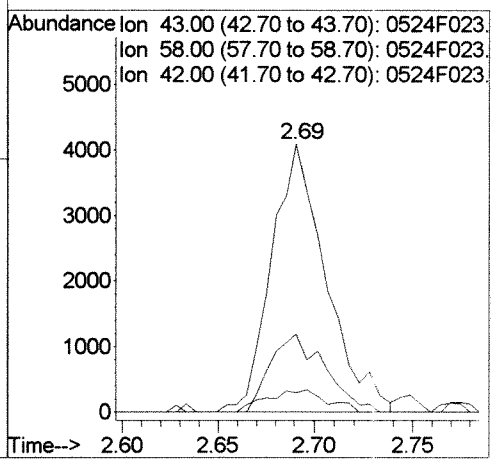


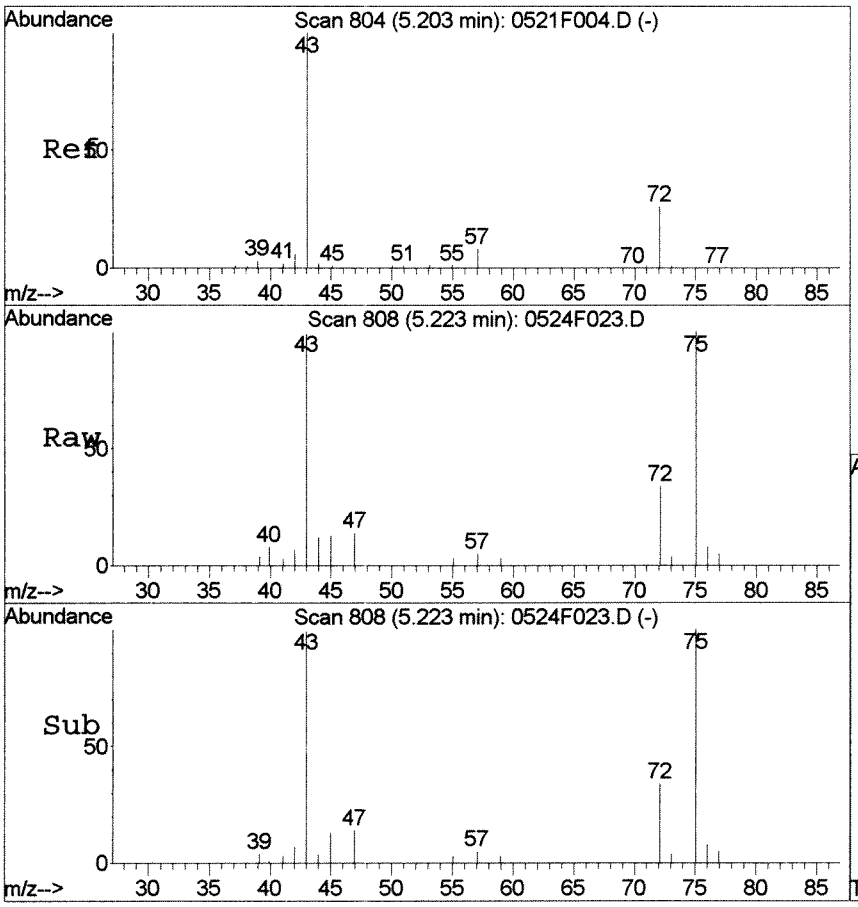


#14
Acetone
Concen: 9.09 PPB
RT: 2.69 min Scan# 325
Delta R.T. 0.03 min
Lab File: 0524F023.D
Acq: 24 May 2018 09:08 pm

Tgt Ion: 43 Resp: 7923

Ion	Ratio	Lower	Upper
43	100		
58	29.1	1.6	61.6
42	7.2	0.0	37.3

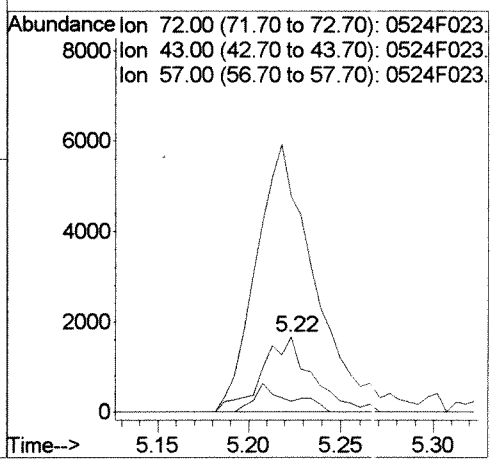


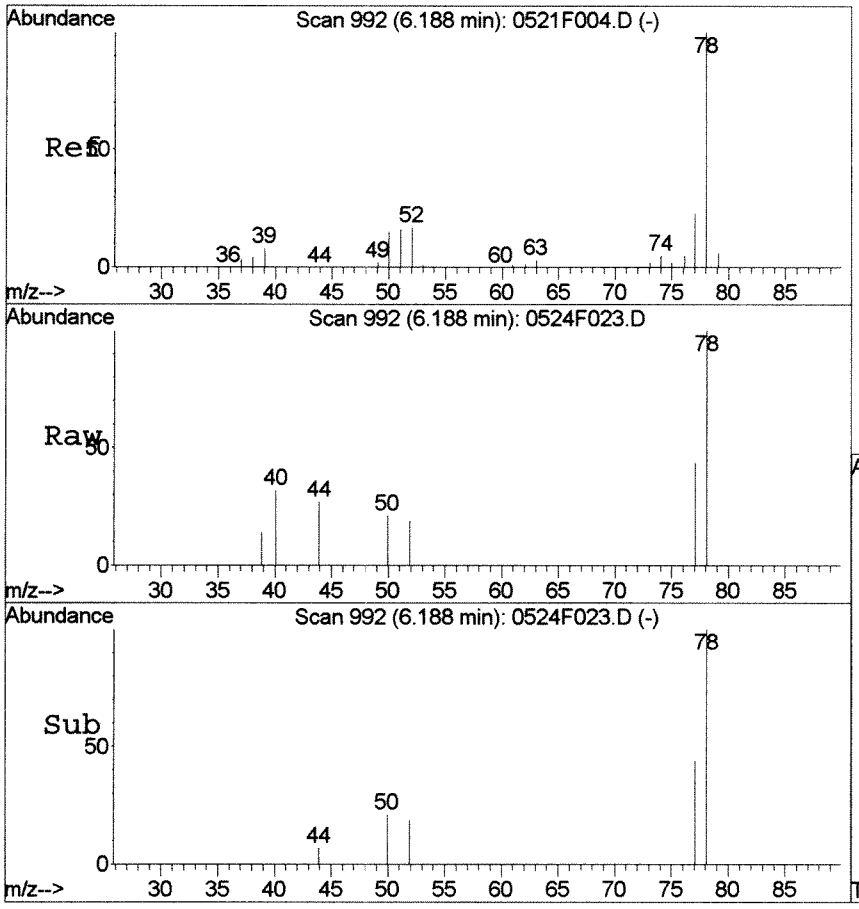


#34
2-Butanone
Concen: 9.58 PPB
RT: 5.22 min Scan# 808
Delta R.T. 0.03 min
Lab File: 0524F023.D
Acq: 24 May 2018 09:08 pm

Tgt Ion: 72 Resp: 3190

Ion	Ratio	Lower	Upper
72	100		
43	287.0	355.8	415.8#
57	14.3	2.3	62.3

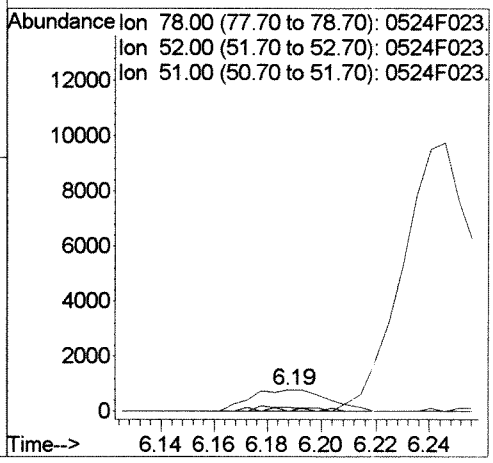


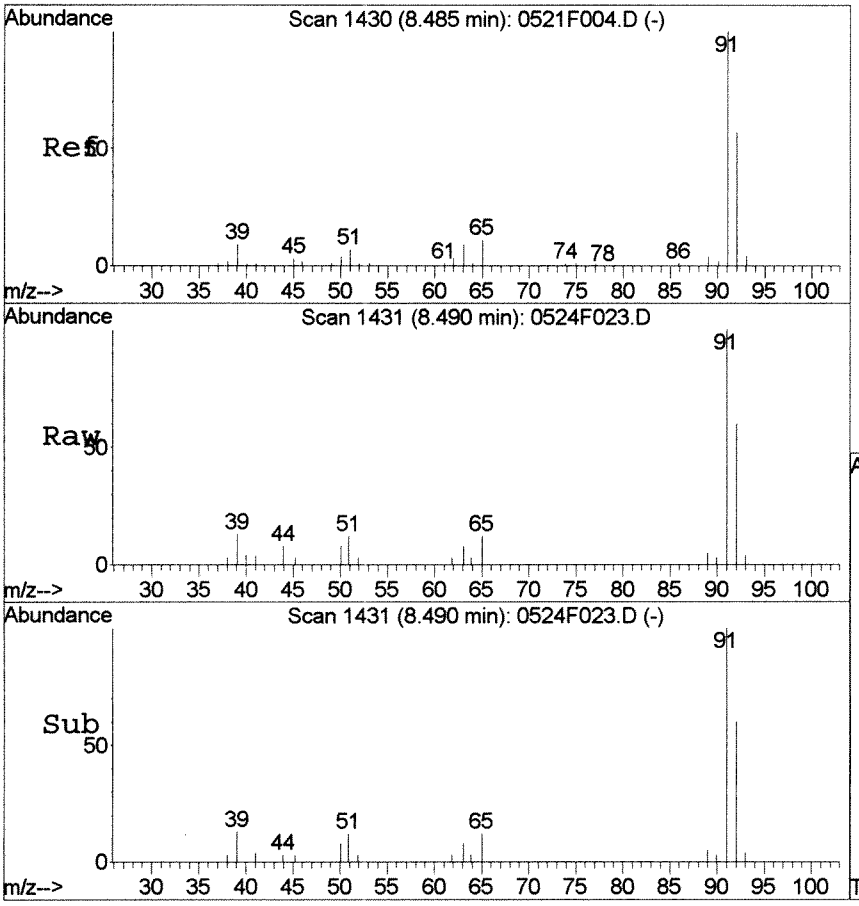


#48
Benzene
Concen: 0.08 PPB
RT: 6.19 min Scan# 992
Delta R.T. 0.02 min
Lab File: 0524F023.D
Acq: 24 May 2018 09:08 pm

Tgt Ion: 78 Resp: 1585

Ion	Ratio	Lower	Upper
78	100		
52	18.6	0.0	46.8
51	0.0	0.0	47.3

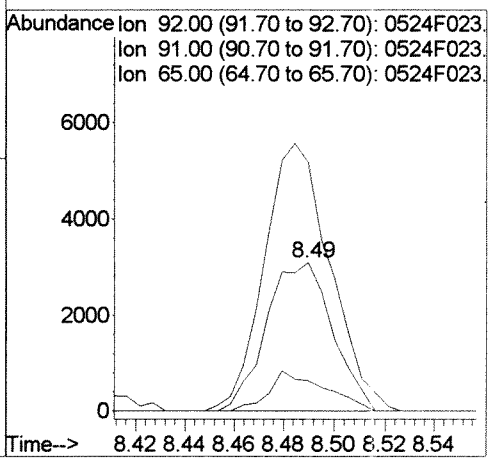




#63
Toluene
Concen: 0.45 PPB
RT: 8.49 min Scan# 1431
Delta R.T. 0.01 min
Lab File: 0524F023.D
Acq: 24 May 2018 09:08 pm

Tgt Ion: 92 Resp: 5674

Ion	Ratio	Lower	Upper
92	100		
91	167.5	143.1	203.1
65	20.5	0.0	50.7



Exception Report

Data File: J:\MS46\DATA\052418\0524F013.D
Lab ID: K1804750-018
RunType: SMPL
Matrix: WATER

Date Acquired: 05/24/2018 16:45
Date Quantitated: 05/25/2018 14:24
Batch ID: KWG1802662
Analysis Method: 8260C
ListJoinID: LJ16508

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: LM 05-25-18

Secondary Review: MAY 29 2018

Quantitation Report

Data File:	J:\MS46\DATA\052418\0524F013.D			**Instrument:**	MS46
Acqu Date:	05/24/2018 16:45	**Quant Date:**	05/25/2018 14:24	**Vial:**	11
Run Type:	SMPL	**ListJoinID:**	LJ16508	**Dilution:**	1.0
Lab ID:	K1804750-018			**Soln Conc. Units:**	PPB

Bottle ID:		**Tier:**	IV	**Matrix:**	WATER
Prod Code:	8260C VOC FP	**Collect Date:**		**Receive Date:**	05/18/2018

Analysis Lot:	KWG1802662	**Prep Lot:**	KWG1802664	**Report Group:**	K1804750
Analysis Method:	8260C	**Prep Method:**	EPA 5030B		
Prep Ref:	1677475	**Prep Date:**	05/24/2018		

Quant Method:	J:\MS46\METHODS\091517MS46_8	**Calibration ID:**	CAL15549
Title:	Volatile Organic Compounds	**Report List ID:**	LJ16508
Tune Ref:	J:\MS46\DATA\052418\0524F003.D	**Method ID:**	MJ119
MB Ref:	J:\MS46\DATA\052418\0524F009.D	**Quant based on Report List**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Fluorobenzene	6.59	0.01	96	166145	10.00	OK
2	Chlorobenzene-d5	10.04	0.00	82	71195	10.00	OK
3	1,4-Dichlorobenzene-d4	12.61	0.00	152	56569	10.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
1	Dibromofluoromethane	5.80	0.00	0.00	113	48508	11.09	111	73-122	OK
1	Toluene-d8	8.41	0.00	0.00	98	157298	9.69	97	65-144	OK
2	4-Bromofluorobenzene	11.35	0.00	0.00	95	52443	9.55	96	68-117	OK

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Benzene				78	0		0.062	U	

Prep Amount:	10 ml	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS46\DATA\052418\0524F013.D Vial: 11
Acq On : 24 May 2018 04:45 pm Operator: LM
Sample : K4750-018 050318TB BUBBLE Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 09:31:54 2018 Quant Results File: 091517MS46_8260

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 15:04:39 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

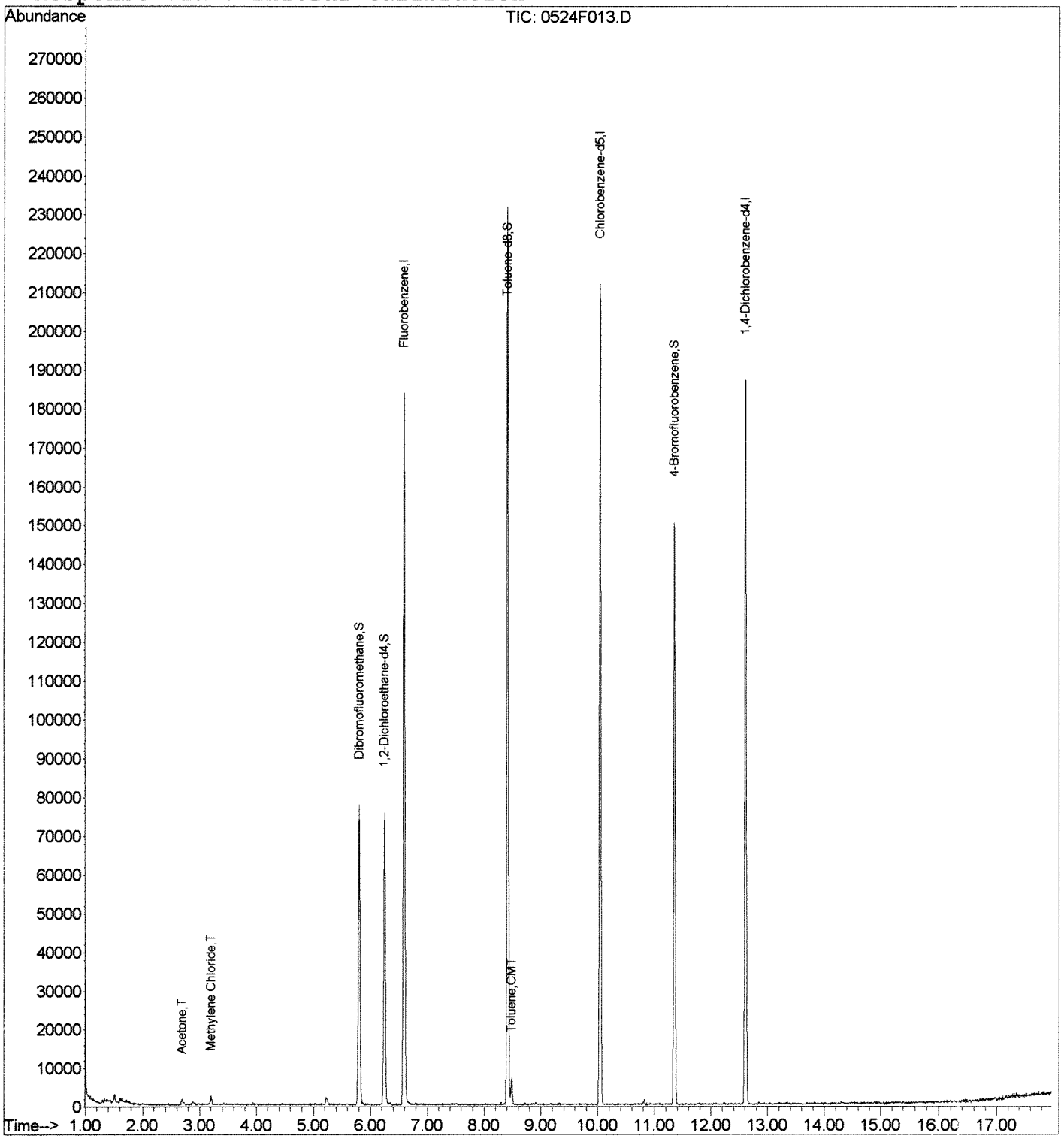
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	6.59	96	166145	10.00	PPB	0.01
64) Chlorobenzene-d5	10.04	82	71195	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	12.61	152	56569	10.00	PPB	0.00
System Monitoring Compounds						
43) Dibromofluoromethane	5.80	113	48508	11.09	PPB	0.02
Spiked Amount 10.000			Recovery	=	110.90%	
47) 1,2-Dichloroethane-d4	6.25	65	55027	10.44	PPB	0.02
Spiked Amount 10.000			Recovery	=	104.40%	
62) Toluene-d8	8.41	98	157298	9.69	PPB	0.00
Spiked Amount 10.000			Recovery	=	96.90%	
84) 4-Bromofluorobenzene	11.35	95	52443	9.55	PPB	0.00
Spiked Amount 10.000			Recovery	=	95.50%	
Target Compounds						Qvalue
14) Acetone	2.69	43	1703	1.98	PPB	75
21) Methylene Chloride	3.20	84	1035	0.21	PPB #	75
63) Toluene	8.48	92	2924	0.24	PPB	94

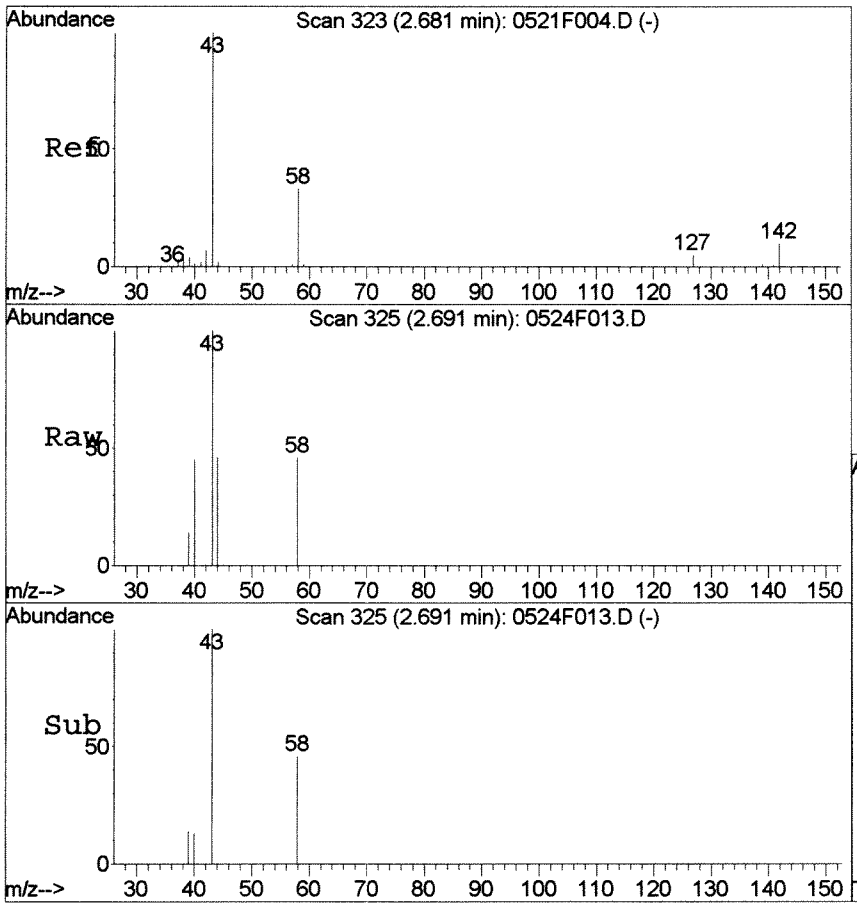
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS46\DATA\052418\0524F013.D Vial: 11
Acq On : 24 May 2018 04:45 pm Operator: LM
Sample : K4750-018 050318TB BUBBLE Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 14:24 2018 Quant Results File: 091517MS46_8

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 15:04:39 2017
Response via : Initial Calibration

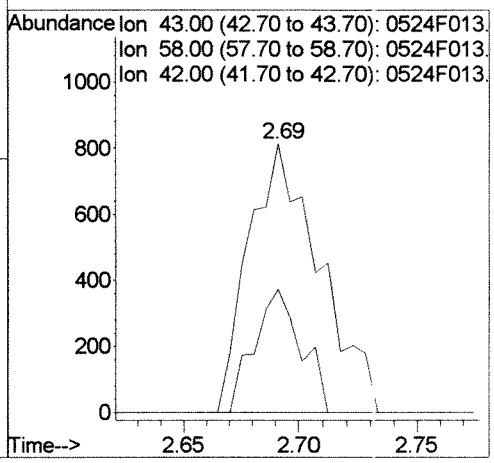


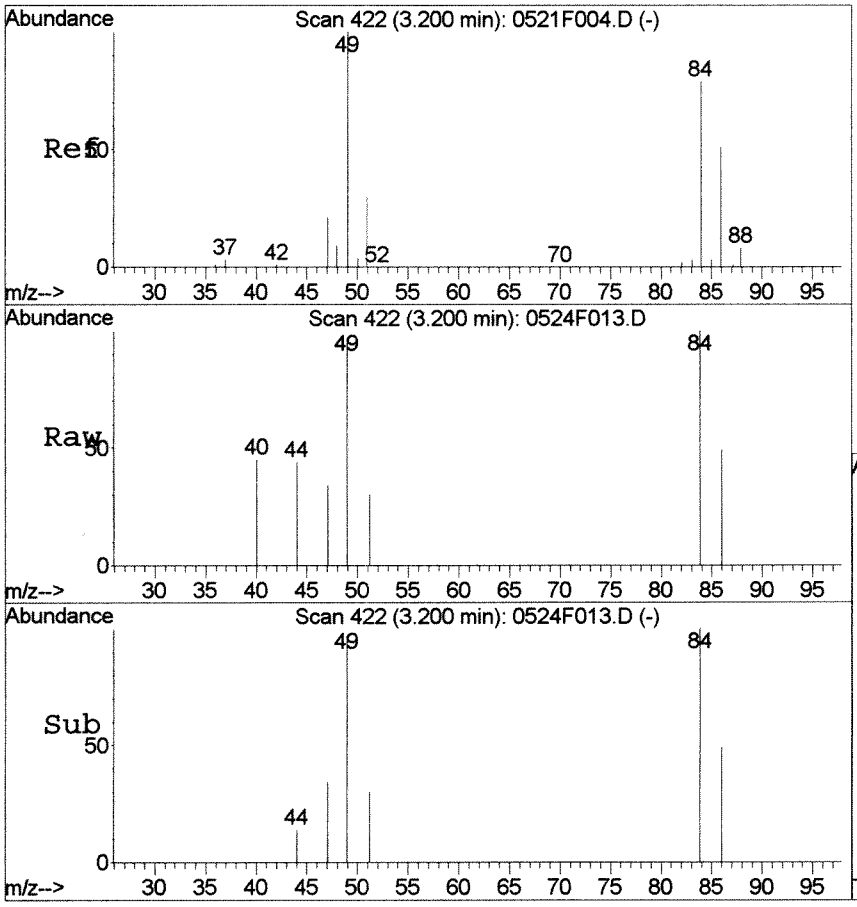


#14
Acetone
Concen: 1.98 PPB
RT: 2.69 min Scan# 325
Delta R.T. 0.03 min
Lab File: 0524F013.D
Acq: 24 May 2018 04:45 pm

Tgt Ion: 43 Resp: 1703

Ion	Ratio	Lower	Upper
43	100		
58	45.8	1.6	61.6
42	0.0	0.0	37.3

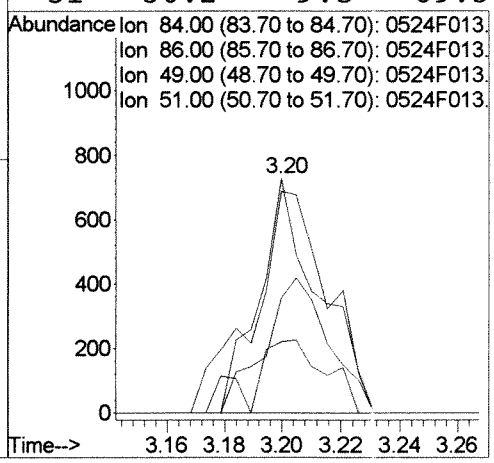


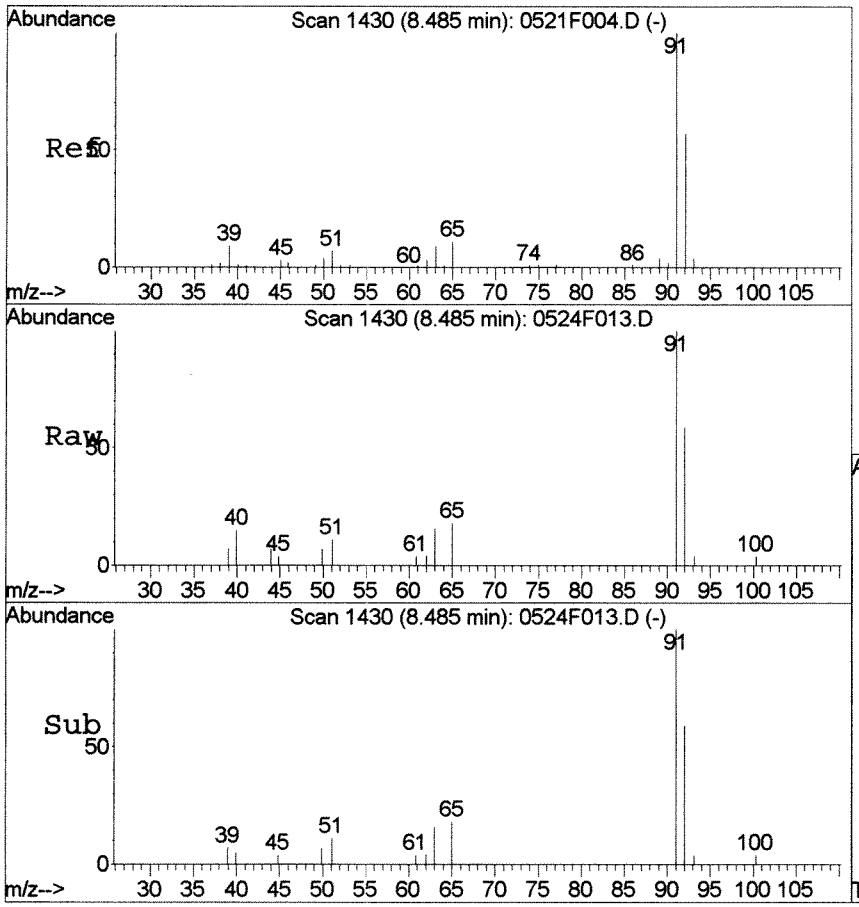


#21
Methylene Chloride
Concen: 0.21 PPB
RT: 3.20 min Scan# 422
Delta R.T. 0.02 min
Lab File: 0524F013.D
Acq: 24 May 2018 04:45 pm

Tgt Ion: 84 Resp: 1035

Ion	Ratio	Lower	Upper
84	100		
86	48.9	35.8	95.8
49	94.5	98.9	158.9#
51	30.2	9.5	69.5

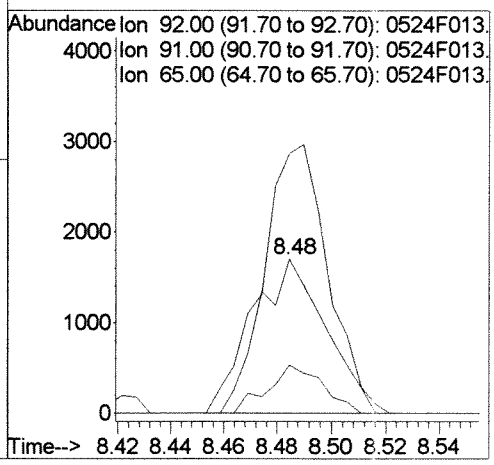




#63
Toluene
Concen: 0.24 PPB
RT: 8.48 min Scan# 1430
Delta R.T. 0.01 min
Lab File: 0524F013.D
Acq: 24 May 2018 04:45 pm

Tgt Ion: 92 Resp: 2924

Ion	Ratio	Lower	Upper
92	100		
91	168.2	143.1	203.1
65	31.1	0.0	50.7



Exception Report

Data File: J:\MS46\DATA\052418\0524F009.D
Lab ID: KWG1802664-4
RunType: MB
Matrix: WATER

Date Acquired: 05/24/2018 14:58
Date Quantitated: 05/25/2018 14:19
Batch ID: KWG1802662
Analysis Method: 8260C
MethodJoinID: MJ119

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA		x
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA		x
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Minimum RF	NA	NA	NA		x
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA		x
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Initial Calibration Minimum RF	1,3-Butadiene	0.0096	0.01	NA	NT
	2-Propanol	0.0077	0.01	NA	
	Isobutyl Alcohol	0.0046	0.01	NA	
	1,4-Dioxane	0.0009	0.01	NA	
Second Source ICAL Verification	Vinyl Acetate	-43.7	NA	30	
Continuing Calibration Recovery	Dichlorodifluoromethane	-21.7	NA	20	CCV OK
	Chloromethane	-28.2	NA	20	
	Vinyl Chloride	-29.0	NA	20	
	Bromomethane	-27.1	NA	20	
	Chloroethane	-23.1	NA	20	
	Acrolein	-51.9	NA	20	NT
	Iodomethane	-27.7	NA	20	
	2-Propanol	-46.3	NA	20	

Primary Review: LM 05-25-18

Secondary Review: MAY 2 9 2018

Printed: 05/25/2018 16:14:48
u:\Stealth\Crystal.rpt\except2.rpt

Exception Report

Data File: J:\MS46\DATA\052418\0524F009.D
Lab ID: KWG1802664-4
RunType: MB
Matrix: WATER

Date Acquired: 05/24/2018 14:58
Date Quantitated: 05/25/2018 14:19
Batch ID: KWG1802662
Analysis Method: 8260C
MethodJoinID: MJ119

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
	Methyl Acetate	-24.6	NA	20	NT
	tert-Butyl Alcohol	-25.4	NA	20	
	Tetrahydrofuran	-54.9	NA	20	
	Isobutyl Alcohol	-24.8	NA	20	
	1,4-Dioxane	-25.0	NA	20	
	trans-1,4-Dichloro-2-butene	-23.9	NA	20	
Continuing Calibration Minimum RF	2-Propanol	0.0041	0.01	NA	
	Acetonitrile	0.0087	0.01	NA	
	tert-Butyl Alcohol	0.0091	0.01	NA	
	Tetrahydrofuran	0.0087	0.01	NA	
	Isobutyl Alcohol	0.0034	0.01	NA	
	1,4-Dioxane	0.0005	0.01	NA	
Std MRL Unsupported by ICAL	1,3-Butadiene	60	0.50	NA	

Primary Review: LM 05-25-18

Secondary Review: MAY 29 2018

Quantitation Report

Data File:	J:\MS46\DATA\052418\0524F009.D			**Instrument:**	MS46
Acqu Date:	05/24/2018 14:58	**Quant Date:**	05/25/2018 14:19	**Vial:**	7
Run Type:	MB	**MethodJoinID:**	MJ119	**Dilution:**	1.0
Lab ID:	KWG1802664-4			**Soln Conc. Units:**	PPB

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8260C VOC FP	**Collect Date:**		**Receive Date:**	05/24/2018

Analysis Lot:	KWG1802662	**Prep Lot:**	KWG1802664	**Report Group:**	
Analysis Method:	8260C	**Prep Method:**	EPA 5030B		
Prep Ref:	1677466	**Prep Date:**	05/24/2018		

Quant Method:	J:\MS46\METHODS\091517MS46_8	**Calibration ID:**	CAL15549
Title:			
Tune Ref:	J:\MS46\DATA\052418\0524F003.D	**Method ID:**	MJ119
MB Ref:		**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Fluorobenzene	6.59	0.01	96	171600	10.00	OK
2	Chlorobenzene-d5	10.04	0.00	82	73414	10.00	OK
3	1,4-Dichlorobenzene-d4	12.61	0.00	152	57383	10.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
1	Dibromofluoromethane	5.80	0.00	0.00	113	49648	10.99	110	73-122	OK
1	1,2-Dichloroethane-d4	6.25	0.00	0.00	65	54829	10.07	101	59-127	OK
1	Toluene-d8	8.41	0.00	0.00	98	163798	9.77	98	65-144	OK
2	4-Bromofluorobenzene	11.35	0.00	0.00	95	55285	9.76	98	68-117	OK

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Dichlorodifluoromethane				85	0		0.13	U	
1	Chloromethane				50	0		0.068	U	
1	Vinyl Chloride				62	0		0.075	U	
1	1,3-Butadiene				54	0		0.50	U	
1	Bromomethane				96	0		0.16	U	
1	Chloroethane				64	0		0.16	U	
1	Dichlorofluoromethane (CFC 21)				67	0		0.065	U	
1	Trichlorofluoromethane				101	0		0.12	U	
1	Ethyl Ether				59	0		0.075	U	
1	Acrolein				56	0		1.2	U	
1	Trichlorotrifluoroethane				151	0		0.13	U	
1	1,1-Dichloroethene				96	0		0.080	U	
1	Acetone	2.69	0.01	0.00	43	1669	1.88	3.3	U	
1	Iodomethane				142	0		0.12	U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS46\DATA\052418\0524F009.D			**Instrument:**	MS46
Acqu Date:	05/24/2018 14:58	**Quant Date:**	05/25/2018 14:19	**Vial:**	7
Run Type:	MB	**MethodJoinID:**	MJ119	**Dilution:**	1.0
Lab ID:	KWG1802664-4			**Soln Conc. Units:**	PPB

Target Compounds **Final Conc. Units:** ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Carbon Disulfide				76	0**d**		0.069	U	
1	2-Propanol				45	0		17	U	
1	3-Chloro-1-propene				76	0**d**		0.094	U	
1	Methyl Acetate				43	0**d**		0.38	U	
1	Acetonitrile				40	0		13	U	
1	Methylene Chloride	3.21	0.01	0.00	84	919	0.1800	0.180	J	
1	tert-Butyl Alcohol				59	0		4.4	U	
1	Acrylonitrile				53	0		0.53	U	
1	Methyl tert-Butyl Ether				73	0		0.11	U	
1	trans-1,2-Dichloroethene				96	0		0.072	U	
1	n-Hexane				57	0		0.090	U	
1	Diisopropyl Ether				45	0		0.048	U	
1	1,1-Dichloroethane				63	0		0.077	U	
1	Vinyl Acetate				86	0		0.43	U	
1	Chloroprene				53	0		3.6	U	
1	tert-Butyl Ethyl Ether				59	0		0.048	U	
1	2,2-Dichloropropane				77	0		0.065	U	
1	cis-1,2-Dichloroethene				96	0		0.067	U	
1	2-Butanone (MEK)				72	0		1.9	U	
1	Ethyl Acetate				61	0		0.57	U	
1	Propionitrile				54	0		1.1	U	
1	Methacrylonitrile				67	0		0.35	U	
1	Bromochloromethane				128	0		0.16	U	
1	Tetrahydrofuran				71	0		0.94	U	
1	Chloroform				83	0		0.072	U	
1	Cyclohexane				56	0		0.36	U	
1	1,1,1-Trichloroethane (TCA)				97	0		0.075	U	
1	Carbon Tetrachloride				117	0		0.096	U	
1	1,1-Dichloropropene				75	0		0.089	U	
1	Isobutyl Alcohol				43	0		6.9	U	
1	Benzene				78	0		0.062	U	
1	1,2-Dichloroethane (EDC)				62	0		0.080	U	
1	tert-Amyl Methyl Ether				55	0		0.12	U	
1	Trichloroethene (TCE)				95	0		0.10	U	
1	Methylcyclohexane				83	0		0.33	U	
1	1,2-Dichloropropane				63	0		0.095	U	
1	Dibromomethane				93	0		0.15	U	
1	Methyl Methacrylate				69	0		0.13	U	
1	1,4-Dioxane				88	0		14	U	
1	Bromodichloromethane				83	0		0.091	U	
1	2-Nitropropane				41	0**d**		0.96	U	
1	2-Chloroethyl Vinyl Ether				63	0		0.16	U	

U: Undetected at or above MDL
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N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS46\DATA\052418\0524F009.D			**Instrument:**	MS46
Acqu Date:	05/24/2018 14:58	**Quant Date:**	05/25/2018 14:19	**Vial:**	7
Run Type:	MB	**MethodJoinID:**	MJ119	**Dilution:**	1.0
Lab ID:	KWG1802664-4			**Soln Conc. Units:**	PPB

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	cis-1,3-Dichloropropene				75	0		0.18	U	
1	4-Methyl-2-pentanone (MIBK)				58	0d		2.6	U	
1	Toluene				92	0		0.054	U	
2	n-Octane				85	0		0.16	U	
2	trans-1,3-Dichloropropene				75	0		0.068	U	
2	Ethyl Methacrylate				69	0		0.15	U	
2	1,1,2-Trichloroethane				83	0		0.14	U	
2	Tetrachloroethene (PCE)				164	0		0.099	U	
2	2-Hexanone				57	0		2.7	U	
2	1,3-Dichloropropane				76	0		0.14	U	
2	Dibromochloromethane				129	0		0.14	U	
2	1,2-Dibromoethane (EDB)				107	0		0.10	U	
2	1-Chlorohexane				91	0		0.058	U	
2	Chlorobenzene				112	0		0.11	U	
2	Ethylbenzene				106	0		0.050	U	
2	1,1,1,2-Tetrachloroethane				131	0		0.11	U	
2	m,p-Xylenes				106	0		0.11	U	
2	o-Xylene				106	0		0.074	U	
2	Styrene				103	0		0.089	U	
2	Bromoform				173	0		0.16	U	
2	Isopropylbenzene				105	0		0.051	U	
2	cis-1,4-Dichloro-2-butene				89	0		1.4	U	
3	1,1,2,2-Tetrachloroethane				83	0		0.16	U	
3	trans-1,4-Dichloro-2-butene				53	0		0.35	U	
3	Bromobenzene				156	0		0.12	U	
3	n-Propylbenzene				91	0		0.054	U	
3	1,2,3-Trichloropropane				110	0		0.20	U	
3	2-Chlorotoluene				91	0		0.10	U	
3	1,3,5-Trimethylbenzene				105	0		0.089	U	
3	4-Chlorotoluene				91	0		0.13	U	
3	tert-Butylbenzene				119	0		0.059	U	
3	1,2,4-Trimethylbenzene				105	0		0.069	U	
3	sec-Butylbenzene				105	0		0.062	U	
3	4-Isopropyltoluene				119	0		0.060	U	
3	1,3-Dichlorobenzene				146	0		0.10	U	
3	1,4-Dichlorobenzene				146	0		0.12	U	
3	n-Butylbenzene				91	0		0.054	U	
3	1,2-Dichlorobenzene				146	0		0.12	U	
3	1,2-Dibromo-3-chloropropane				155	0		0.22	U	
3	1,3,5-Trichlorobenzene				180	0		0.10	U	
3	1,2,4-Trichlorobenzene				180	0		0.096	U	
3	Hexachlorobutadiene				225	0		0.11	U	

U: Undetected at or above MDL
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D: Result from dilution
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c: check for co-elution

Data File:	J:\MS46\DATA\052418\0524F009.D			**Instrument:**	MS46
Acqu Date:	05/24/2018 14:58	**Quant Date:**	05/25/2018 14:19	**Vial:**	7
Run Type:	MB	**MethodJoinID:**	MJ119	**Dilution:**	1.0
Lab ID:	KWG1802664-4			**Soln Conc. Units:**	PPB

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
3	Naphthalene				128	0		0.088	U	
3	1,2,3-Trichlorobenzene				180	0		0.11	U	
	Benzyl Chloride				0	0		1.0	U	NR
	Isopropyl Acetate				0	0		20	U	NR
	Cyclohexanone				0	0		1.0	U	NR
	2-Ethoxyethanol				0	0		1.0	U	NR
	Bis(2-chloroethyl) Ether				0	0		20	U	NR
	beta-Pinene				0	0		1.0	U	NR
	1,1,2-Trifluoroethane				0	0		1.0	U	NR
	2,2,4-Trimethylpentane				0	0		1.0	U	NR
	Bis(chloromethyl) Ether				0	0		1.0	U	NR
	Amyl Acetate				0	0		20	U	NR
	Bromoethane				0	0		1.0	U	NR
	Pentachloroethane				0	0		5.0	U	NR
	1,1-Dichloropropane				0	0		1.0	U	NR
	alpha-Pinene				0	0		1.0	U	NR
	1,1,1,2-Tetrafluoroethane				0	0		1.0	U	NR
	Nitrobenzene				0	0		20	U	NR

Prep Amount:	10 ml	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File : J:\MS46\DATA\052418\0524F009.D Vial: 7
Acq On : 24 May 2018 02:58 pm Operator: LM
Sample : MB Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 09:31:51 2018 Quant Results File: 091517MS46_8260

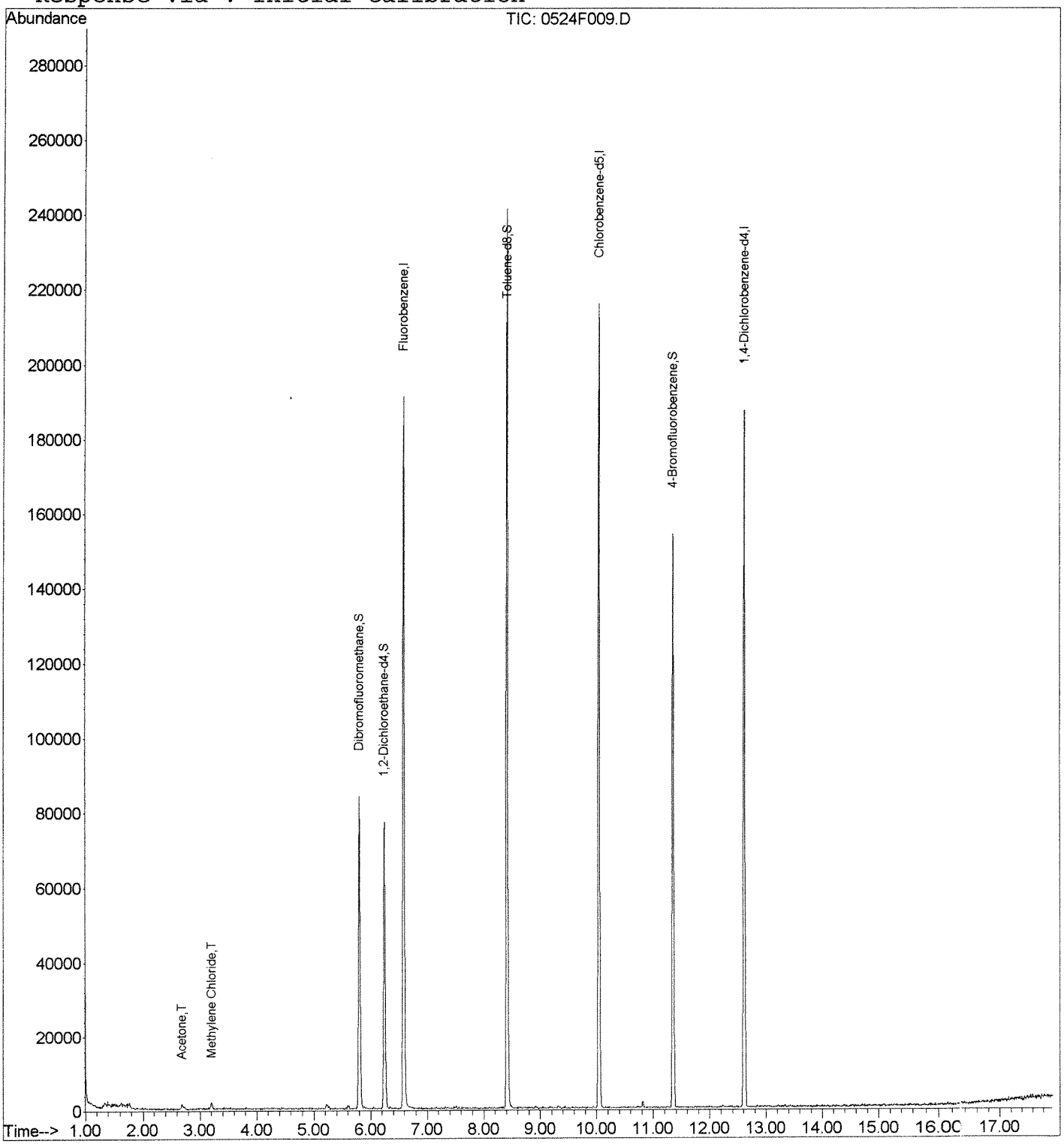
Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 15:04:39 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

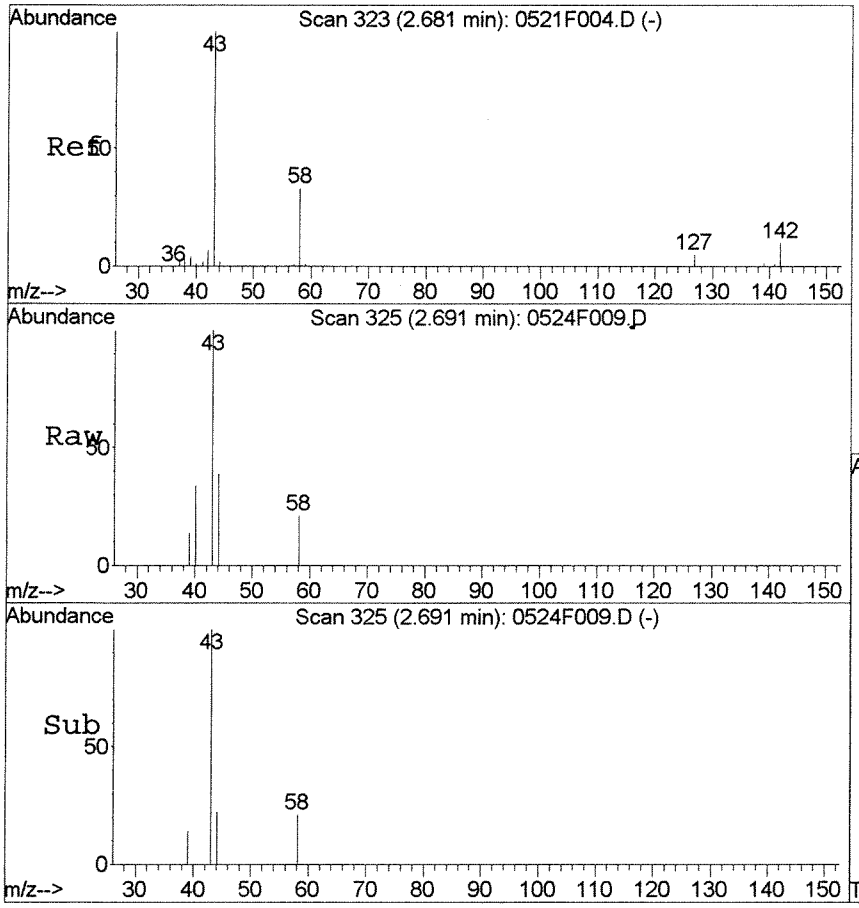
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	6.59	96	171600	10.00 PPB	0.01
64) Chlorobenzene-d5	10.04	82	73414	10.00 PPB	0.00
85) 1,4-Dichlorobenzene-d4	12.61	152	57383	10.00 PPB	0.00
System Monitoring Compounds					
43) Dibromofluoromethane	5.80	113	49648	10.99 PPB	0.02
Spiked Amount 10.000			Recovery	= 109.90%	
47) 1,2-Dichloroethane-d4	6.25	65	54829	10.07 PPB	0.02
Spiked Amount 10.000			Recovery	= 100.70%	
62) Toluene-d8	8.41	98	163798	9.77 PPB	0.00
Spiked Amount 10.000			Recovery	= 97.70%	
84) 4-Bromofluorobenzene	11.35	95	55285	9.76 PPB	0.00
Spiked Amount 10.000			Recovery	= 97.60%	
Target Compounds					Qvalue
14) Acetone	2.69	43	1669	1.88 PPB	80
21) Methylene Chloride	3.21	84	919	0.18 PPB	80

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS46\DATA\052418\0524F009.D Vial: 7
Acq On : 24 May 2018 02:58 pm Operator: LM
Sample : MB Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 14:19 2018 Quant Results File: 091517MS46_8

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 15:04:39 2017
Response via : Initial Calibration

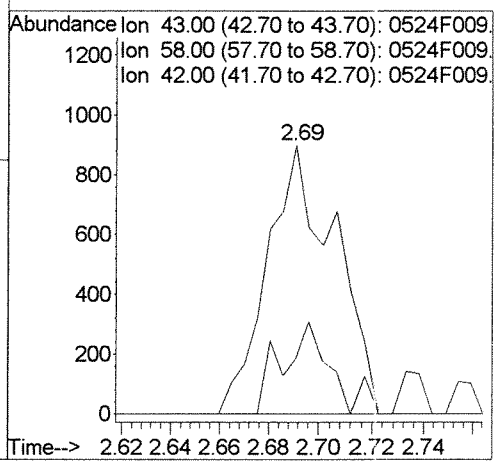


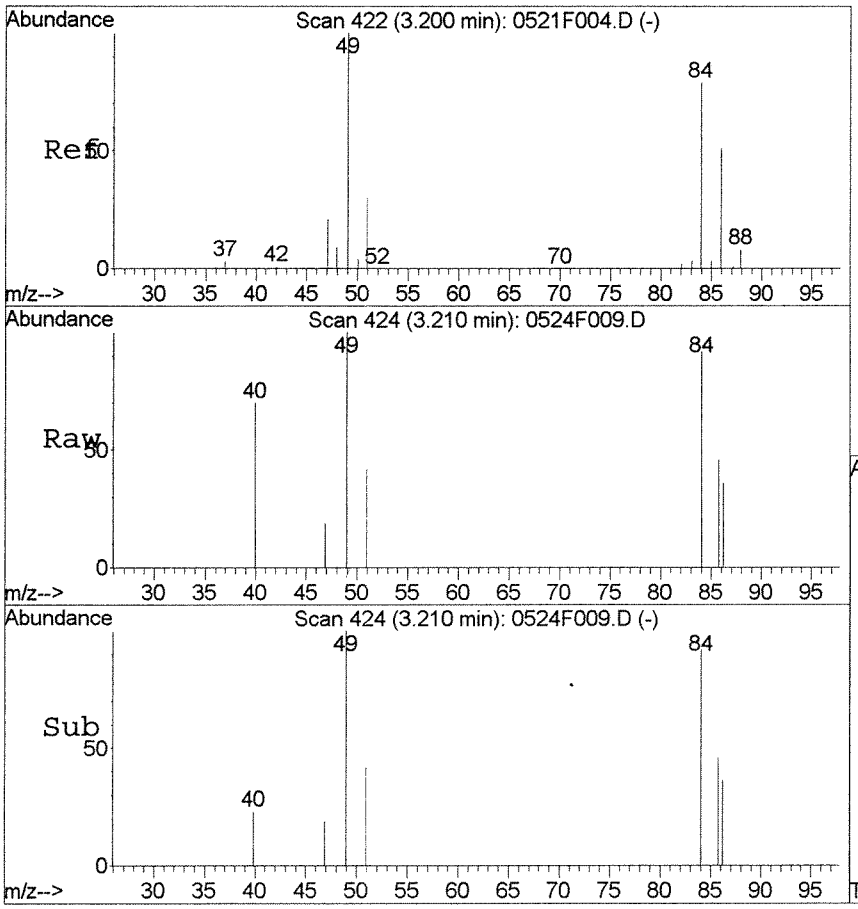


#14
Acetone
Concen: 1.88 PPB
RT: 2.69 min Scan# 325
Delta R.T. 0.03 min
Lab File: 0524F009.D
Acq: 24 May 2018 02:58 pm

Tgt Ion: 43 Resp: 1669

Ion	Ratio	Lower	Upper
43	100		
58	20.8	1.6	61.6
42	0.0	0.0	37.3

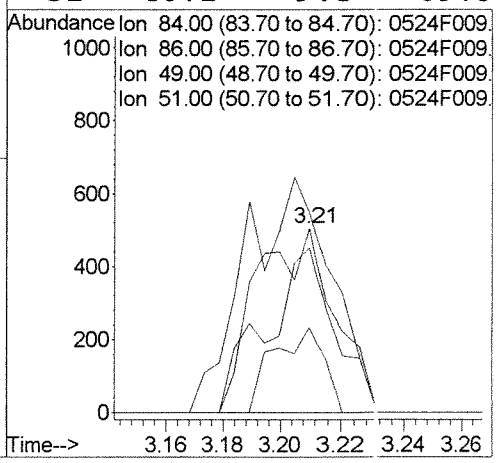




#21
Methylene Chloride
Concen: 0.18 PPB
RT: 3.21 min Scan# 424
Delta R.T. 0.03 min
Lab File: 0524F009.D
Acq: 24 May 2018 02:58 pm

Tgt Ion: 84 Resp: 919

Ion	Ratio	Lower	Upper
84	100		
86	89.1	35.8	95.8
49	108.7	98.9	158.9
51	46.1	9.5	69.5



Exception Report

Data File: J:\MS46\DATA\052418\0524F005.D
Lab ID: KWG1802664-3
RunType: LCS
Matrix: WATER

Date Acquired: 05/24/2018 13:13
Date Quantitated: 05/24/2018 13:40
Batch ID: KWG1802662
Analysis Method: 8260C
MethodJoinID: MJ119

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA		x
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA		x
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Minimum RF	NA	NA	NA		x
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA		x
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Initial Calibration Minimum RF	1,3-Butadiene	0.0096	0.01	NA	NT
	2-Propanol	0.0077	0.01	NA	
	Isobutyl Alcohol	0.0046	0.01	NA	
	1,4-Dioxane	0.0009	0.01	NA	
Second Source ICAL Verification	Vinyl Acetate	-43.7	NA	30	
Continuing Calibration Recovery	Dichlorodifluoromethane	-21.7	NA	20	CCV OK
	Chloromethane	-28.2	NA	20	
	Vinyl Chloride	-29.0	NA	20	
	Bromomethane	-27.1	NA	20	
	Chloroethane	-23.1	NA	20	
	Acrolein	-51.9	NA	20	NT
	Iodomethane	-27.7	NA	20	
	2-Propanol	-46.3	NA	20	

Primary Review: LM 05-24-18

Secondary Review: MAY 2 9 2018

Exception Report

Data File: J:\MS46\DATA\052418\0524F005.D
Lab ID: KWG1802664-3
RunType: LCS
Matrix: WATER

Date Acquired: 05/24/2018 13:13
Date Quantitated: 05/24/2018 13:40
Batch ID: KWG1802662
Analysis Method: 8260C
MethodJoinID: MJ119

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
	Methyl Acetate	-24.6	NA	20	NT
	tert-Butyl Alcohol	-25.4	NA	20	
	Vinyl Acetate	74.7	NA	20	
	Tetrahydrofuran	-54.9	NA	20	
	Isobutyl Alcohol	-24.8	NA	20	
	1,4-Dioxane	-25.0	NA	20	
	trans-1,4-Dichloro-2-butene	-23.9	NA	20	
Continuing Calibration Minimum RF	2-Propanol	0.0041	0.01	NA	
	Acetonitrile	0.0087	0.01	NA	
	tert-Butyl Alcohol	0.0091	0.01	NA	
	Tetrahydrofuran	0.0087	0.01	NA	
	Isobutyl Alcohol	0.0034	0.01	NA	
	1,4-Dioxane	0.0005	0.01	NA	
Std MRL Unsupported by ICAL	1,3-Butadiene	60	0.50	NA	✓

Primary Review: LM 05-24-18

Secondary Review: MAY 29 2018

Quantitation Report

Data File:	J:\MS46\DATA\052418\0524F005.D			**Instrument:**	MS46
Acqu Date:	05/24/2018 13:13	**Quant Date:**	05/24/2018 13:40	**Vial:**	4
Run Type:	LCS	**MethodJoinID:**	MJ119	**Dilution:**	1.0
Lab ID:	KWG1802664-3			**Soln Conc. Units:**	PPB

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8260C VOC FP	**Collect Date:**		**Receive Date:**	05/24/2018

Analysis Lot:	KWG1802662	**Prep Lot:**	KWG1802664	**Report Group:**	
Analysis Method:	8260C	**Prep Method:**	EPA 5030B		
Prep Ref:	1677465	**Prep Date:**	05/24/2018		

Quant Method:	J:\MS46\METHODS\091517MS46_8	**Calibration ID:**	CAL15549
Title:			
Tune Ref:	J:\MS46\DATA\052418\0524F003.D	**Method ID:**	MJ119
MB Ref:		**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Fluorobenzene	6.59	0.01	96	188246	10.00	OK
2	Chlorobenzene-d5	10.04	0.00	82	76837	10.00	OK
3	1,4-Dichlorobenzene-d4	12.61	0.00	152	65757	10.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	Dibromofluoromethane	5.80	0.00	0.00	113	50532	10.20	102	73-122	OK	
1	1,2-Dichloroethane-d4	6.24	-0.01	0.00	65	56330	9.43	94	59-127	OK	
1	Toluene-d8	8.41	0.00	0.00	98	180772	9.83	98	65-144	OK	
2	4-Bromofluorobenzene	11.35	0.00	0.00	95	63389	10.69	107	68-117	OK	

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Dichlorodifluoromethane	1.11	-0.01	0.00	85	45409	7.28	7.28		
1	Chloromethane	1.29		0.00	50	47763	7.12	7.12		
1	Vinyl Chloride	1.36		0.00	62	52010	6.55	6.55		
1	1,3-Butadiene				54	0d		0.50	U	
1	Bromomethane	1.66		0.00	96	27956	5.78	5.78		
1	Chloroethane	1.76		0.00	64	34003	7.21	7.21		
1	Dichlorofluoromethane (CFC 21	1.97	-0.01	0.00	67	77694	7.62	7.62		
1	Trichlorofluoromethane	1.96		0.00	101	74323	7.35	7.35		
1	Ethyl Ether	2.28		0.00	59	34144	9.10	9.10		
1	Acrolein	2.50		0.00	56	68039	140.26	140		
1	Trichlorotrifluoroethane	2.49		0.00	151	40701	9.09	9.09		
1	1,1-Dichloroethene	2.52		0.00	96	42585	8.78	8.78		
1	Acetone	2.68		0.00	43	48913	50.32	50.3		
1	Iodomethane	2.70	-0.01	0.00	142	106659	18.66	18.7		

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J: Analyte detected above MDL, but below MRL
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N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS46\DATA\052418\0524F005.D			**Instrument:**	MS46
Acqu Date:	05/24/2018 13:13	**Quant Date:**	05/24/2018 13:40	**Vial:**	4
Run Type:	LCS	**MethodJoinID:**	MJ119	**Dilution:**	1.0
Lab ID:	KWG1802664-3			**Soln Conc. Units:**	PPB

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Carbon Disulfide	2.72	-0.01	0.00	76	241783	15.95	16.0		
1	2-Propanol				45	0d		17	U	
1	3-Chloro-1-propene	3.00		0.00	76	67567	23.87	23.9		
1	Methyl Acetate				43	0d		0.38	U	
1	Acetonitrile	3.13		0.00	40	59960	305.83	306		
1	Methylene Chloride	3.20		0.00	84	50212	8.98	8.98		
1	tert-Butyl Alcohol	3.41		0.00	59	18478	80.24	80.2		
1	Acrylonitrile	3.68	0.01	0.00	53	52403	38.00	38.0		
1	Methyl tert-Butyl Ether	3.48		0.00	73	121783	9.83	9.83		
1	trans-1,2-Dichloroethene	3.50		0.00	96	48755	8.62	8.62		
1	n-Hexane	3.80		0.00	57	154781	19.54	19.5		
1	Diisopropyl Ether	4.26		0.00	45	284264	16.43	16.4		
1	1,1-Dichloroethane	4.24		0.00	63	90708	8.66	8.66		
1	Vinyl Acetate	4.35		0.00	86	48336	86.12	86.1		
1	Chloroprene	4.31		0.00	53	184008	19.13	19.1		
1	tert-Butyl Ethyl Ether	4.81		0.00	59	252288	16.87	16.9		
1	2,2-Dichloropropane	5.06		0.00	77	77054	9.60	9.60		
1	cis-1,2-Dichloroethene	5.12		0.00	96	54078	9.30	9.30		
1	2-Butanone (MEK)	5.21		0.00	72	19258	51.90	51.9		
1	Ethyl Acetate	5.26		0.00	61	15220	29.50	29.5		
1	Propionitrile	5.40		0.00	54	13664	30.13	30.1		
1	Methacrylonitrile	5.54		0.00	67	45570	28.48	28.5		
1	Bromochloromethane	5.46	0.01	0.00	128	24349	10.35	10.4		
1	Tetrahydrofuran				71	0d		0.94	U	
1	Chloroform	5.58		0.00	83	93873	9.24	9.24		
1	Cyclohexane				56	0		0.36	U	
1	1,1,1-Trichloroethane (TCA)	5.71		0.00	97	78253	8.50	8.50		
1	Carbon Tetrachloride	5.86		0.00	117	70491	8.60	8.60		
1	1,1-Dichloropropene	5.93		0.00	75	65555	8.13	8.13		
1	Isobutyl Alcohol	6.28		0.00	43	24303	282.06	282		
1	Benzene	6.18	-0.01	0.00	78	194977	8.96	8.96		
1	1,2-Dichloroethane (EDC)	6.34		0.00	62	68041	9.45	9.45		
1	tert-Amyl Methyl Ether	6.34		0.00	55	66331	18.46	18.5		
1	Trichloroethene (TCE)	7.01		0.00	95	50073	8.43	8.43		
1	Methylcyclohexane				83	0d		0.33	U	
1	1,2-Dichloropropane	7.33	-0.01	0.00	63	51385	9.29	9.29		
1	Dibromomethane	7.47		0.00	93	30013	10.04	10.0		
1	Methyl Methacrylate	7.49		0.00	69	78879	28.57	28.6		
1	1,4-Dioxane	7.50	0.01	0.00	88	7052	520.74	521		
1	Bromodichloromethane	7.67		0.00	83	71807	9.92	9.92		
1	2-Nitropropane	8.03		0.00	41	25885	32.09	32.1		
1	2-Chloroethyl Vinyl Ether	8.05		0.00	63	23692	8.98	8.98		

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c: check for co-elution

Data File:	J:\MS46\DATA\052418\0524F005.D			**Instrument:**	MS46
Acqu Date:	05/24/2018 13:13	**Quant Date:**	05/24/2018 13:40	**Vial:**	4
Run Type:	LCS	**MethodJoinID:**	MJ119	**Dilution:**	1.0
Lab ID:	KWG1802664-3			**Soln Conc. Units:**	PPB

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	cis-1,3-Dichloropropene	8.19		0.00	75	82609	10.05	10.1		
1	4-Methyl-2-pentanone (MIBK)	8.37		0.00	58	63929	49.32	49.3		
1	Toluene	8.48		0.00	92	121893	8.70	8.70		
2	n-Octane				85	0d		0.16	U	
2	trans-1,3-Dichloropropene	8.85		0.00	75	66781	10.24	10.2		
2	Ethyl Methacrylate	8.90		0.00	69	158790	33.72	33.7		
2	1,1,2-Trichloroethane	9.05		0.00	83	35463	10.47	10.5		
2	Tetrachloroethene (PCE)	9.05		0.00	164	44384	10.05	10.1		
2	2-Hexanone	9.31		0.00	57	21159	55.43	55.4		
2	1,3-Dichloropropane	9.23		0.00	76	74541	10.47	10.5		
2	Dibromochloromethane	9.43		0.00	129	49774	10.53	10.5		
2	1,2-Dibromoethane (EDB)	9.56		0.00	107	40299	11.07	11.1		
2	1-Chlorohexane	10.04		0.00	91	65244	9.13	9.13		
2	Chlorobenzene	10.07		0.00	112	135636	10.54	10.5		
2	Ethylbenzene	10.16		0.00	106	72308	10.03	10.0		
2	1,1,1,2-Tetrachloroethane	10.18		0.00	131	52115	10.97	11.0		
2	m,p-Xylenes	10.30		0.00	106	174218	20.52	20.5		
2	o-Xylene	10.73		0.00	106	81774	10.09	10.1		
2	Styrene	10.77		0.00	103	77528	10.28	10.3		
2	Bromoform	11.00		0.00	173	30574	11.71	11.7		
2	Isopropylbenzene	11.13		0.00	105	214626	9.89	9.89		
2	cis-1,4-Dichloro-2-butene	11.31		0.00	89	16552	30.24	30.2		
3	1,1,2,2-Tetrachloroethane	11.56		0.00	83	45055	10.58	10.6		
3	trans-1,4-Dichloro-2-butene	11.63		0.00	53	32074	23.80	23.8		
3	Bromobenzene	11.49		0.00	156	55003	9.63	9.63		
3	n-Propylbenzene	11.58		0.00	91	258642	8.86	8.86		
3	1,2,3-Trichloropropane	11.61		0.00	110	14512	10.42	10.4		
3	2-Chlorotoluene	11.70		0.00	91	151752	9.52	9.52		
3	1,3,5-Trimethylbenzene	11.78		0.00	105	171659	9.30	9.30		
3	4-Chlorotoluene	11.83		0.00	91	161767	9.31	9.31		
3	tert-Butylbenzene	12.12		0.00	119	144613	9.16	9.16		
3	1,2,4-Trimethylbenzene	12.19		0.00	105	174739	9.94	9.94		
3	sec-Butylbenzene	12.36		0.00	105	216481	9.47	9.47		
3	4-Isopropyltoluene	12.53		0.00	119	177120	10.06	10.1		
3	1,3-Dichlorobenzene	12.53		0.00	146	101147	9.98	9.98		
3	1,4-Dichlorobenzene	12.64		0.00	146	102572	10.30	10.3		
3	n-Butylbenzene	12.98		0.00	91	152796	9.26	9.26		
3	1,2-Dichlorobenzene	13.05		0.00	146	91079	10.22	10.2		
3	1,2-Dibromo-3-chloropropane	13.94		0.00	155	5516	11.34	11.3		
3	1,3,5-Trichlorobenzene	14.09		0.00	180	57666	10.06	10.1		
3	1,2,4-Trichlorobenzene	14.81		0.00	180	41858	10.68	10.7		
3	Hexachlorobutadiene	14.93		0.00	225	24314	10.62	10.6		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS46\DATA\052418\0524F005.D			**Instrument:**	MS46
Acqu Date:	05/24/2018 13:13	**Quant Date:**	05/24/2018 13:40	**Vial:**	4
Run Type:	LCS	**MethodJoinID:**	MJ119	**Dilution:**	1.0
Lab ID:	KWG1802664-3			**Soln Conc. Units:**	PPB

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
3	Naphthalene	15.09	-0.01	0.00	128	69661	10.97	11.0		
3	1,2,3-Trichlorobenzene	15.36		0.00	180	31327	11.47	11.5		
	Benzyl Chloride				0	0		1.0	U	NR
	Isopropyl Acetate				0	0		20	U	NR
	Cyclohexanone				0	0		1.0	U	NR
	2-Ethoxyethanol				0	0		1.0	U	NR
	Bis(2-chloroethyl) Ether				0	0		20	U	NR
	beta-Pinene				0	0		1.0	U	NR
	1,1,2-Trifluoroethane				0	0		1.0	U	NR
	2,2,4-Trimethylpentane				0	0		1.0	U	NR
	Bis(chloromethyl) Ether				0	0		1.0	U	NR
	Amyl Acetate				0	0		20	U	NR
	Bromoethane				0	0		1.0	U	NR
	Pentachloroethane				0	0		5.0	U	NR
	1,1-Dichloropropane				0	0		1.0	U	NR
	alpha-Pinene				0	0		1.0	U	NR
	1,1,1,2-Tetrafluoroethane				0	0		1.0	U	NR
	Nitrobenzene				0	0		20	U	NR

Prep Amount:	10 ml	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Lab Control Spike Summary Report

Lab Control Spike Information ***ListJoinID :*** LJ800

Data File:	J:\MS46\DATA\052418\0524F005.D	**Instrument:**	MS46
Lab ID:	KWG1802664-3	**Dilution:**	1
Client ID:	Lab Control Sample	**Units:**	ug/L
Prod Code:	8260C VOC FP	**Acqu Date:**	05/24/2018 13:13
Matrix:	WATER	**Quant Date:**	05/24/2018 13:40

Parameter Name	Lab Control Spike Result	Lab Control Spike Expected	Lab Control Spike %Rec	%Rec Limits
Dichlorodifluoromethane	7.28	10.0	73	32-124
Chloromethane	7.12	10.0	71	34-130
Vinyl Chloride	6.55	10.0	66	55-123
Bromomethane	5.78	10.0	58	35-113
Chloroethane	7.21	10.0	72	58-134
Trichlorofluoromethane	7.35	10.0	74	52-141
1,1-Dichloroethene	8.78	10.0	88	66-129
Acetone	50.3	50.0	101	68-135
Carbon Disulfide	16.0	20.0	80	46-144
Methylene Chloride	8.98	10.0	90	71-122
trans-1,2-Dichloroethene	8.62	10.0	86	67-125
1,1-Dichloroethane	8.66	10.0	87	68-132
2,2-Dichloropropane	9.60	10.0	96	37-145
cis-1,2-Dichloroethene	9.30	10.0	93	71-118
2-Butanone (MEK)	51.9	50.0	104	71-149
Bromochloromethane	10.4	10.0	104	75-131
Chloroform	9.24	10.0	92	70-129
1,1,1-Trichloroethane (TCA)	8.50	10.0	85	59-136
Carbon Tetrachloride	8.60	10.0	86	55-140
1,1-Dichloropropene	8.13	10.0	81	59-134
Benzene	8.96	10.0	90	69-124
1,2-Dichloroethane (EDC)	9.45	10.0	95	56-142
Trichloroethene (TCE)	8.43	10.0	84	67-128
1,2-Dichloropropane	9.29	10.0	93	67-126
Dibromomethane	10.0	10.0	100	69-128
Bromodichloromethane	9.92	10.0	99	63-129
cis-1,3-Dichloropropene	10.1	10.0	101	62-132
4-Methyl-2-pentanone (MIBK	49.3	50.0	99	64-134
Toluene	8.70	10.0	87	69-124
trans-1,3-Dichloropropene	10.2	10.0	102	59-125
1,1,2-Trichloroethane	10.5	10.0	105	74-118
Tetrachloroethene (PCE)	10.1	10.0	101	62-126
2-Hexanone	55.4	50.0	111	59-131
1,3-Dichloropropane	10.5	10.0	105	75-116
Dibromochloromethane	10.5	10.0	105	67-126
1,2-Dibromoethane (EDB)	11.1	10.0	111	74-118
Chlorobenzene	10.5	10.0	105	72-116
Ethylbenzene	10.0	10.0	100	67-121
1,1,1,2-Tetrachloroethane	11.0	10.0	110	66-124
m,p-Xylenes	20.5	20.0	103	69-121
o-Xylene	10.1	10.0	101	71-119
Styrene	10.3	10.0	103	74-121
Bromoform	11.7	10.0	117	52-144
Isopropylbenzene	9.89	10.0	99	67-129
1,1,2,2-Tetrachloroethane	10.6	10.0	106	70-127

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Lab Control Spike Summary Report

Lab Control Spike Information *ListJoinID :* LJ800

Data File:	J:\MS46\DATA\052418\0524F005.D	**Instrument:**	MS46
Lab ID:	KWG1802664-3	**Dilution:**	1
Client ID:	Lab Control Sample	**Units:**	ug/L
Prod Code:	8260C VOC FP	**Acqu Date:**	05/24/2018 13:13
Matrix:	WATER	**Quant Date:**	05/24/2018 13:40

Parameter Name	Lab Control Spike			%Rec Limits
	Result	Expected	%Rec	
Bromobenzene	9.63	10.0	96	72-116
n-Propylbenzene	8.86	10.0	89	61-124
1,2,3-Trichloropropane	10.4	10.0	104	69-123
2-Chlorotoluene	9.52	10.0	95	55-131
1,3,5-Trimethylbenzene	9.30	10.0	93	62-126
4-Chlorotoluene	9.31	10.0	93	66-121
tert-Butylbenzene	9.16	10.0	92	61-127
1,2,4-Trimethylbenzene	9.94	10.0	99	63-122
sec-Butylbenzene	9.47	10.0	95	59-128
4-Isopropyltoluene	10.1	10.0	101	61-128
1,3-Dichlorobenzene	9.98	10.0	100	70-116
1,4-Dichlorobenzene	10.3	10.0	103	73-115
n-Butylbenzene	9.26	10.0	93	55-130
1,2-Dichlorobenzene	10.2	10.0	102	72-115
1,2-Dibromo-3-chloropropane	11.3	10.0	113	55-132
1,2,4-Trichlorobenzene	10.7	10.0	107	58-126
Hexachlorobutadiene	10.6	10.0	106	57-119
Naphthalene	11.0	10.0	110	64-126
1,2,3-Trichlorobenzene	11.5	10.0	115	68-120

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Lab Control Spike Summary Report

Lab Control Spike Information ***ListJoinID :*** LJ16303

Data File:	J:\MS46\DATA\052418\0524F005.D	**Instrument:**	MS46
Lab ID:	KWG1802664-3	**Dilution:**	1
Client ID:	Lab Control Sample	**Units:**	ug/L
Prod Code:	8260C VOC FP	**Acqu Date:**	05/24/2018 13:13
Matrix:	WATER	**Quant Date:**	05/24/2018 13:40

	Lab Control Spike			
Parameter Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Dichlorodifluoromethane	7.28	10.0	73	32-124
Chloromethane	7.12	10.0	71	34-130
Vinyl Chloride	6.55	10.0	66	55-123
Bromomethane	5.78	10.0	58	35-113
Chloroethane	7.21	10.0	72	58-134
Trichlorofluoromethane	7.35	10.0	74	52-141
1,1-Dichloroethene	8.78	10.0	88	66-129
Acetone	50.3	50.0	101	68-135
Carbon Disulfide	16.0	20.0	80	46-144
Methylene Chloride	8.98	10.0	90	71-122
trans-1,2-Dichloroethene	8.62	10.0	86	67-125
1,1-Dichloroethane	8.66	10.0	87	68-132
2,2-Dichloropropane	9.60	10.0	96	37-145
cis-1,2-Dichloroethene	9.30	10.0	93	71-118
2-Butanone (MEK)	51.9	50.0	104	71-149
Bromochloromethane	10.4	10.0	104	75-131
Chloroform	9.24	10.0	92	70-129
1,1,1-Trichloroethane (TCA)	8.50	10.0	85	59-136
Carbon Tetrachloride	8.60	10.0	86	55-140
1,1-Dichloropropene	8.13	10.0	81	59-134
Benzene	8.96	10.0	90	69-124
1,2-Dichloroethane (EDC)	9.45	10.0	95	56-142
Trichloroethene (TCE)	8.43	10.0	84	67-128
1,2-Dichloropropane	9.29	10.0	93	67-126
Dibromomethane	10.0	10.0	100	69-128
Bromodichloromethane	9.92	10.0	99	63-129
cis-1,3-Dichloropropene	10.1	10.0	101	62-132
4-Methyl-2-pentanone (MIBK	49.3	50.0	99	64-134
Toluene	8.70	10.0	87	69-124
trans-1,3-Dichloropropene	10.2	10.0	102	59-125
1,1,2-Trichloroethane	10.5	10.0	105	74-118
Tetrachloroethene (PCE)	10.1	10.0	101	62-126
2-Hexanone	55.4	50.0	111	59-131
1,3-Dichloropropane	10.5	10.0	105	75-116
Dibromochloromethane	10.5	10.0	105	67-126
1,2-Dibromoethane (EDB)	11.1	10.0	111	74-118
Chlorobenzene	10.5	10.0	105	72-116
Ethylbenzene	10.0	10.0	100	67-121
1,1,1,2-Tetrachloroethane	11.0	10.0	110	66-124
m,p-Xylenes	20.5	20.0	103	69-121
o-Xylene	10.1	10.0	101	71-119
Styrene	10.3	10.0	103	74-121
Bromoform	11.7	10.0	117	52-144
Isopropylbenzene	9.89	10.0	99	67-129
1,1,2,2-Tetrachloroethane	10.6	10.0	106	70-127

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Lab Control Spike Summary Report

Lab Control Spike Information ***ListJoinID :*** LJ16303

Data File:	J:\MS46\DATA\052418\0524F005.D	**Instrument:**	MS46
Lab ID:	KWG1802664-3	**Dilution:**	1
Client ID:	Lab Control Sample	**Units:**	ug/L
Prod Code:	8260C VOC FP	**Acqu Date:**	05/24/2018 13:13
Matrix:	WATER	**Quant Date:**	05/24/2018 13:40

Parameter Name	Lab Control Spike			%Rec Limits
	Result	Expected	%Rec	
Bromobenzene	9.63	10.0	96	72-116
n-Propylbenzene	8.86	10.0	89	61-124
1,2,3-Trichloropropane	10.4	10.0	104	69-123
2-Chlorotoluene	9.52	10.0	95	55-131
1,3,5-Trimethylbenzene	9.30	10.0	93	62-126
4-Chlorotoluene	9.31	10.0	93	66-121
tert-Butylbenzene	9.16	10.0	92	61-127
1,2,4-Trimethylbenzene	9.94	10.0	99	63-122
sec-Butylbenzene	9.47	10.0	95	59-128
4-Isopropyltoluene	10.1	10.0	101	61-128
1,3-Dichlorobenzene	9.98	10.0	100	70-116
1,4-Dichlorobenzene	10.3	10.0	103	73-115
n-Butylbenzene	9.26	10.0	93	55-130
1,2-Dichlorobenzene	10.2	10.0	102	72-115
1,2-Dibromo-3-chloropropane	11.3	10.0	113	55-132
1,2,4-Trichlorobenzene	10.7	10.0	107	58-126
Hexachlorobutadiene	10.6	10.0	106	57-119
Naphthalene	11.0	10.0	110	64-126
1,2,3-Trichlorobenzene	11.5	10.0	115	68-120

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Lab Control Spike Summary Report

Lab Control Spike Information **ListJoinID :** LJ16315

Data File:	J:\MS46\DATA\052418\0524F005.D	**Instrument:**	MS46
Lab ID:	KWG1802664-3	**Dilution:**	1
Client ID:	Lab Control Sample	**Units:**	ug/L
Prod Code:	8260C VOC FP	**Acqu Date:**	05/24/2018 13:13
Matrix:	WATER	**Quant Date:**	05/24/2018 13:40

Parameter Name	Lab Control Spike Result	Lab Control Spike Expected	Lab Control Spike %Rec	%Rec Limits
Dichlorodifluoromethane	7.28	10.0	73	32-124
Chloromethane	7.12	10.0	71	34-130
Vinyl Chloride	6.55	10.0	66	55-123
Bromomethane	5.78	10.0	58	35-113
Chloroethane	7.21	10.0	72	58-134
Trichlorofluoromethane	7.35	10.0	74	52-141
1,1-Dichloroethene	8.78	10.0	88	66-129
Methylene Chloride	8.98	10.0	90	71-122
trans-1,2-Dichloroethene	8.62	10.0	86	67-125
1,1-Dichloroethane	8.66	10.0	87	68-132
2,2-Dichloropropane	9.60	10.0	96	37-145
cis-1,2-Dichloroethene	9.30	10.0	93	71-118
2-Butanone (MEK)	51.9	50.0	104	71-149
Bromochloromethane	10.4	10.0	104	75-131
Chloroform	9.24	10.0	92	70-129
1,1,1-Trichloroethane (TCA)	8.50	10.0	85	59-136
Carbon Tetrachloride	8.60	10.0	86	55-140
1,1-Dichloropropene	8.13	10.0	81	59-134
Benzene	8.96	10.0	90	69-124
1,2-Dichloroethane (EDC)	9.45	10.0	95	56-142
Trichloroethene (TCE)	8.43	10.0	84	67-128
1,2-Dichloropropane	9.29	10.0	93	67-126
Dibromomethane	10.0	10.0	100	69-128
Bromodichloromethane	9.92	10.0	99	63-129
cis-1,3-Dichloropropene	10.1	10.0	101	62-132
Toluene	8.70	10.0	87	69-124
trans-1,3-Dichloropropene	10.2	10.0	102	59-125
1,1,2-Trichloroethane	10.5	10.0	105	74-118
Tetrachloroethene (PCE)	10.1	10.0	101	62-126
1,3-Dichloropropane	10.5	10.0	105	75-116
Dibromochloromethane	10.5	10.0	105	67-126
1,2-Dibromoethane (EDB)	11.1	10.0	111	74-118
Chlorobenzene	10.5	10.0	105	72-116
Ethylbenzene	10.0	10.0	100	67-121
1,1,1,2-Tetrachloroethane	11.0	10.0	110	66-124
m,p-Xylenes	20.5	20.0	103	69-121
o-Xylene	10.1	10.0	101	71-119
Styrene	10.3	10.0	103	74-121
Bromoform	11.7	10.0	117	52-144
Isopropylbenzene	9.89	10.0	99	67-129
1,1,2,2-Tetrachloroethane	10.6	10.0	106	70-127
Bromobenzene	9.63	10.0	96	72-116
n-Propylbenzene	8.86	10.0	89	61-124
1,2,3-Trichloropropane	10.4	10.0	104	69-123
2-Chlorotoluene	9.52	10.0	95	55-131
1,3,5-Trimethylbenzene	9.30	10.0	93	62-126

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Lab Control Spike Summary Report

Lab Control Spike Information ***ListJoinID :*** LJ16315

Data File:	J:\MS46\DATA\052418\0524F005.D	**Instrument:**	MS46
Lab ID:	KWG1802664-3	**Dilution:**	1
Client ID:	Lab Control Sample	**Units:**	ug/L
Prod Code:	8260C VOC FP	**Acqu Date:**	05/24/2018 13:13
Matrix:	WATER	**Quant Date:**	05/24/2018 13:40

Parameter Name	Lab Control Spike			%Rec Limits
	Result	Expected	%Rec	
4-Chlorotoluene	9.31	10.0	93	66-121
tert-Butylbenzene	9.16	10.0	92	61-127
1,2,4-Trimethylbenzene	9.94	10.0	99	63-122
sec-Butylbenzene	9.47	10.0	95	59-128
4-Isopropyltoluene	10.1	10.0	101	61-128
1,3-Dichlorobenzene	9.98	10.0	100	70-116
1,4-Dichlorobenzene	10.3	10.0	103	73-115
n-Butylbenzene	9.26	10.0	93	55-130
1,2-Dichlorobenzene	10.2	10.0	102	72-115
1,2-Dibromo-3-chloropropane	11.3	10.0	113	55-132
1,2,4-Trichlorobenzene	10.7	10.0	107	58-126
Hexachlorobutadiene	10.6	10.0	106	57-119
Naphthalene	11.0	10.0	110	64-126
1,2,3-Trichlorobenzene	11.5	10.0	115	68-120

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Lab Control Spike Summary Report

Lab Control Spike Information ***ListJoinID :*** LJ16508

Data File:	J:\MS46\DATA\052418\0524F005.D	**Instrument:**	MS46
Lab ID:	KWG1802664-3	**Dilution:**	1
Client ID:	Lab Control Sample	**Units:**	ug/L
Prod Code:	8260C VOC FP	**Acqu Date:**	05/24/2018 13:13
Matrix:	WATER	**Quant Date:**	05/24/2018 13:40

	Lab Control Spike			
Parameter Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Benzene	8.96	10.0	90	69-124

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Quantitation Report (QT Reviewed)

Data File : J:\MS46\DATA\052418\0524F005.D Vial: 4
Acq On : 24 May 2018 01:13 pm Operator: LM
Sample : LCS Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 24 13:39:23 2018 Quant Results File: 091517MS46_8260

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 15:04:39 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	6.59	96	188246	10.00	PPB	0.01
64) Chlorobenzene-d5	10.04	82	76837	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	12.61	152	65757	10.00	PPB	0.00
System Monitoring Compounds						
43) Dibromofluoromethane	5.80	113	50532	10.20	PPB	0.01
Spiked Amount 10.000			Recovery	=	102.00%	
47) 1,2-Dichloroethane-d4	6.24	65	56330	9.43	PPB	0.01
Spiked Amount 10.000			Recovery	=	94.30%	
62) Toluene-d8	8.41	98	180772	9.83	PPB	0.00
Spiked Amount 10.000			Recovery	=	98.30%	
84) 4-Bromofluorobenzene	11.35	95	63389	10.69	PPB	0.00
Spiked Amount 10.000			Recovery	=	106.90%	
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.11	85	45409	7.28	PPB	99
3) Chloromethane	1.29	50	47763	7.12	PPB	98
4) Vinyl Chloride	1.36	62	52010	6.55	PPB	96
6) Bromomethane	1.66	96	27956	5.78	PPB	94
7) Chloroethane	1.76	64	34003	7.21	PPB	94
8) Dichlorofluoromethane	1.97	67	77694	7.62	PPB	99
9) Trichlorofluoromethane	1.96	101	74323	7.35	PPB	98
10) Ethyl Ether	2.28	59	34144	9.10	PPB	99
11) Acrolein	2.50	56	68039	140.26	PPB	96
12) Trichlorotrifluoroethane	2.49	151	40701	9.09	PPB	97
13) 1,1-Dichloroethene	2.52	96	42585	8.78	PPB	98
14) Acetone	2.68	43	48913	50.32	PPB	99
15) Iodomethane	2.70	142	106659	18.66	PPB	97
16) Carbon Disulfide	2.72	76	241783	15.95	PPB	99
18) 3-Chloro-1-propene	3.00	76	67567	23.87	PPB	89
20) Acetonitrile	3.13	40	59960	305.83	PPB	97
21) Methylene Chloride	3.20	84	50212	8.98	PPB	94
22) tert-Butyl Alcohol	3.41	59	18478	80.24	PPB	99
23) Acrylonitrile	3.68	53	52403	38.00	PPB	98
24) Methyl tert-Butyl Ether	3.48	73	121783	9.83	PPB	98
25) trans-1,2-Dichloroethene	3.50	96	48755	8.62	PPB	97
26) Hexane	3.80	57	154781	19.54	PPB	97
27) Diisopropyl Ether	4.26	45	284264	16.43	PPB	97
28) 1,1-Dichloroethane	4.24	63	90708	8.66	PPB	99
29) Vinyl Acetate	4.35	86	48336	86.12	PPB #	91
30) Chloroprene	4.31	53	184008	19.13	PPB	96
31) tert-Butyl Ethyl Ether	4.81	59	252288	16.87	PPB	99

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS46\DATA\052418\0524F005.D Vial: 4
Acq On : 24 May 2018 01:13 pm Operator: LM
Sample : LCS Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 24 13:39:23 2018 Quant Results File: 091517MS46_8260

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 15:04:39 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
32)	2,2-Dichloropropane	5.06	77	77054	9.60	PPB		99
33)	cis-1,2-Dichloroethene	5.12	96	54078	9.30	PPB		96
34)	2-Butanone	5.21	72	19258	51.90	PPB		94
35)	Ethyl Acetate	5.26	61	15220	29.50	PPB		98
36)	Propionitrile	5.40	54	13664	30.13	PPB		95
37)	Methacrylonitrile	5.54	67	45570	28.48	PPB		96
38)	Bromochloromethane	5.46	128	24349	10.35	PPB		92
40)	Chloroform	5.58	83	93873	9.24	PPB		97
42)	1,1,1-Trichloroethane	5.71	97	78253	8.50	PPB		99
44)	Carbon Tetrachloride	5.86	117	70491	8.60	PPB		99
45)	1,1-Dichloropropene	5.93	75	65555	8.13	PPB		96
46)	Isobutyl Alcohol	6.28	43	24303	282.06	PPB		95
48)	Benzene	6.18	78	194977	8.96	PPB		100
49)	1,2-Dichloroethane	6.34	62	68041	9.45	PPB		96
50)	tert-Amyl Methyl Ether	6.34	55	66331	18.46	PPB	#	77
51)	Trichloroethene	7.01	95	50073	8.43	PPB		97
53)	1,2-Dichloropropane	7.33	63	51385	9.29	PPB		94
54)	Dibromomethane	7.47	93	30013	10.04	PPB		93
55)	Methyl methacrylate	7.49	69	78879	28.57	PPB		98
56)	1,4-Dioxane	7.50	88	7052	520.74	PPB		81
57)	Bromodichloromethane	7.67	83	71807	9.92	PPB		99
58)	2-Nitropropane	8.03	41	25885	32.09	PPB		90
59)	2-Chloroethyl Vinyl Ether	8.05	63	23692	8.98	PPB		96
60)	cis-1,3-Dichloropropene	8.19	75	82609	10.05	PPB		100
61)	4-Methyl-2-pentanone (MIBK	8.37	58	63929	49.32	PPB		96
63)	Toluene	8.48	92	121893	8.70	PPB		99
66)	trans-1,3-Dichloropropene	8.85	75	66781	10.24	PPB		98
67)	Ethyl methacrylate	8.90	69	158790	33.72	PPB		99
68)	1,1,2-Trichloroethane	9.05	83	35463	10.47	PPB		95
69)	Tetrachloroethene	9.05	164	44384	10.05	PPB		98
70)	2-Hexanone	9.31	57	21159	55.43	PPB		98
71)	1,3-Dichloropropane	9.23	76	74541	10.47	PPB		96
72)	Dibromochloromethane	9.43	129	49774	10.53	PPB		98
73)	1,2-Dibromoethane (EDB)	9.56	107	40299	11.07	PPB		94
74)	1-Chlorohexane	10.04	91	65244	9.13	PPB		94
75)	Chlorobenzene	10.07	112	135636	10.54	PPB		95
76)	Ethylbenzene	10.16	106	72308	10.03	PPB		93
77)	1,1,1,2-Tetrachloroethane	10.18	131	52115	10.97	PPB		97
78)	m,p-Xylenes	10.30	106	174218	20.52	PPB		98
79)	o-Xylene	10.73	106	81774	10.09	PPB		96
80)	Styrene	10.77	103	77528	10.28	PPB		96

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS46\DATA\052418\0524F005.D Vial: 4
Acq On : 24 May 2018 01:13 pm Operator: LM
Sample : LCS Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 24 13:39:23 2018 Quant Results File: 091517MS46_8260

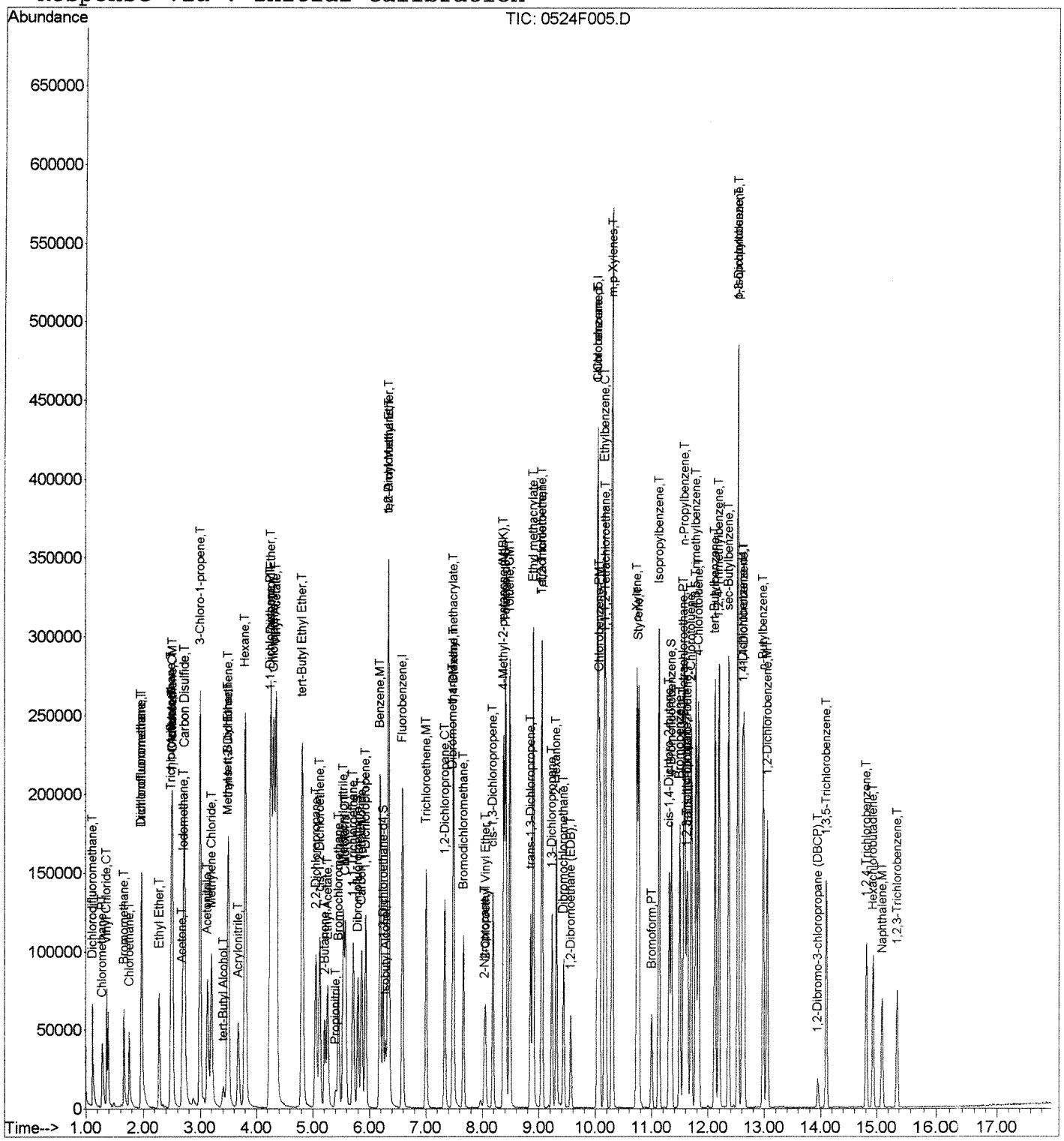
Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 15:04:39 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
81)	Bromoform	11.00	173	30574	11.71	PPB		98
82)	Isopropylbenzene	11.13	105	214626	9.89	PPB		99
83)	cis-1,4-Dichloro-2-butene	11.31	89	16552	30.24	PPB		84
86)	1,1,2,2-Tetrachloroethane	11.56	83	45055	10.58	PPB		97
87)	trans-1,4-Dichloro-2-buten	11.63	53	32074	23.80	PPB		95
88)	Bromobenzene	11.49	156	55003	9.63	PPB		93
89)	n-Propylbenzene	11.58	91	258642	8.86	PPB		99
90)	1,2,3-Trichloropropane	11.61	110	14512	10.42	PPB	#	76
91)	2-Chlorotoluene	11.70	91	151752	9.52	PPB		98
92)	1,3,5-Trimethylbenzene	11.78	105	171659	9.30	PPB		99
93)	4-Chlorotoluene	11.83	91	161767	9.31	PPB		96
94)	tert-Butylbenzene	12.12	119	144613	9.16	PPB		97
95)	1,2,4-Trimethylbenzene	12.19	105	174739	9.94	PPB		98
96)	sec-Butylbenzene	12.36	105	216481	9.47	PPB		99
97)	p-Isopropyltoluene	12.53	119	177120	10.06	PPB		100
98)	1,3-Dichlorobenzene	12.53	146	101147	9.98	PPB		97
99)	1,4-Dichlorobenzene	12.64	146	102572	10.30	PPB		97
100)	n-Butylbenzene	12.98	91	152796	9.26	PPB		99
101)	1,2-Dichlorobenzene	13.05	146	91079	10.22	PPB		98
102)	1,2-Dibromo-3-chloropropan	13.94	155	5516	11.34	PPB		92
103)	1,3,5-Trichlorobenzene	14.09	180	57666	10.06	PPB		91
104)	1,2,4-Trichlorobenzene	14.81	180	41858	10.68	PPB		99
105)	Hexachlorobutadiene	14.93	225	24314	10.62	PPB		99
106)	Naphthalene	15.09	128	69661	10.97	PPB		98
107)	1,2,3-Trichlorobenzene	15.36	180	31327	11.47	PPB		99

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS46\DATA\052418\0524F005.D Vial: 4
Acq On : 24 May 2018 01:13 pm Operator: LM
Sample : LCS Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 24 13:40 2018 Quant Results File: 091517MS46_8

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 15:04:39 2017
Response via : Initial Calibration



Date: 05-24-18

By: LM

ALS Environmental
Injection Log
MS46 - Agilent 5977A

Tune File: BFB_Atune

New Tune: NO

#592330

IS/SS Std. ID: 89V04-11A XP 6-14-18

CCV Std ID: 89V04-14A XP 5-24-18 / -18A XP 7-22-18 / -15F, -15K, -16A XP 5-28-18

ICAL Date: 091517-15549

MS/DMS/LCS/ICV Std ID: 89V04-16B XP 5-28-18 / -15F XP 5-23-18

Second RV: MAY 29 2018

BFB Std. ID: 89V04-11C XP 6-14-18

LIMS ID: KW9802662/-2664

	Sample Name	File Name	Method	Dilution	pH<2	Comments
1	BFB	0524F003	8260M	4.4µL-) 44mL		
2	CCV	4		10/5µL-) 50mL		
3	LCS	5		10/50/5/5/7.5µL-) 50 mL		
4	K4765-002MS	6		8.8/44/4.4/4.4/	6.6 µL-) 44mL	
5	↓ DMS	7		↓	✓	
6	IB	8				
7	MB	9				
8	K4765-001	10			✓	TB 050918RB bubble
9	K4834-003	11			✓	TB032118RB bubbles
10	K4854-003	12			✓	NON ALS TB bubble
11	K4750-018	13			✓	0503/8TB bubble
12	K4883-019	14			✓	TB050918 RB
13	K4765-002	15			✓	
14	-003	16			✓	
15	-004	17			✓	
16	K4834-001	18			✓	
17	↓ -002	19			✓	
18	K4854-001	20			✓	
19	↓ -002	21			✓	
20	K4750-016	22			✓	bubble
21	↓ -017	23			✓	
22	K4637-002(R)	24			✓	
23	-003(R)	25			✓	
24	-004(R)	26			✓	
25	↓ -005(R)	27			✓	
26	K4883-001	28			✓	
27	K4834-001 DIL	↓ 29	↓	10X 5mL-) 50 mL	✓	

R:\VOA\Injection Logs\INJLOG_MS46_Rev1

Exception Report

Data File: J:\MS46\DATA\052418\0524F003.D
Lab ID: KWG1802662-1
RunType: BFB
Matrix: WATER

Date Acquired: 05/24/2018 12:00
Date Quantitated:
Batch ID: KWG1802662
Analysis Method: BFB
ListJoinID: LJ774

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Ion Ratio	NA	NA	NA	x	

Primary Review: LM 05-24-18

Secondary Review: MAY 2 9 2018

Quantitation Report

Data File:	J:\MS46\DATA\052418\0524F003.D			**Instrument:**	GCMS46
Acqu Date:	05/24/2018 12:00	**Quant Date:**		**Vial:**	2
Run Type:	BFB	**ListJoinID:**	LJ774	**Dilution:**	1.0
Lab ID:	KWG1802662-1			**Soln Conc. Units:**	

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8260B	**Collect Date:**		**Receive Date:**	05/24/2018

Analysis Lot:	KWG1802662	**Prep Lot:**		**Report Group:**	
Analysis Method:	BFB	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS46\METHODS\091517MS46_8	**Calibration ID:**	CAL15549
Title:	GC/MS Tuning Evaluation	**Report List ID:**	LJ774
Tune Ref:		**Method ID:**	MJ159
MB Ref:		**Quant based on Report List**	

Tune Results

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
50	95	15	40	17.2	2450	Pass
75	95	30	60	51.2	7278	Pass
95	95	100	100	100.0	14217	Pass
96	95	5	9	7.2	1024	Pass
173	174	0	2	2.0	235	Pass
174	95	50	120	84.2	11967	Pass
175	174	5	9	7.6	912	Pass
176	174	95	101	100.4	12017	Pass
177	176	5	9	6.3	756	Pass

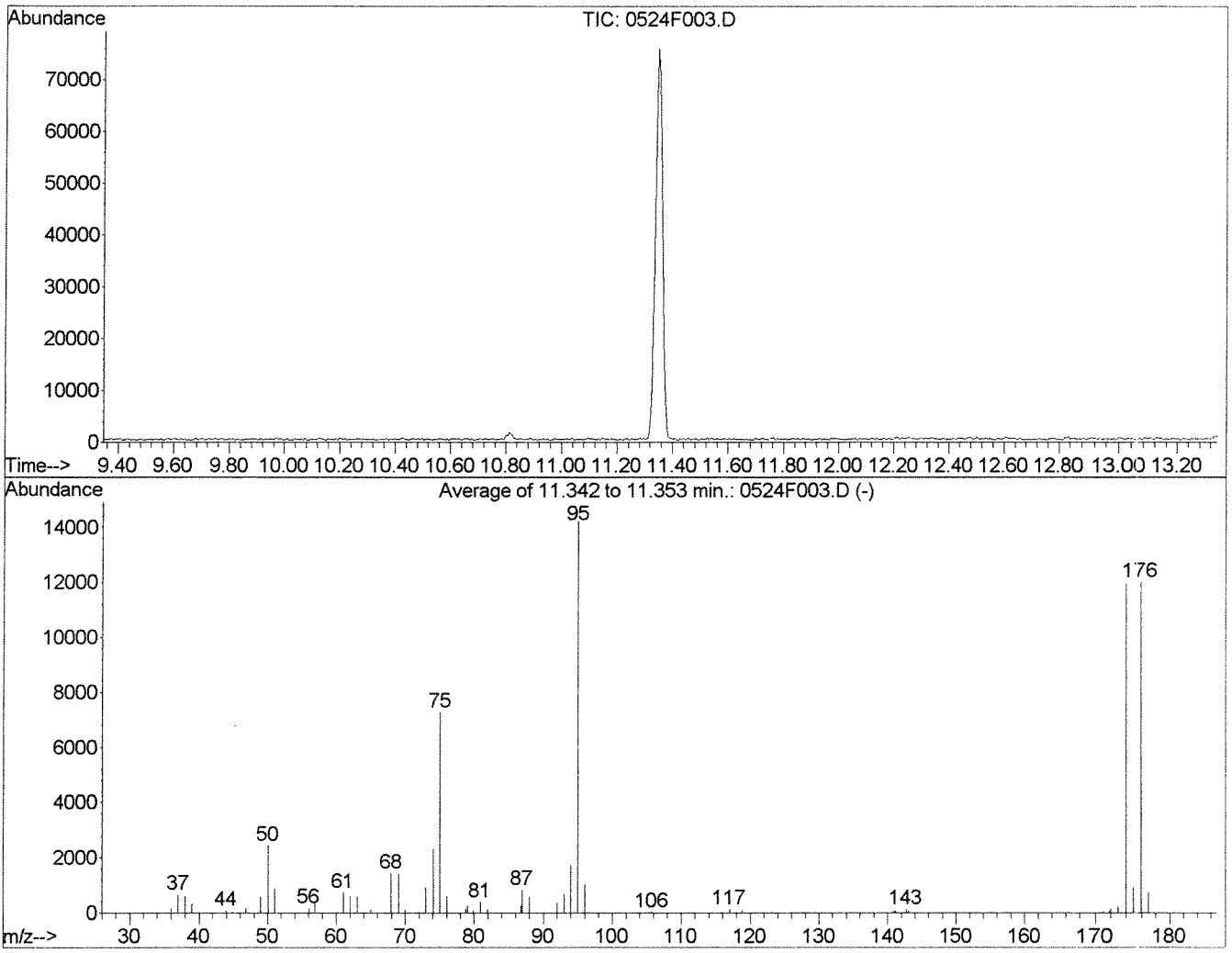
U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

BFB

Data File : J:\MS46\DATA\052418\0524F003.D Vial: 2
Acq On : 24 May 2018 12:00 pm Operator: LM
Sample : BFB Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B



AutoFind: Scans 1975, 1976, 1977; Background Corrected with Scan 1967

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.2	2450	PASS
75	95	30	60	51.2	7278	PASS
95	95	100	100	100.0	14217	PASS
96	95	5	9	7.2	1024	PASS
173	174	0.00	2	2.0	235	PASS
174	95	50	120	84.2	11967	PASS
175	174	5	9	7.6	912	PASS
176	174	95	101	100.4	12017	PASS
177	176	5	9	6.3	756	PASS

J:\MS46\DATA\052418\0524F003.D 091517MS46_8260.M Thu May 24 12:21:24 20

Exception Report

Data File: J:\MS46\DATA\052418\0524F004.D
Lab ID: KWG1802662-2
RunType: CCV
Matrix: WATER

Date Acquired: 05/24/2018 12:35
Date Quantitated: 05/24/2018 13:01
Batch ID: KWG1802662
Analysis Method: 8260C
MethodJoinID: MJ119

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA		x
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA		x
Internal Standards	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Initial Calibration Minimum RF	1,3-Butadiene	0.0096	0.01	NA	NT
	2-Propanol	0.0077	0.01	NA	
	Isobutyl Alcohol	0.0046	0.01	NA	
	1,4-Dioxane	0.0009	0.01	NA	
Second Source ICAL Verification	Vinyl Acetate	-43.7	NA	30	

Primary Review: LM 05-24-18

Secondary Review: MAY 29 2018

Printed: 05/24/2018 13:07:31
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Data File:	J:\MS46\DATA\052418\0524F004.D			**Instrument:**	MS46
Acqu Date:	05/24/2018 12:35	**Quant Date:**	05/24/2018 13:01	**Vial:**	3
Run Type:	CCV	**MethodJoinID:**	MJ119	**Dilution:**	1.0
Lab ID:	KWG1802662-2			**Soln Conc. Units:**	PPB

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8260B	**Collect Date:**		**Receive Date:**	05/24/2018

Analysis Lot:	KWG1802662	**Prep Lot:**		**Report Group:**	
Analysis Method:	8260C	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS46\METHODS\091517MS46_8	**Calibration ID:**	CAL15549
Title:			
Tune Ref:	J:\MS46\DATA\052418\0524F003.D	**Method ID:**	MJ119
MB Ref:		**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Fluorobenzene	6.58	0.00	96	187476	10.00	OK
2	Chlorobenzene-d5	10.04	0.00	82	75971	10.00	OK
3	1,4-Dichlorobenzene-d4	12.61	-0.01	152	65465	10.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
1	Dibromofluoromethane	5.80			113	49767	10.08		73-122	NA
1	1,2-Dichloroethane-d4	6.25			65	54355	9.14		59-127	NA
1	Toluene-d8	8.41			98	185407	10.12		65-144	NA
2	4-Bromofluorobenzene	11.35			95	61297	10.46		68-117	NA

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Dichlorodifluoromethane	1.12			85	48670	7.83			
1	Chloromethane	1.29			50	48010	7.18			
1	Vinyl Chloride	1.36			62	56167	7.10			
1	1,3-Butadiene				54	0d				
1	Bromomethane	1.66			96	35134	7.29			
1	Chloroethane	1.76			64	36148	7.69			
1	Dichlorofluoromethane (CFC 21	1.98			67	96729	9.53			
1	Trichlorofluoromethane	1.96			101	92441	9.18			
1	Ethyl Ether	2.28			59	33936	9.08			
1	Acrolein	2.50			56	46456	96.16			
1	Trichlorotrifluoroethane	2.49			151	43644	9.78			
1	1,1-Dichloroethene	2.52			96	40981	8.49			
1	Acetone	2.68			43	163344	168.72			
1	Iodomethane	2.71			142	164573	28.91			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS46\DATA\052418\0524F004.D			**Instrument:**	MS46
Acqu Date:	05/24/2018 12:35	**Quant Date:**	05/24/2018 13:01	**Vial:**	3
Run Type:	CCV	**MethodJoinID:**	MJ119	**Dilution:**	1.0
Lab ID:	KWG1802662-2			**Soln Conc. Units:**	PPB

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Carbon Disulfide	2.73			76	146254	9.69			
1	2-Propanol	2.87			45	38568	268.44			
1	3-Chloro-1-propene	3.00			76	26878	9.54			
1	Methyl Acetate	3.06			43	26878	7.54			
1	Acetonitrile	3.13			40	65353	334.71			
1	Methylene Chloride	3.20			84	51713	9.29			
1	tert-Butyl Alcohol	3.41			59	8555	37.30			
1	Acrylonitrile	3.67			53	47279	34.43			
1	Methyl tert-Butyl Ether	3.48			73	223952	18.16			
1	trans-1,2-Dichloroethene	3.50			96	49329	8.76			
1	n-Hexane	3.80			57	74211	9.41			
1	Diisopropyl Ether	4.26			45	150813	8.75			
1	1,1-Dichloroethane	4.24			63	90736	8.70			
1	Vinyl Acetate	4.35			86	19528	34.94			
1	Chloroprene	4.31			53	328696	34.31			
1	tert-Butyl Ethyl Ether	4.81			59	131060	8.80			
1	2,2-Dichloropropane	5.06			77	78557	9.83			
1	cis-1,2-Dichloroethene	5.12			96	54430	9.40			
1	2-Butanone (MEK)	5.21			72	70476	190.70			
1	Ethyl Acetate	5.26			61	9309	18.12			
1	Propionitrile	5.40			54	16517	36.57			
1	Methacrylonitrile	5.54			67	60369	37.88			
1	Bromochloromethane	5.45			128	24340	10.39			
1	Tetrahydrofuran	5.45			71	1625	4.51			
1	Chloroform	5.58			83	96596	9.55			
1	Cyclohexane	5.66			56	87571	8.76			
1	1,1,1-Trichloroethane (TCA)	5.71			97	85552	9.33			
1	Carbon Tetrachloride	5.86			117	74643	9.15			
1	1,1-Dichloropropene	5.93			75	70646	8.79			
1	Isobutyl Alcohol	6.28			43	25814	300.82			
1	Benzene	6.19			78	202614	9.35			
1	1,2-Dichloroethane (EDC)	6.34			62	66152	9.23			
1	tert-Amyl Methyl Ether	6.34			55	32544	9.10			
1	Trichloroethene (TCE)	7.01			95	53398	9.03			
1	Methylcyclohexane	7.12			83	84017	9.05			
1	1,2-Dichloropropane	7.34			63	52327	9.50			
1	Dibromomethane	7.47			93	29002	9.75			
1	Methyl Methacrylate	7.49			69	25773	9.37			
1	1,4-Dioxane	7.49			88	3778	299.81			
1	Bromodichloromethane	7.67			83	69407	9.63			
1	2-Nitropropane	8.03			41	39999	49.79			
1	2-Chloroethyl Vinyl Ether	8.05			63	24123	9.18			

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e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS46\DATA\052418\0524F004.D			**Instrument:**	MS46
Acqu Date:	05/24/2018 12:35	**Quant Date:**	05/24/2018 13:01	**Vial:**	3
Run Type:	CCV	**MethodJoinID:**	MJ119	**Dilution:**	1.0
Lab ID:	KWG1802662-2			**Soln Conc. Units:**	PPB

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	cis-1,3-Dichloropropene	8.19			75	80558	9.84			
1	4-Methyl-2-pentanone (MIBK)	8.37			58	268866	208.29			
1	Toluene	8.48			92	125358	8.98			
2	n-Octane	8.55			85	30466	12.05			
2	trans-1,3-Dichloropropene	8.85			75	69132	10.72			
2	Ethyl Methacrylate	8.90			69	47470	10.19			
2	1,1,2-Trichloroethane	9.05			83	35931	10.73			
2	Tetrachloroethene (PCE)	9.05			164	46135	10.56			
2	2-Hexanone	9.31			57	80814	214.12			
2	1,3-Dichloropropane	9.23			76	71255	10.12			
2	Dibromochloromethane	9.43			129	54207	11.60			
2	1,2-Dibromoethane (EDB)	9.56			107	38328	10.64			
2	1-Chlorohexane	10.04			91	68157	9.64			
2	Chlorobenzene	10.07			112	137440	10.80			
2	Ethylbenzene	10.16			106	71581	10.05			
2	1,1,1,2-Tetrachloroethane	10.18			131	51883	11.04			
2	m,p-Xylenes	10.30			106	176202	20.99			
2	o-Xylene	10.73			106	81440	10.17			
2	Styrene	10.77			103	78674	10.55			
2	Bromoform	11.00			173	29154	11.29			
2	Isopropylbenzene	11.13			105	217172	10.12			
2	cis-1,4-Dichloro-2-butene	11.31			89	21068	38.93			
3	1,1,2,2-Tetrachloroethane	11.56			83	43466	10.25			
3	trans-1,4-Dichloro-2-butene	11.63			53	10211	7.61			
3	Bromobenzene	11.49			156	53888	9.48			
3	n-Propylbenzene	11.58			91	263165	9.06			
3	1,2,3-Trichloropropane	11.61			110	13536	9.76			
3	2-Chlorotoluene	11.70			91	151949	9.58			
3	1,3,5-Trimethylbenzene	11.78			105	175518	9.55			
3	4-Chlorotoluene	11.83			91	163504	9.46			
3	tert-Butylbenzene	12.12			119	146864	9.34			
3	1,2,4-Trimethylbenzene	12.19			105	170633	9.75			
3	sec-Butylbenzene	12.36			105	219618	9.65			
3	4-Isopropyltoluene	12.53			119	176578	10.08			
3	1,3-Dichlorobenzene	12.53			146	102202	10.13			
3	1,4-Dichlorobenzene	12.64			146	102224	10.31			
3	n-Butylbenzene	12.98			91	157112	9.57			
3	1,2-Dichlorobenzene	13.05			146	86268	9.72			
3	1,2-Dibromo-3-chloropropane	13.94			155	4997	10.32			
3	1,3,5-Trichlorobenzene	14.09			180	58607	10.27			
3	1,2,4-Trichlorobenzene	14.81			180	39937	10.24			
3	Hexachlorobutadiene	14.93			225	26484	11.62			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS46\DATA\052418\0524F004.D			**Instrument:**	MS46
Acqu Date:	05/24/2018 12:35	**Quant Date:**	05/24/2018 13:01	**Vial:**	3
Run Type:	CCV	**MethodJoinID:**	MJ119	**Dilution:**	1.0
Lab ID:	KWG1802662-2			**Soln Conc. Units:**	FPB

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
3	Naphthalene	15.10			128	60147	9.52			
3	1,2,3-Trichlorobenzene	15.36			180	27743	10.20			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Calibration Verification Report

Calibration ID: CAL15549
Method ID: MJ119
DataFile: J:\MS46\DATA\052418\0524F004.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
1,3-Butadiene		TRG	AverageRF	20	0.01	0.010	0.000 *	~~-100~~ * NT			
Dichlorodifluoromethane		TRG	Quadratic(0,0	20	0.100	0.360	0.260		7.830	10.00	-22 *
Chloromethane		TRG	AverageRF	20	0.100	0.356	0.256	-28 *			
Vinyl Chloride		MS	AverageRF	20	0.100	0.422	0.300	-29 *			
Bromomethane		TRG	AverageRF	20	0.100	0.257	0.187	-27 *			
Chloroethane		TRG	AverageRF	20	0.100	0.251	0.193	-23 *			
Trichlorofluoromethane		TRG	AverageRF	20	0.100	0.537	0.493	-8			
Dichlorofluoromethane (CFC 21)		TRG	AverageRF	20	0.01	0.541	0.516	-5			
Ethyl Ether		TRG	AverageRF	20	0.01	0.199	0.181	-9			
Trichlorotrifluoroethane		TRG	AverageRF	20	0.100	0.238	0.233	-2			
Acrolein		TRG	AverageRF	20	0.01	0.026	0.012	~~-52~~ *			
1,1-Dichloroethene		MS	AverageRF	20	0.100	0.258	0.219	-15			
Acetone		TRG	AverageRF	20	0.010	0.052	0.044	-16			
Iodomethane		TRG	AverageRF	20	0.01	0.304	0.219	-28 * NT			
Carbon Disulfide		TRG	AverageRF	20	0.100	0.805	0.780	-3			
2-Propanol		TRG	AverageRF	20	0.01	0.008	0.004 *	~~-46~~ * NT			
3-Chloro-1-propene		TRG	AverageRF	20	0.01	0.150	0.143	-5			
Methyl Acetate		TRG	AverageRF	20	0.100	0.190	0.143	~~-25~~ * NT			
Acetonitrile		TRG	AverageRF	20	0.01	0.010	0.009 *	-16			
Methylene Chloride		TRG	AverageRF	20	0.100	0.297	0.276	-7			
tert-Butyl Alcohol		TRG	AverageRF	20	0.01	0.012	0.009 *	~~-25~~ * NT			
Methyl tert-Butyl Ether		TRG	AverageRF	20	0.100	0.658	0.597	-9			
trans-1,2-Dichloroethene		TRG	AverageRF	20	0.100	0.300	0.263	-12			
Acrylonitrile		TRG	AverageRF	20	0.01	0.073	0.063	-14			
n-Hexane		TRG	AverageRF	20	0.01	0.421	0.396	-6			
1,1-Dichloroethane		TRG	AverageRF	20	0.200	0.556	0.484	-13			
Diisopropyl Ether		TRG	AverageRF	20	0.01	0.919	0.804	-12			
Chloroprene		TRG	AverageRF	20	0.01	0.511	0.438	-14			
Vinyl Acetate		TRG	AverageRF	20	0.01	0.030	0.052	~~75~~ * NT			
tert-Butyl Ethyl Ether		TRG	AverageRF	20	0.01	0.794	0.699	-12			
2,2-Dichloropropane		TRG	AverageRF	20	0.01	0.426	0.419	-2			
cis-1,2-Dichloroethene		TRG	AverageRF	20	0.100	0.309	0.290	-6			
2-Butanone (MEK)		TRG	AverageRF	20	0.010	0.020	0.019	-5			
Ethyl Acetate		TRG	AverageRF	20	0.01	0.027	0.025	-9			
Propionitrile		TRG	AverageRF	20	0.01	0.024	0.022	-9			
Bromochloromethane		TRG	AverageRF	20	0.01	0.125	0.130	4			
Tetrahydrofuran		TRG	AverageRF	20	0.01	0.019	0.009 *	~~-55~~ *			
Methacrylonitrile		TRG	AverageRF	20	0.01	0.085	0.081	-5			
Chloroform		MS	AverageRF	20	0.200	0.540	0.515	-5			
Cyclohexane		TRG	AverageRF	20	0.100	0.533	0.467	-12			
1,1,1-Trichloroethane (TCA)		TRG	AverageRF	20	0.100	0.489	0.456	-7			
Dibromofluoromethane		SURR	AverageRF	20	0.01	0.263	0.265	1			
Carbon Tetrachloride		MS	AverageRF	20	0.100	0.435	0.398	-9			
1,1-Dichloropropene		TRG	AverageRF	20	0.01	0.428	0.377	-12			
Benzene		MS	AverageRF	20	0.500	1.156	1.081	-6			
1,2-Dichloroethane-d4		SURR	AverageRF	20	0.01	0.317	0.290	-9			
Isobutyl Alcohol		TRG	AverageRF	20	0.01	0.005	0.003 *	~~-25~~ * NT			

17 Compounds Failed CCV Criteria (16.35 Percent)

Calibration Verification Report

Calibration ID: CAL15549
Method ID: MJ119
DataFile: J:\MS46\DATA\052418\0524F004.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
1,2-Dichloroethane (EDC)		TRG	AverageRF	20	0.100	0.382	0.353	-8			
tert-Amyl Methyl Ether		TRG	AverageRF	20	0.01	0.191	0.174	-9			
Trichloroethene (TCE)		MS	AverageRF	20	0.200	0.315	0.285	-10			
Methylcyclohexane		TRG	AverageRF	20	0.100	0.495	0.448	-9			
1,2-Dichloropropane		TRG	AverageRF	20	0.100	0.294	0.279	-5			
Dibromomethane		TRG	AverageRF	20	0.01	0.159	0.155	-3			
1,4-Dioxane		TRG	Quadratic(0,0	20	0.01	0.001	0.001 *	NT	299.8	400.0	-25 *
Methyl Methacrylate		TRG	AverageRF	20	0.01	0.147	0.137	-6			
Bromodichloromethane		MS	AverageRF	20	0.200	0.384	0.370	-4			
2-Nitropropane		TRG	AverageRF	20	0.01	0.043	0.043	0			
2-Chloroethyl Vinyl Ether		TRG	AverageRF	20	0.01	0.140	0.129	-8			
cis-1,3-Dichloropropene		TRG	AverageRF	20	0.200	0.437	0.430	-2			
4-Methyl-2-pentanone (MIBK)		TRG	AverageRF	20	0.010	0.069	0.072	4			
Toluene-d8		SURR	AverageRF	20	0.01	0.977	0.989	1			
Toluene		MS	AverageRF	20	0.400	0.744	0.669	-10			
n-Octane		TRG	AverageRF	20	0.01	0.333	0.401	~~21~~ *	NT		
trans-1,3-Dichloropropene		TRG	AverageRF	20	0.100	0.849	0.910	7			
Ethyl Methacrylate		TRG	AverageRF	20	0.01	0.613	0.625	2			
1,1,2-Trichloroethane		MS	AverageRF	20	0.100	0.441	0.473	7			
Tetrachloroethene (PCE)		TRG	AverageRF	20	0.200	0.575	0.607	6			
1,3-Dichloropropane		TRG	AverageRF	20	0.01	0.927	0.938	1			
2-Hexanone		MS	AverageRF	20	0.015	0.050	0.053	7			
Dibromochloromethane		TRG	AverageRF	20	0.100	0.615	0.714	16			
1,2-Dibromoethane (EDB)		TRG	AverageRF	20	0.100	0.474	0.505	6			
1-Chlorohexane		TRG	AverageRF	20	0.01	0.930	0.897	-4			
Chlorobenzene		MS	AverageRF	20	0.500	1.674	1.809	8			
Ethylbenzene		MS	AverageRF	20	0.100	0.938	0.942	0			
1,1,1,2-Tetrachloroethane		TRG	AverageRF	20	0.01	0.618	0.683	10			
m,p-Xylenes		TRG	AverageRF	20	0.100	1.105	1.160	5			
o-Xylene		TRG	AverageRF	20	0.300	1.054	1.072	2			
Styrene		TRG	AverageRF	20	0.300	0.982	1.036	5			
Bromoform		TRG	AverageRF	20	0.100	0.340	0.384	13			
Isopropylbenzene		TRG	AverageRF	20	0.100	2.824	2.859	1			
cis-1,4-Dichloro-2-butene		TRG	AverageRF	20	0.01	0.071	0.069	-3			
4-Bromofluorobenzene		SURR	AverageRF	20	0.01	0.771	0.807	5			
Bromobenzene		TRG	AverageRF	20	0.01	0.868	0.823	-5			
1,1,2,2-Tetrachloroethane		TRG	AverageRF	20	0.300	0.648	0.664	3			
n-Propylbenzene		TRG	AverageRF	20	0.01	4.438	4.020	-9			
1,2,3-Trichloropropane		MS	AverageRF	20	0.01	0.212	0.207	-2			
trans-1,4-Dichloro-2-butene		TRG	AverageRF	20	0.01	0.205	0.156	-24 *	NT		
2-Chlorotoluene		MS	AverageRF	20	0.01	2.424	2.321	-4			
1,3,5-Trimethylbenzene		TRG	AverageRF	20	0.01	2.807	2.681	-4			
4-Chlorotoluene		TRG	AverageRF	20	0.01	2.641	2.498	-5			
tert-Butylbenzene		TRG	AverageRF	20	0.01	2.401	2.243	-7			
1,2,4-Trimethylbenzene		TRG	AverageRF	20	0.01	2.672	2.606	-2			
sec-Butylbenzene		TRG	AverageRF	20	0.01	3.476	3.355	-3			
1,3-Dichlorobenzene		TRG	AverageRF	20	0.600	1.541	1.561	1			

17 Compounds Failed CCV Criteria (16.35 Percent)

Calibration Verification Report

Calibration ID: CAL15549
Method ID: MJ119

DataFile: J:\MS46\DATA\052418\0524F004.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
4-Isopropyltoluene		TRG	AverageRF	20	0.01	2.677	2.697	1			
1,4-Dichlorobenzene		TRG	AverageRF	20	0.500	1.515	1.562	3			
n-Butylbenzene		TRG	AverageRF	20	0.01	2.508	2.400	-4			
1,2-Dichlorobenzene		MS	AverageRF	20	0.400	1.355	1.318	-3			
1,2-Dibromo-3-chloropropane		TRG	AverageRF	20	0.025	0.074	0.076	3			
1,3,5-Trichlorobenzene		TRG	AverageRF	20	0.01	0.872	0.895	3			
1,2,4-Trichlorobenzene		TRG	AverageRF	20	0.200	0.596	0.610	2			
Hexachlorobutadiene		TRG	AverageRF	20	0.01	0.348	0.405	16			
Naphthalene		MS	AverageRF	20	0.01	0.965	0.919	-5			
1,2,3-Trichlorobenzene		TRG	AverageRF	20	0.01	0.415	0.424	2			

17 Compounds Failed CCV Criteria (16.35 Percent)

Quantitation Report (QT Reviewed)

Data File : J:\MS46\DATA\052418\0524F004.D Vial: 3
Acq On : 24 May 2018 12:35 pm Operator: LM
Sample : CCV Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 24 12:57:08 2018 Quant Results File: 091517MS46_8260

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 15:04:39 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	6.58	96	187476	10.00	PPB	0.00
64) Chlorobenzene-d5	10.04	82	75971	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	12.61	152	65465	10.00	PPB	0.00
System Monitoring Compounds						
43) Dibromofluoromethane	5.80	113	49767	10.08	PPB	0.01
Spiked Amount 10.000			Recovery	=	100.80%	
47) 1,2-Dichloroethane-d4	6.25	65	54355	9.14	PPB	0.02
Spiked Amount 10.000			Recovery	=	91.40%	
62) Toluene-d8	8.41	98	185407	10.12	PPB	0.00
Spiked Amount 10.000			Recovery	=	101.20%	
84) 4-Bromofluorobenzene	11.35	95	61297	10.46	PPB	0.00
Spiked Amount 10.000			Recovery	=	104.60%	
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.12	85	48670	7.83	PPB	98
3) Chloromethane	1.29	50	48010	7.18	PPB	99
4) Vinyl Chloride	1.36	62	56167	7.10	PPB	98
6) Bromomethane	1.66	96	35134	7.29	PPB	98
7) Chloroethane	1.76	64	36148	7.69	PPB	96
8) Dichlorofluoromethane	1.98	67	96729	9.53	PPB	97
9) Trichlorofluoromethane	1.96	101	92441	9.18	PPB	98
10) Ethyl Ether	2.28	59	33936	9.08	PPB	99
11) Acrolein	2.50	56	46456	96.16	PPB	87
12) Trichlorotrifluoroethane	2.49	151	43644	9.78	PPB	97
13) 1,1-Dichloroethene	2.52	96	40981	8.49	PPB	87
14) Acetone	2.68	43	163344	168.72	PPB	97
15) Iodomethane	2.71	142	164573	28.91	PPB	97
16) Carbon Disulfide	2.73	76	146254	9.69	PPB	100
17) 2-Propanol (Isopropyl Alco	2.87	45	38568	268.44	PPB	99
18) 3-Chloro-1-propene	3.00	76	26878	9.54	PPB	92
19) Methyl Acetate	3.06	43	26878	7.54	PPB	95
20) Acetonitrile	3.13	40	65353	334.71	PPB	96
21) Methylene Chloride	3.20	84	51713	9.29	PPB	93
22) tert-Butyl Alcohol	3.41	59	8555	37.30	PPB	98
23) Acrylonitrile	3.67	53	47279	34.43	PPB	99
24) Methyl tert-Butyl Ether	3.48	73	223952	18.16	PPB	97
25) trans-1,2-Dichloroethene	3.50	96	49329	8.76	PPB	97
26) Hexane	3.80	57	74211	9.41	PPB	96
27) Diisopropyl Ether	4.26	45	150813	8.75	PPB	96
28) 1,1-Dichloroethane	4.24	63	90736	8.70	PPB	98
29) Vinyl Acetate	4.35	86	19528	34.94	PPB	95

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS46\DATA\052418\0524F004.D Vial: 3
Acq On : 24 May 2018 12:35 pm Operator: LM
Sample : CCV Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 24 12:57:08 2018 Quant Results File: 091517MS46_8260

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 15:04:39 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
30)	Chloroprene	4.31	53	328696	34.31	PPB		99
31)	tert-Butyl Ethyl Ether	4.81	59	131060	8.80	PPB		98
32)	2,2-Dichloropropane	5.06	77	78557	9.83	PPB		100
33)	cis-1,2-Dichloroethene	5.12	96	54430	9.40	PPB		99
34)	2-Butanone	5.21	72	70476	190.70	PPB		98
35)	Ethyl Acetate	5.26	61	9309	18.12	PPB		92
36)	Propionitrile	5.40	54	16517	36.57	PPB		98
37)	Methacrylonitrile	5.54	67	60369	37.88	PPB		96
38)	Bromochloromethane	5.45	128	24340	10.39	PPB		97
39)	Tetrahydrofuran	5.45	71	1625	4.51	PPB		85
40)	Chloroform	5.58	83	96596	9.55	PPB		99
41)	Cyclohexane	5.66	56	87571	8.76	PPB		94
42)	1,1,1-Trichloroethane	5.71	97	85552	9.33	PPB		98
44)	Carbon Tetrachloride	5.86	117	74643	9.15	PPB		97
45)	1,1-Dichloropropene	5.93	75	70646	8.79	PPB		98
46)	Isobutyl Alcohol	6.28	43	25814	300.82	PPB		97
48)	Benzene	6.19	78	202614	9.35	PPB		99
49)	1,2-Dichloroethane	6.34	62	66152	9.23	PPB		99
50)	tert-Amyl Methyl Ether	6.34	55	32544	9.10	PPB	#	76
51)	Trichloroethene	7.01	95	53398	9.03	PPB		96
52)	Methylcyclohexane	7.12	83	84017	9.05	PPB		95
53)	1,2-Dichloropropane	7.34	63	52327	9.50	PPB		98
54)	Dibromomethane	7.47	93	29002	9.75	PPB		95
55)	Methyl methacrylate	7.49	69	25773	9.37	PPB		92
56)	1,4-Dioxane	7.49	88	3778	299.81	PPB		99
57)	Bromodichloromethane	7.67	83	69407	9.63	PPB		100
58)	2-Nitropropane	8.03	41	39999	49.79	PPB		97
59)	2-Chloroethyl Vinyl Ether	8.05	63	24123	9.18	PPB		97
60)	cis-1,3-Dichloropropene	8.19	75	80558	9.84	PPB		95
61)	4-Methyl-2-pentanone (MIBK	8.37	58	268866	208.29	PPB		94
63)	Toluene	8.48	92	125358	8.98	PPB		97
65)	n-Octane	8.55	85	30466	12.05	PPB		96
66)	trans-1,3-Dichloropropene	8.85	75	69132	10.72	PPB		99
67)	Ethyl methacrylate	8.90	69	47470	10.19	PPB		98
68)	1,1,2-Trichloroethane	9.05	83	35931	10.73	PPB		98
69)	Tetrachloroethene	9.05	164	46135	10.56	PPB		95
70)	2-Hexanone	9.31	57	80814	214.12	PPB		95
71)	1,3-Dichloropropane	9.23	76	71255	10.12	PPB		96
72)	Dibromochloromethane	9.43	129	54207	11.60	PPB		99
73)	1,2-Dibromoethane (EDB)	9.56	107	38328	10.64	PPB		98
74)	1-Chlorohexane	10.04	91	68157	9.64	PPB		97

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS46\DATA\052418\0524F004.D Vial: 3
Acq On : 24 May 2018 12:35 pm Operator: LM
Sample : CCV Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 24 12:57:08 2018 Quant Results File: 091517MS46_8260

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 15:04:39 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

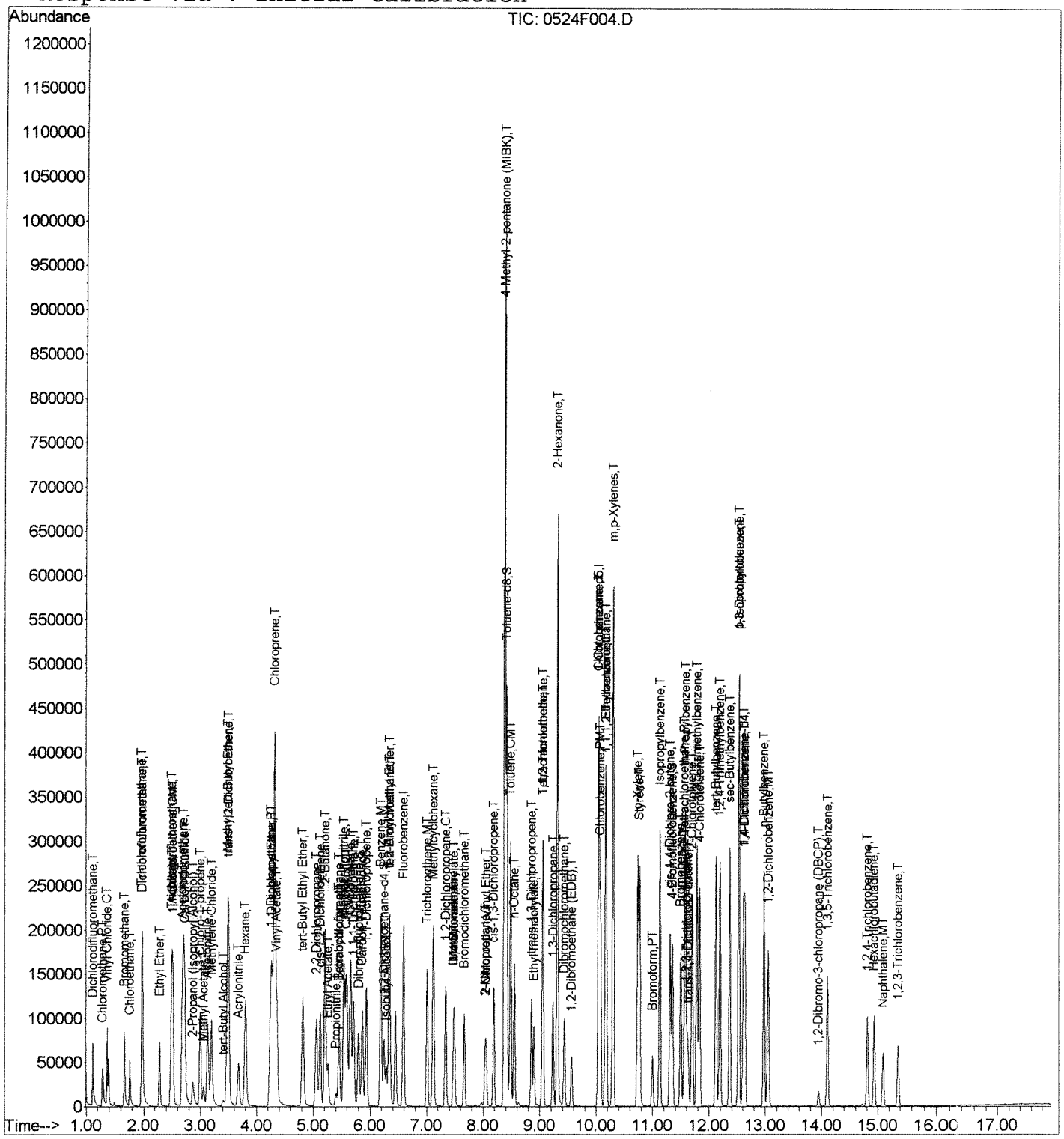
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
75)	Chlorobenzene	10.07	112	137440	10.80	PPB	98
76)	Ethylbenzene	10.16	106	71581	10.05	PPB	98
77)	1,1,1,2-Tetrachloroethane	10.18	131	51883	11.04	PPB	97
78)	m,p-Xylenes	10.30	106	176202	20.99	PPB	99
79)	o-Xylene	10.73	106	81440	10.17	PPB	96
80)	Styrene	10.77	103	78674	10.55	PPB	98
81)	Bromoform	11.00	173	29154	11.29	PPB	95
82)	Isopropylbenzene	11.13	105	217172	10.12	PPB	98
83)	cis-1,4-Dichloro-2-butene	11.31	89	21068	38.93	PPB	94
86)	1,1,2,2-Tetrachloroethane	11.56	83	43466	10.25	PPB	93
87)	trans-1,4-Dichloro-2-buten	11.63	53	10211	7.61	PPB	86
88)	Bromobenzene	11.49	156	53888	9.48	PPB	94
89)	n-Propylbenzene	11.58	91	263165	9.06	PPB	99
90)	1,2,3-Trichloropropane	11.61	110	13536	9.76	PPB	97
91)	2-Chlorotoluene	11.70	91	151949	9.58	PPB	96
92)	1,3,5-Trimethylbenzene	11.78	105	175518	9.55	PPB	99
93)	4-Chlorotoluene	11.83	91	163504	9.46	PPB	98
94)	tert-Butylbenzene	12.12	119	146864	9.34	PPB	99
95)	1,2,4-Trimethylbenzene	12.19	105	170633	9.75	PPB	96
96)	sec-Butylbenzene	12.36	105	219618	9.65	PPB	98
97)	p-Isopropyltoluene	12.53	119	176578	10.08	PPB	98
98)	1,3-Dichlorobenzene	12.53	146	102202	10.13	PPB	99
99)	1,4-Dichlorobenzene	12.64	146	102224	10.31	PPB	95
100)	n-Butylbenzene	12.98	91	157112	9.57	PPB	98
101)	1,2-Dichlorobenzene	13.05	146	86268	9.72	PPB	93
102)	1,2-Dibromo-3-chloropropan	13.94	155	4997	10.32	PPB	93
103)	1,3,5-Trichlorobenzene	14.09	180	58607	10.27	PPB	96
104)	1,2,4-Trichlorobenzene	14.81	180	39937	10.24	PPB	99
105)	Hexachlorobutadiene	14.93	225	26484	11.62	PPB	95
106)	Naphthalene	15.10	128	60147	9.52	PPB	95
107)	1,2,3-Trichlorobenzene	15.36	180	27743	10.20	PPB	97

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS46\DATA\052418\0524F004.D
Acq On : 24 May 2018 12:35 pm
Sample : CCV
Misc :
MS Integration Params: rteint.p
Quant Time: May 24 13:01 2018

Vial: 3
Operator: LM
Inst : GCMS46
Multiplr: 1.00
Quant Results File: 091517MS46_8

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 15:04:39 2017
Response via : Initial Calibration



Date: 9/15/17

By: KR

IS/SS Std. ID: 87WA-44B 10/15

CCV Std ID: See prep sheet

MS/DMS/LCS/ICV Std ID: +

BFB Std. ID: 07WA 2EC 9/28

ALS Environmental
Injection Log
MS46 - Agilent 5977A

Tune File: BFBatune

New Tune: yes

ICAL Date: 9/15/17 Cal 15549

Second RV: SEP 21 2017

LIMS ID:

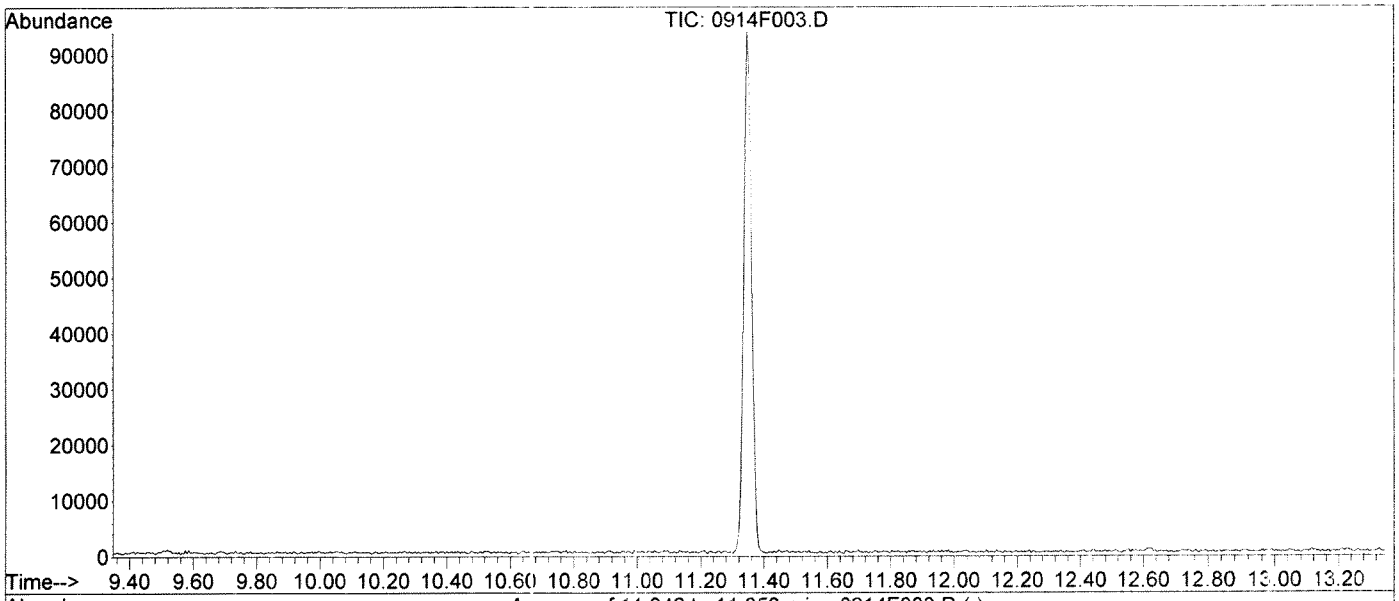
	Sample Name	File Name	Method	Dilution	pH<2	Comments
1	BFB	0915F003	8260.M	4.4µl→44ml		
2	IB	6				
3	IB	7				
4	8260 Ical 0.1	8				
5	0.2	9				
6	0.5	10				
7	1	11				
8	2	12				
9	5	13				
10	10	14				
11	20	15				
12	40	16				
13	60	17				
14	80	18				
15	IB	19				
16	IB	20				
17	ICV	21				
18	ICV CCP	22				
19	ICV ~~EA~~ VA	23				NR
20	BFB	0917F002	8260.M	4.4µl→44ml		
21	Mix 6 ICV	3				NR
22	Methyl Acetate ICV	4				
23						
24						
25						
26						
27						

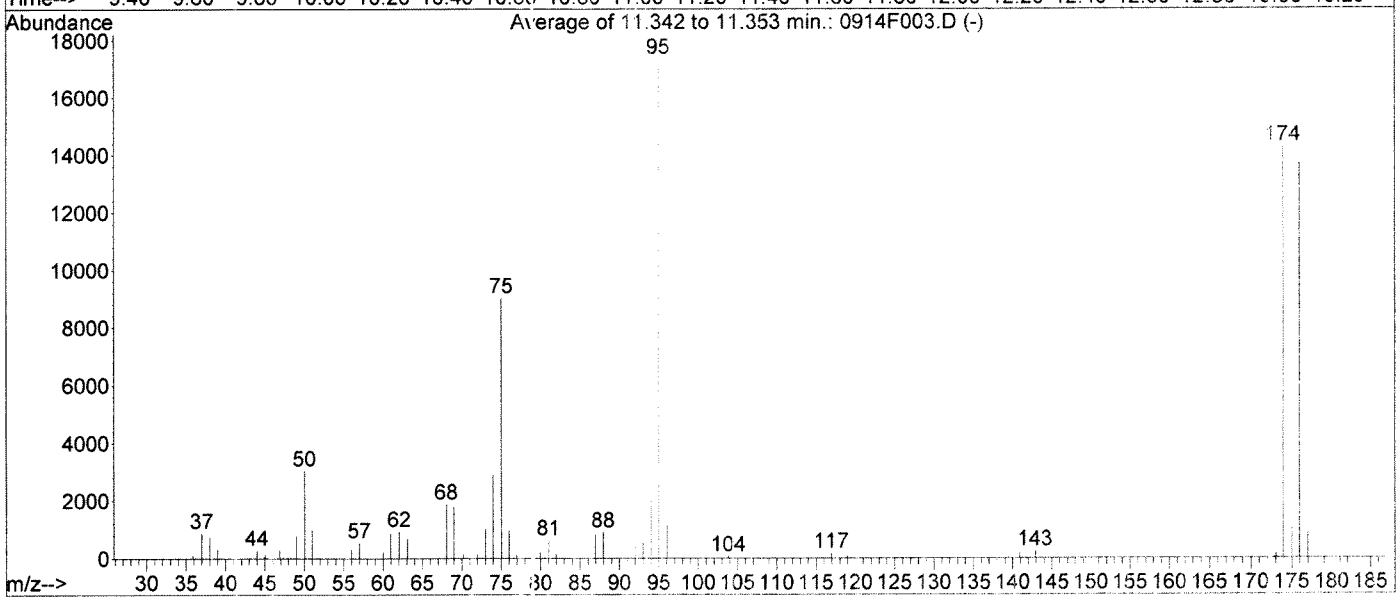
R:\VOA\Injection Logs\INJLOG_MS46_Rev1

BFB

Data File : J:\MS46\DATA\091417\0914F003.D
Acq On : 14 Sep 2017 11:24 am
Sample : BFB
Misc :
MS Integration Params: rteint.p
Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B

Vial: 3
Operator: KR
Inst : GCMS46
Multiplr: 1.00





AutoFind: Scans 1975, 1976, 1977; Background Corrected with Scan 1967

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.6	3048	PASS
75	95	30	60	52.0	9028	PASS
95	95	100	100	100.0	17352	PASS
96	95	5	9	6.7	1157	PASS
173	174	0.00	2	1.1	157	PASS
174	95	50	120	82.3	14283	PASS
175	174	5	9	7.5	1074	PASS
176	174	95	101	95.9	13698	PASS
177	176	5	9	6.3	867	PASS

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SEP 21 2017

J:\MS46\DATA\091417\0914F003.D 091517MS46_8260.M Sun Sep 17 09:21:47 2017

Data File : J:\MS46\DATA\091517\0915F007.D Vial: 6
Acq On : 15 Sep 2017 04:36 pm Operator: KR
Sample : IB Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 17 09:23:46 2017 Quant Results File: 091517MS46_8260.RES

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Fri Sep 15 08:57:53 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	6.57	96	144785	10.00	PPB	0.00
64) Chlorobenzene-d5	10.04	82	57967	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	12.61	152	43296	10.00	PPB	0.00
System Monitoring Compounds						
43) Dibromofluoromethane	0.00	113	0	0.00	PPB	
Spiked Amount 10.000			Recovery	=	0.00%	
47) 1,2-Dichloroethane-d4	0.00	65	0	0.00	PPB	
Spiked Amount 10.000			Recovery	=	0.00%	
62) Toluene-d8	0.00	98	0	0.00	PPB	
Spiked Amount 10.000			Recovery	=	0.00%	
84) 4-Bromofluorobenzene	0.00	95	0	0.00	PPB	
Spiked Amount 10.000			Recovery	=	0.00%	
Target Compounds						Qvalue
14) Acetone	2.67	43	1241	2.46	PPB	52
42) 1,1,1-Trichloroethane	5.70	97	837	0.13	PPB	86
63) Toluene	8.48	92	1864	0.20	PPB #	65

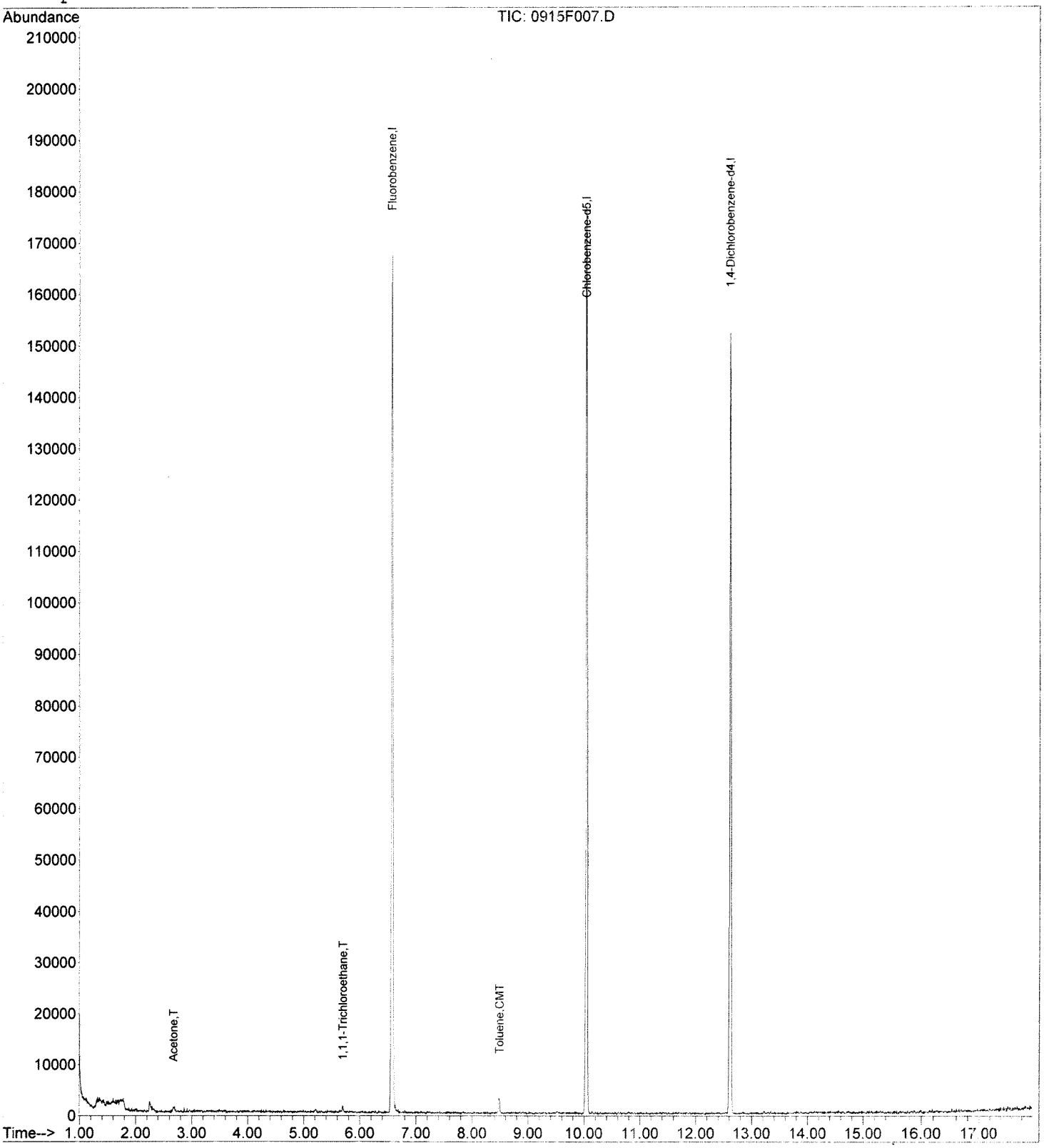
KL 9/18/17

SEP 21 2017

(#) = qualifier out of range (m) = manual integration
0915F007.D 091517MS46_8260.M Sun Sep 17 09:24:48 2017 Page 1

Data File : J:\MS46\DATA\091517\0915F007.D Vial: 6
Acq On : 15 Sep 2017 04:36 pm Operator: KR
Sample : IB Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 17 9:24 2017 Quant Results File: 091517MS46_8260.RES

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Fri Sep 15 08:57:53 2017
Response via : Initial Calibration



Data File : J:\MS46\DATA\091517\0915F008.D Vial: 7
Acq On : 15 Sep 2017 05:02 pm Operator: KR
Sample : 8260 ICAL 0.1 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 17 09:26:22 2017 Quant Results File: 091517MS46_8260.RES

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Sun Sep 17 09:26:10 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	6.57	96	146132	10.00	PPB		0.00
64) Chlorobenzene-d5	10.04	82	62825	10.00	PPB		0.00
85) 1,4-Dichlorobenzene-d4	12.62	152	47806	10.00	PPB		0.00
System Monitoring Compounds							
43) Dibromofluoromethane	0.00	113	0	0.00	PPB		
Spiked Amount 10.000			Recovery	=	0.00%		
47) 1,2-Dichloroethane-d4	0.00	65	0	0.00	PPB		
Spiked Amount 10.000			Recovery	=	0.00%		
62) Toluene-d8	0.00	98	0	0.00	PPB		
Spiked Amount 10.000			Recovery	=	0.00%		
84) 4-Bromofluorobenzene	0.00	95	0	0.00	PPB		
Spiked Amount 10.000			Recovery	=	0.00%		
Target Compounds							Qvalue
3) Chloromethane	1.28	50	663	0.14	PPB		81
4) Vinyl Chloride	1.35	62	563	0.11	PPB		90
8) Dichlorofluoromethane	1.96	67	770	0.11	PPB		85
11) Acrolein	2.49	56	752	2.50	PPB	#	64
13) 1,1-Dichloroethene	2.51	96	333m	0.09	PPB		
14) Acetone	2.68	43	3522	6.91	PPB		88
15) Iodomethane	2.70	142	1086	0.20	PPB		80
16) Carbon Disulfide	2.72	76	1295	0.12	PPB		78
21) Methylene Chloride	3.18	84	748	0.19	PPB	#	75
24) Methyl tert-Butyl Ether	3.48	73	1657m	0.19	PPB		
30) Chloroprene	4.29	53	2371	0.36	PPB		95
34) 2-Butanone	5.21	72	807	3.66	PPB	#	82
40) Chloroform	5.56	83	1021	0.15	PPB		82
41) Cyclohexane	5.64	56	735	0.10	PPB		80
42) 1,1,1-Trichloroethane	5.70	97	916	0.14	PPB		85
44) Carbon Tetrachloride	5.85	117	526	0.09	PPB		64
61) 4-Methyl-2-pentanone (MIBK	8.37	58	2676	3.36	PPB		90
63) Toluene	8.48	92	1590	0.17	PPB	#	74
70) 2-Hexanone	9.31	57	872	3.37	PPB	#	88
74) 1-Chlorohexane	10.04	91	640	0.10	PPB		83
75) Chlorobenzene	10.06	112	900	0.08	PPB		87
76) Ethylbenzene	10.16	106	614	0.10	PPB	#	46
78) m,p-Xylenes	10.30	106	1211	0.16	PPB	#	80
82) Isopropylbenzene	11.12	105	1619	0.09	PPB		74
89) n-Propylbenzene	11.57	91	1827	0.11	PPB		85
91) 2-Chlorotoluene	11.70	91	888	0.09	PPB		83
92) 1,3,5-Trimethylbenzene	11.79	105	992	0.09	PPB		85
93) 4-Chlorotoluene	11.83	91	1233	0.12	PPB		86
94) tert-Butylbenzene	12.12	119	862	0.08	PPB		65
95) 1,2,4-Trimethylbenzene	12.19	105	965	0.09	PPB		81
96) sec-Butylbenzene	12.37	105	1305	0.09	PPB		96
97) p-Isopropyltoluene	12.53	119	995	0.08	PPB		84
99) 1,4-Dichlorobenzene	12.64	146	562	0.08	PPB		85
100) n-Butylbenzene	12.99	91	1069	0.11	PPB		65
101) 1,2-Dichlorobenzene	13.06	146	614	0.11	PPB		91

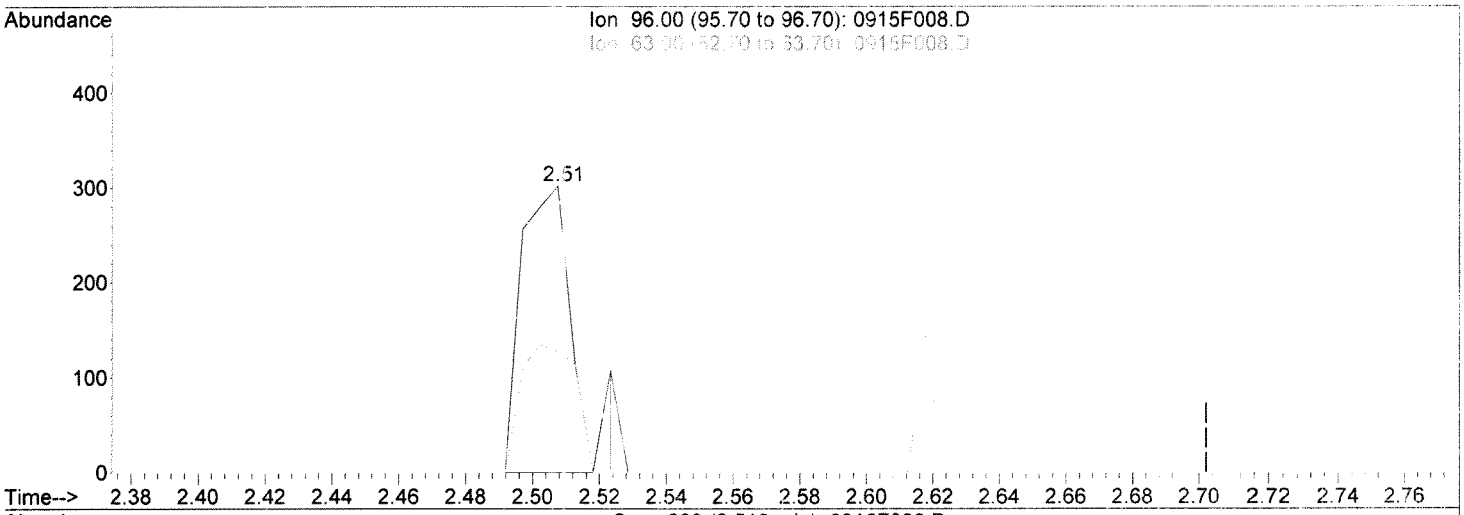
K 9/18/17

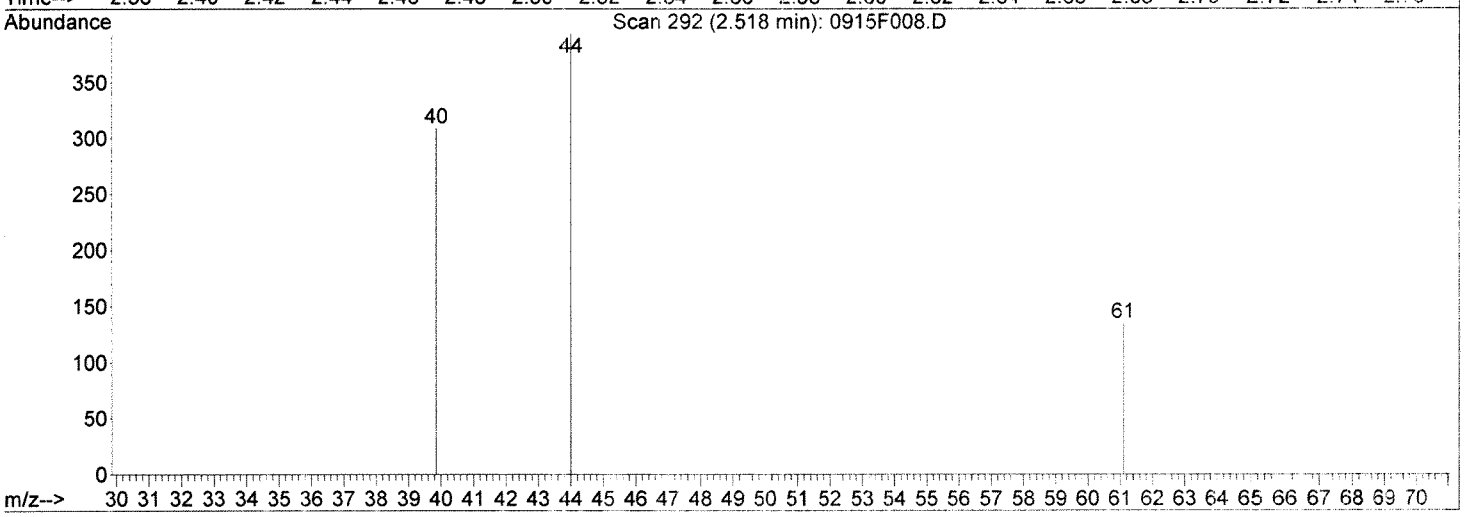
SEP 21 2017

(#) = qualifier out of range (m) = manual integration
0915F008.D 091517MS46_8260.M Sun Sep 17 09:29:47 2017

Data File : J:\MS46\DATA\091517\0915F008.D Vial: 7
Acq On : 15 Sep 2017 05:02 pm Operator: KR
Sample : 8260 ICAL 0.1 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 17 9:26 2017 Quant Results File: temp.res

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Sun Sep 17 09:26:10 2017
Response via : Single Level Calibration





TIC: 0915F008.D

(13) 1,1-Dichloroethene (CMT)

2.51min 0.09PPB m

response 333

Ion	Exp%	Act%
96.00	100	100
63.00	56.30	42.05
61.00	174.60	91.06#
0.00	0.00	0.00

Manual Integration:

After

Missed peak

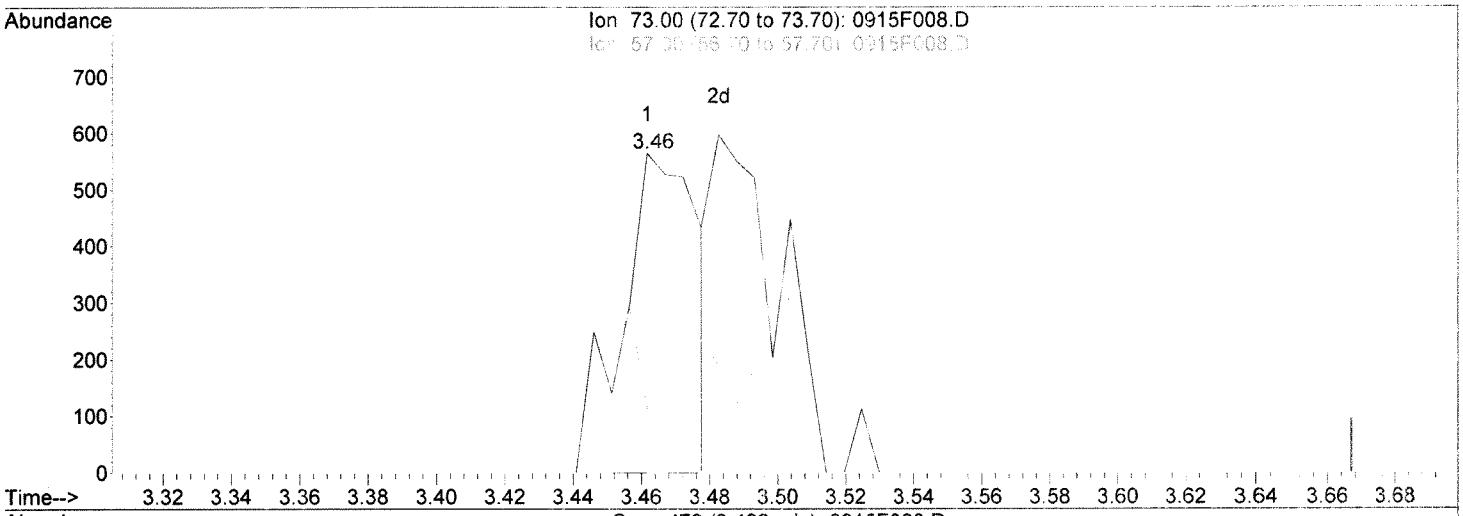
09/17/17

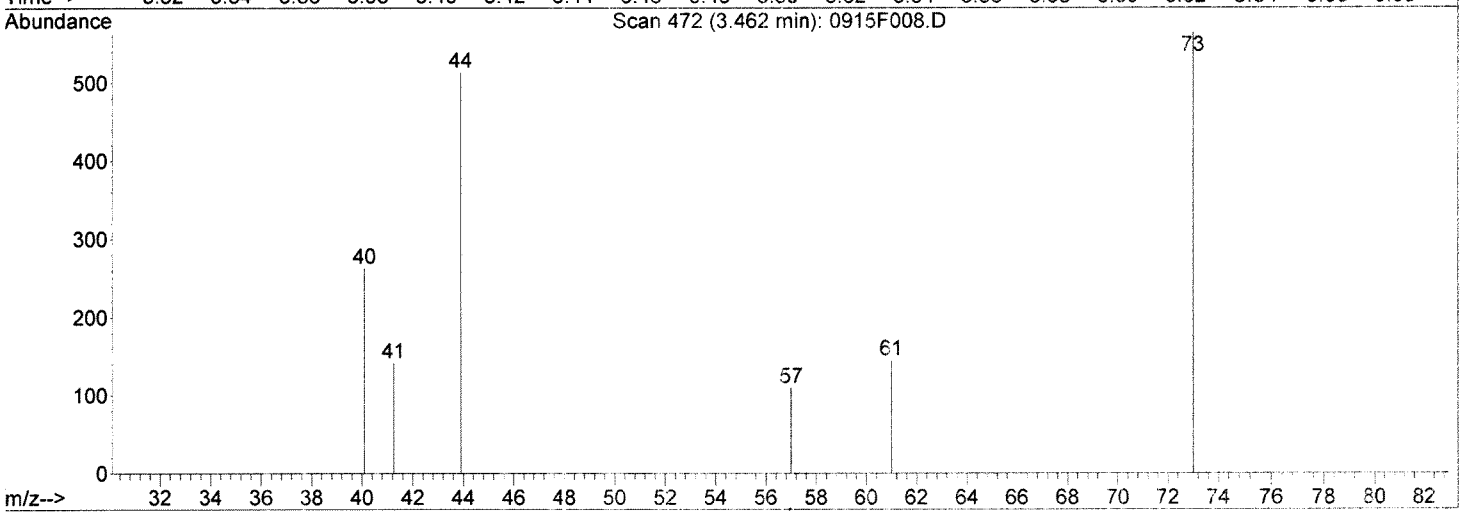
SEP 21 2017

0915F008.D 091517MS46_8260.M Sun Sep 17 09:27:13 2017

Data File : J:\MS46\DATA\091517\0915F008.D Vial: 7
Acq On : 15 Sep 2017 05:02 pm Operator: KR
Sample : 8260 ICAL 0.1 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 17 9:27 2017 Quant Results File: temp.res

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Sun Sep 17 09:26:10 2017
Response via : Multiple Level Calibration





TIC: 0915F008.D

(24) Methyl tert-Butyl Ether (T)

3.46min 0.10PPB

response 861

Ion	Exp%	Act%
73.00	100	100
57.00	22.50	19.47
55.00	5.10	0.00
0.00	0.00	0.00

Manual Integration:

Before

09/17/17

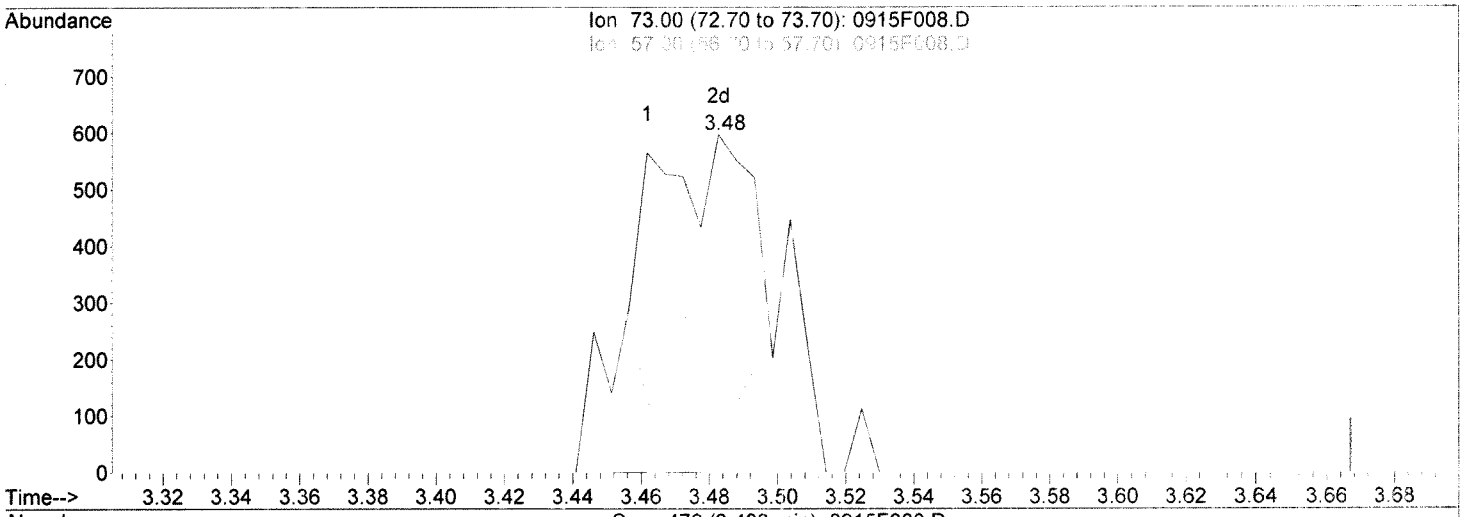
SEP 21 2017

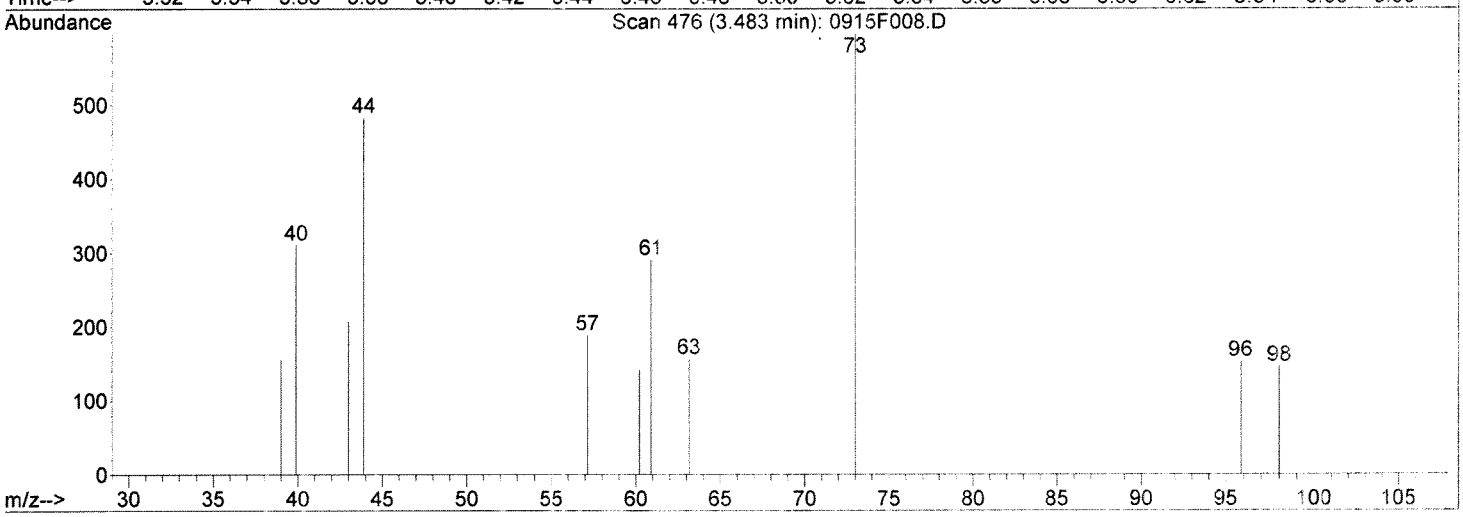
0915F008.D 091517MS46_8260.M Sun Sep 17 09:27:33 2017

Data File : J:\MS46\DATA\091517\0915F008.D
Acq On : 15 Sep 2017 05:02 pm
Sample : 8260 ICAL 0.1
Misc :
MS Integration Params: rteint.p
Quant Time: Sep 17 9:27 2017

Vial: 7
Operator: KR
Inst : GCMS46
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Sun Sep 17 09:26:10 2017
Response via : Multiple Level Calibration





TIC: 0915F008.D

(24) Methyl tert-Butyl Ether (T)

3.48min 0.19PPB m

response 1657

Ion	Exp%	Act%
73.00	100	100
57.00	22.50	31.66
55.00	5.10	0.00
0.00	0.00	0.00

Manual Integration:

After

Baseline correction

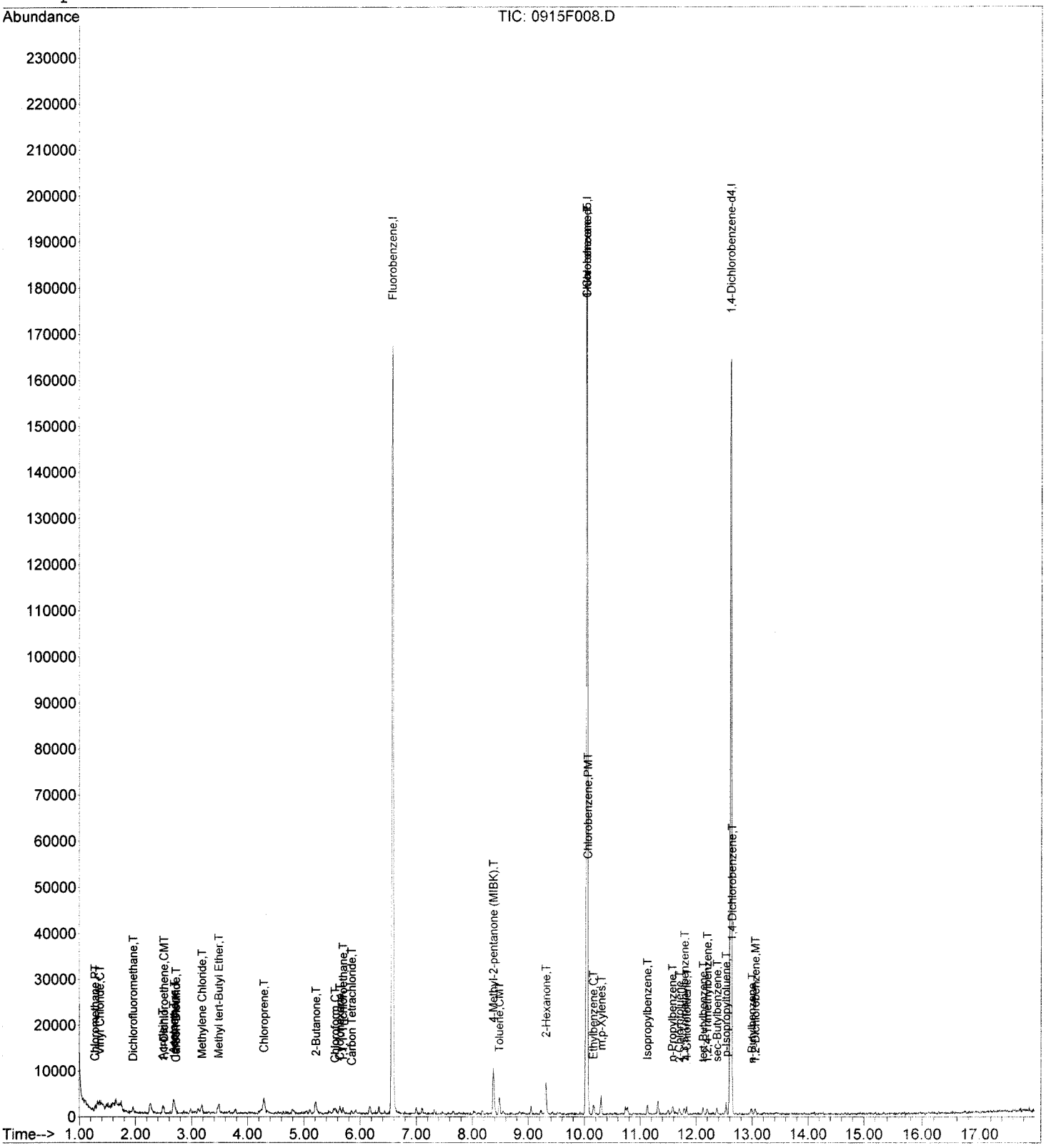
09/17/17

SEP 21 2017

0915F008.D 091517MS46_8260.M Sun Sep 17 09:27:38 2017

Data File : J:\MS46\DATA\091517\0915F008.D Vial: 7
Acq On : 15 Sep 2017 05:02 pm Operator: KR
Sample : 8260 ICAL 0.1 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 17 9:29 2017 Quant Results File: 091517MS46_8260.RES

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Sun Sep 17 09:26:10 2017
Response via : Initial Calibration



Data File : J:\MS46\DATA\091517\0915F009.D Vial: 8
Acq On : 15 Sep 2017 05:29 pm Operator: KR
Sample : 8260 ICAL 0.2 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 17 09:29:56 2017 Quant Results File: 091517MS46_8260.RES

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Sun Sep 17 09:26:10 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	6.58	96	140013	10.00	PPB		0.00
64) Chlorobenzene-d5	10.04	82	61706	10.00	PPB		0.00
85) 1,4-Dichlorobenzene-d4	12.61	152	46281	10.00	PPB		0.00
System Monitoring Compounds							
43) Dibromofluoromethane	0.00	113	0	0.00	PPB		
Spiked Amount 10.000			Recovery	=	0.00%		
47) 1,2-Dichloroethane-d4	0.00	65	0	0.00	PPB		
Spiked Amount 10.000			Recovery	=	0.00%		
62) Toluene-d8	0.00	98	0	0.00	PPB		
Spiked Amount 10.000			Recovery	=	0.00%		
84) 4-Bromofluorobenzene	0.00	95	0	0.00	PPB		
Spiked Amount 10.000			Recovery	=	0.00%		
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.11	85	1172	0.22	PPB		98
3) Chloromethane	1.28	50	1343	0.29	PPB		80
4) Vinyl Chloride	1.35	62	1258	0.27	PPB		84
6) Bromomethane	1.65	96	904	0.31	PPB		80
7) Chloroethane	1.75	64	843	0.33	PPB		81
8) Dichlorofluoromethane	1.96	67	1616	0.25	PPB		81
9) Trichlorofluoromethane	1.95	101	1557	0.21	PPB		100
11) Acrolein	2.49	56	1857	6.45	PPB		97
12) Trichlorotrifluoroethane	2.48	151	808	0.22	PPB	#	52
13) 1,1-Dichloroethene	2.50	96	708	0.21	PPB	#	67
14) Acetone	2.67	43	5950	12.18	PPB		81
15) Iodomethane	2.69	142	2609	0.49	PPB		95
16) Carbon Disulfide	2.71	76	2508	0.24	PPB		95
17) 2-Propanol (Isopropyl Alco	2.86	45	974	17.69	PPB		74
21) Methylene Chloride	3.18	84	1327	0.36	PPB		80
23) Acrylonitrile	3.67	53	841	1.21	PPB		86
24) Methyl tert-Butyl Ether	3.47	73	3604	0.44	PPB		91
25) trans-1,2-Dichloroethene	3.49	96	928	0.23	PPB		88
26) Hexane	3.77	57	1382	0.26	PPB		85
27) Diisopropyl Ether	4.25	45	2559	0.23	PPB	#	63
28) 1,1-Dichloroethane	4.22	63	1663	0.26	PPB		91
30) Chloroprene	4.30	53	5834	0.92	PPB		79
31) tert-Butyl Ethyl Ether	4.79	59	1983	0.21	PPB		91
32) 2,2-Dichloropropane	5.03	77	1389	0.26	PPB		71
33) cis-1,2-Dichloroethene	5.11	96	925	0.22	PPB	#	65
34) 2-Butanone	5.21	72	2299	10.88	PPB	#	60
37) Methacrylonitrile	5.54	67	995	1.02	PPB	#	67
40) Chloroform	5.56	83	1687	0.25	PPB		70
41) Cyclohexane	5.64	56	1494	0.21	PPB		73
42) 1,1,1-Trichloroethane	5.70	97	1464	0.23	PPB		91
44) Carbon Tetrachloride	5.85	117	1426	0.25	PPB		79
45) 1,1-Dichloropropene	5.93	75	1369	0.26	PPB		73
48) Benzene	6.18	78	3504	0.24	PPB		93
49) 1,2-Dichloroethane	6.32	62	1366	0.30	PPB		72
51) Trichloroethene	7.00	95	919	0.22	PPB	#	84
52) Methylcyclohexane	7.11	83	1401	0.18	PPB		92
53) 1,2-Dichloropropane	7.33	63	1004	0.28	PPB		77

(#) = qualifier out of range (m) = manual integration

SEP 21 2017

Data File : J:\MS46\DATA\091517\0915F009.D Vial: 8
Acq On : 15 Sep 2017 05:29 pm Operator: KR
Sample : 8260 ICAL 0.2 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 17 09:29:56 2017 Quant Results File: 091517MS46_8260.RES

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Sun Sep 17 09:26:10 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

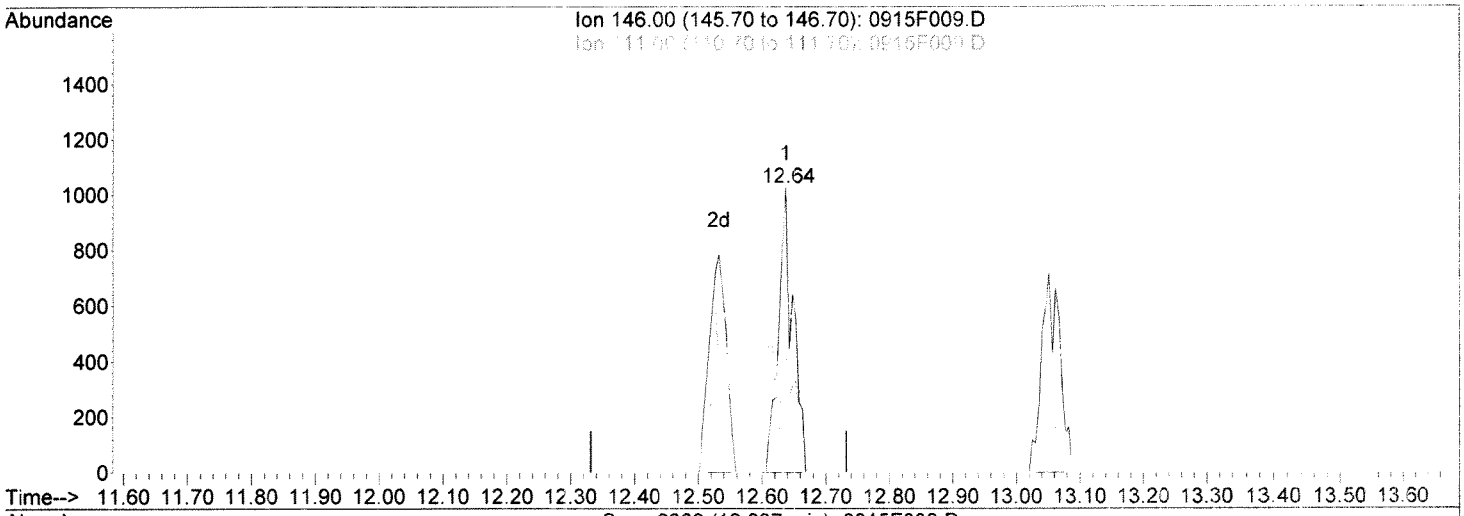
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
57)	Bromodichloromethane	7.66	83	1198	0.26 PPB		85
58)	2-Nitropropane	8.02	41	613	1.15 PPB	#	53
60)	cis-1,3-Dichloropropene	8.20	75	1418	0.27 PPB	#	65
61)	4-Methyl-2-pentanone (MIBK	8.37	58	6343	8.32 PPB	#	81
63)	Toluene	8.48	92	2831	0.31 PPB		89
66)	trans-1,3-Dichloropropene	8.85	75	1066	0.22 PPB		83
68)	1,1,2-Trichloroethane	9.05	83	587	0.22 PPB	#	71
69)	Tetrachloroethene	9.05	164	788	0.18 PPB	#	74
70)	2-Hexanone	9.31	57	2013	7.93 PPB	#	70
71)	1,3-Dichloropropane	9.23	76	1403	0.26 PPB		66
72)	Dibromochloromethane	9.42	129	750	0.19 PPB		79
73)	1,2-Dibromoethane (EDB)	9.56	107	537	0.18 PPB		84
74)	1-Chlorohexane	10.03	91	1302	0.21 PPB	#	57
75)	Chlorobenzene	10.06	112	2117	0.19 PPB		90
76)	Ethylbenzene	10.16	106	1091	0.18 PPB	#	78
77)	1,1,1,2-Tetrachloroethane	10.18	131	649	0.16 PPB		78
78)	m,p-Xylenes	10.29	106	2694	0.37 PPB		91
79)	o-Xylene	10.73	106	1278	0.18 PPB	#	67
80)	Styrene	10.77	103	1054	0.16 PPB	#	74
82)	Isopropylbenzene	11.13	105	3380	0.18 PPB		93
88)	Bromobenzene	11.49	156	904	0.24 PPB	#	65
89)	n-Propylbenzene	11.58	91	3980	0.24 PPB		96
91)	2-Chlorotoluene	11.69	91	2141	0.23 PPB		86
92)	1,3,5-Trimethylbenzene	11.78	105	2545	0.23 PPB		93
93)	4-Chlorotoluene	11.84	91	2589	0.27 PPB		95
94)	tert-Butylbenzene	12.12	119	2186	0.22 PPB		73
95)	1,2,4-Trimethylbenzene	12.19	105	2307	0.22 PPB		83
96)	sec-Butylbenzene	12.36	105	3046	0.22 PPB		95
97)	p-Isopropyltoluene	12.53	119	2115	0.18 PPB		78
98)	1,3-Dichlorobenzene	12.53	146	1467m	0.22 PPB		
99)	1,4-Dichlorobenzene	12.64	146	1629	0.24 PPB		95
100)	n-Butylbenzene	12.99	91	2210	0.23 PPB		84
101)	1,2-Dichlorobenzene	13.05	146	1434	0.26 PPB		82
103)	1,3,5-Trichlorobenzene	14.09	180	803	0.19 PPB		73

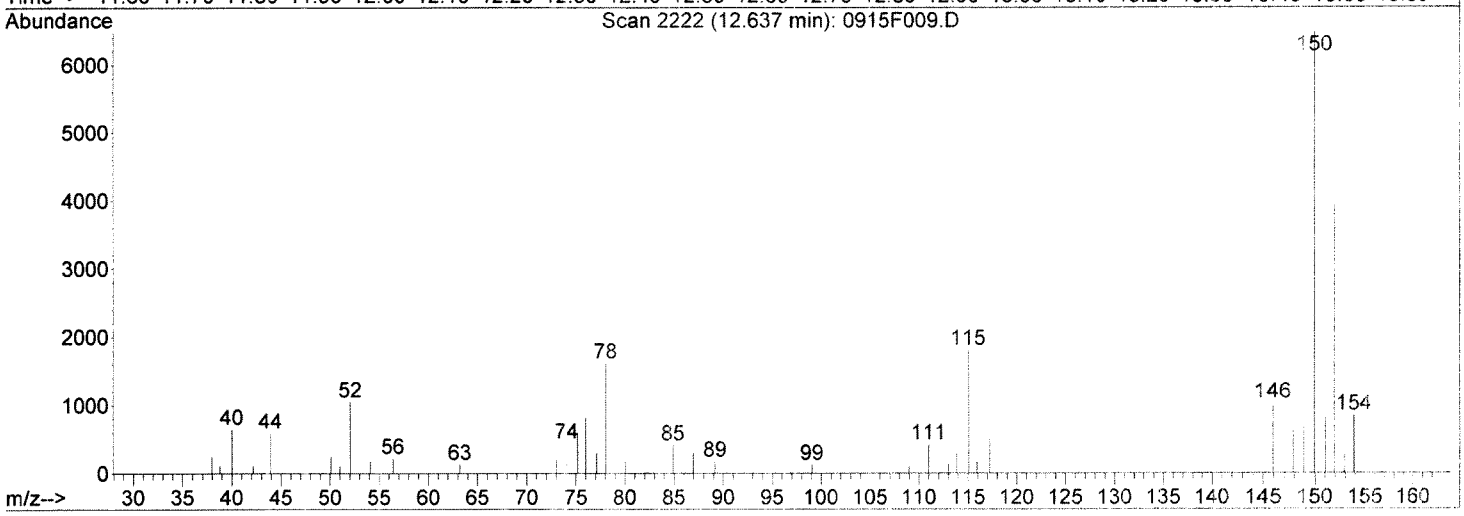
(#) = qualifier out of range (m) = manual integration

Data File : J:\MS46\DATA\091517\0915F009.D
Acq On : 15 Sep 2017 05:29 pm
Sample : 8260 ICAL 0.2
Misc :
MS Integration Params: rteint.p
Quant Time: Sep 17 9:32 2017

Vial: 8
Operator: KR
Inst : GCMS46
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Sun Sep 17 09:26:10 2017
Response via : Multiple Level Calibration





TIC: 0915F009.D

(98) 1,3-Dichlorobenzene (T)

12.64min 0.24PPB

response 1629

Ion	Exp%	Act%
146.00	100	100
111.00	36.60	40.98
148.00	65.70	60.20
0.00	0.00	0.00

Manual Integration:

Before

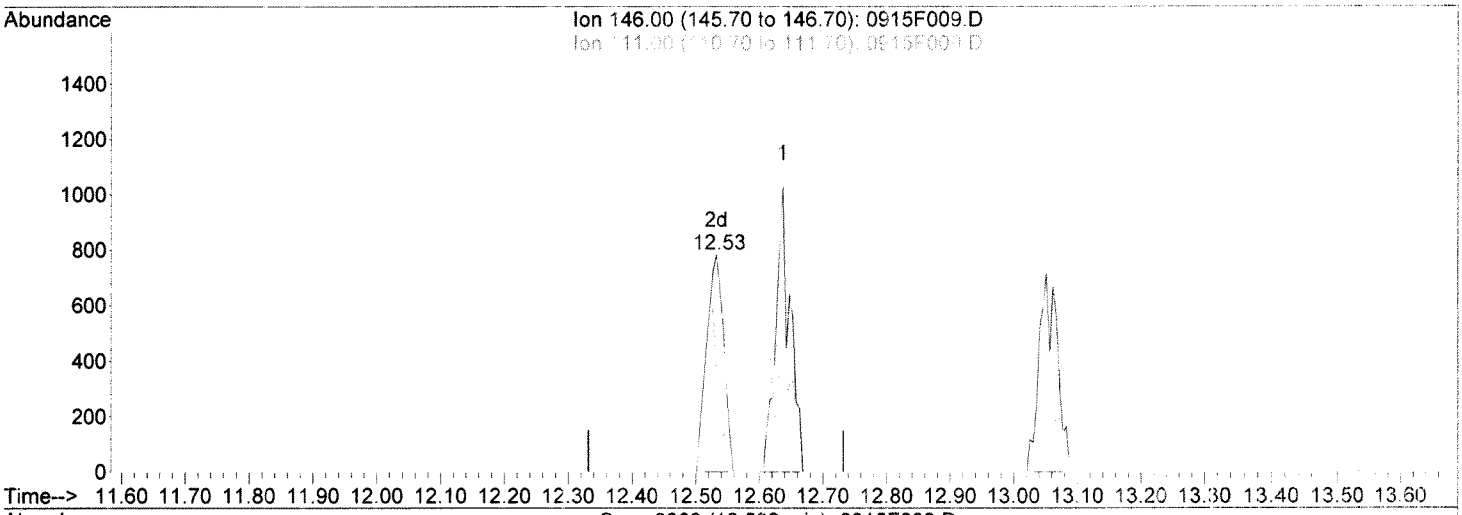
09/17/17

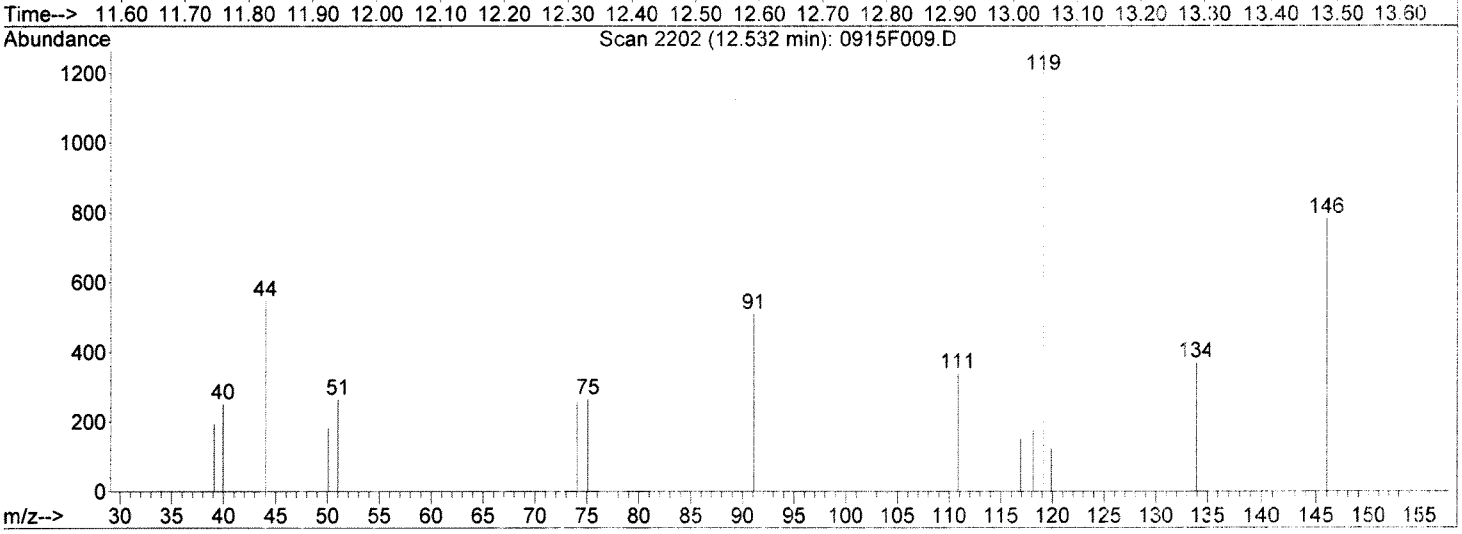
SEP 2 1 2017

0915F009.D 091517MS46_8260.M Sun Sep 17 09:32:13 2017

Data File : J:\MS46\DATA\091517\0915F009.D Vial: 8
Acq On : 15 Sep 2017 05:29 pm Operator: KR
Sample : 8260 ICAL 0.2 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 17 9:32 2017 Quant Results File: temp.res

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Sun Sep 17 09:26:10 2017
Response via : Multiple Level Calibration





TIC: 0915F009.D

(98) 1,3-Dichlorobenzene (T)
12.53min 0.22PPB m
response 1467

Ion	Exp%	Act%
146.00	100	100
111.00	36.60	43.37
148.00	65.70	34.06#
0.00	0.00	0.00

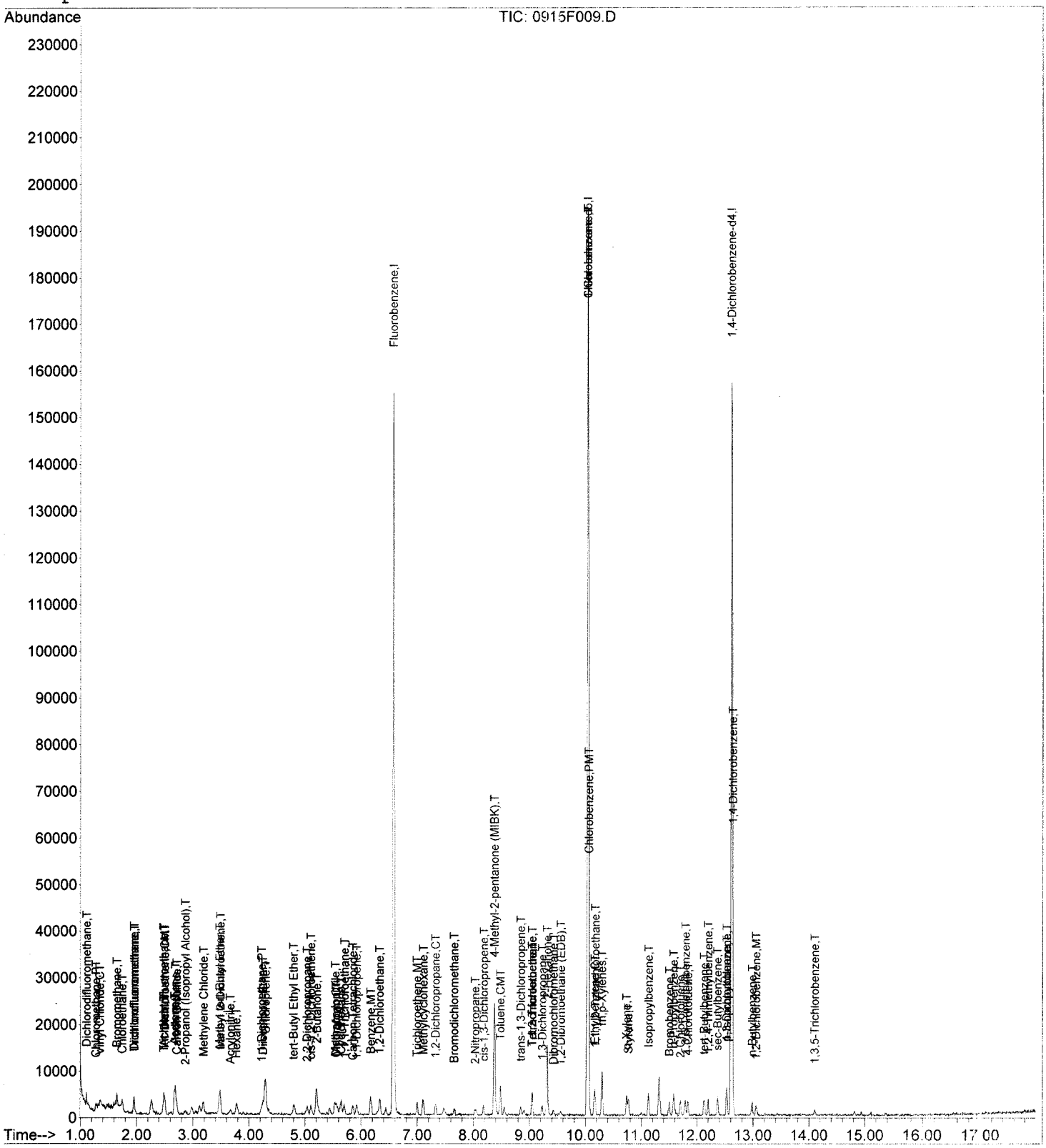
Manual Integration:
After
WRT
09/17/17

SEP 21 2017

0915F009.D 091517MS46_8260.M Sun Sep 17 09:32:18 2017

Data File : J:\MS46\DATA\091517\0915F009.D Vial: 8
Acq On : 15 Sep 2017 05:29 pm Operator: KR
Sample : 8260 ICAL 0.2 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 17 9:32 2017 Quant Results File: 091517MS46_8260.RES

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Sun Sep 17 09:26:10 2017
Response via : Initial Calibration



Data File : J:\MS46\DATA\091517\0915F010.D Vial: 9
Acq On : 15 Sep 2017 05:55 pm Operator: KR
Sample : 8260 ICAL 0.5 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 13:52:08 2017 Quant Results File: 091517MS46_8260.RES

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	6.58	96	148055	10.00	PPB	0.00
64) Chlorobenzene-d5	10.04	82	64263	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	12.61	152	49101	10.00	PPB	0.00
System Monitoring Compounds						
43) Dibromofluoromethane	0.00	113	0	0.00	PPB	
Spiked Amount 10.000			Recovery	=	0.00%	
47) 1,2-Dichloroethane-d4	0.00	65	0	0.00	PPB	
Spiked Amount 10.000			Recovery	=	0.00%	
62) Toluene-d8	0.00	98	0	0.00	PPB	
Spiked Amount 10.000			Recovery	=	0.00%	
84) 4-Bromofluorobenzene	0.00	95	0	0.00	PPB	
Spiked Amount 10.000			Recovery	=	0.00%	

KR 9/18/17

Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.11	85	2291	0.47	PPB		93
3) Chloromethane	1.28	50	2672	0.51	PPB		93
4) Vinyl Chloride	1.35	62	3023	0.48	PPB		98
6) Bromomethane	1.65	96	2224	0.58	PPB		83
7) Chloroethane	1.75	64	1877	0.51	PPB		84
8) Dichlorofluoromethane	1.96	67	3890	0.49	PPB		90
9) Trichlorofluoromethane	1.96	101	4161	0.52	PPB		84
10) Ethyl Ether	2.27	59	1539	0.52	PPB		81
11) Acrolein	2.49	56	3829	10.04	PPB		88
12) Trichlorotrifluoroethane	2.48	151	1669	0.47	PPB	#	66
13) 1,1-Dichloroethene	2.51	96	1955	0.51	PPB		79
14) Acetone	2.67	43	15369	20.10	PPB		99
15) Iodomethane	2.69	142	7093	1.58	PPB		94
16) Carbon Disulfide	2.71	76	6079	0.51	PPB		98
17) 2-Propanol (Isopropyl Alco	2.87	45	1977	17.42	PPB		90
18) 3-Chloro-1-propene	2.98	76	1323	0.59	PPB	#	53
19) Methyl Acetate	3.05	43	1607	0.57	PPB		92
20) Acetonitrile	3.12	40	2524	16.37	PPB	#	78
21) Methylene Chloride	3.17	84	2497	0.57	PPB	#	74
23) Acrylonitrile	3.66	53	2295	2.12	PPB		78
24) Methyl tert-Butyl Ether	3.47	73	9287	0.95	PPB		91
25) trans-1,2-Dichloroethene	3.48	96	2507	0.56	PPB	#	71
26) Hexane	3.78	57	2789	0.45	PPB		90
27) Diisopropyl Ether	4.25	45	6263	0.46	PPB		83
28) 1,1-Dichloroethane	4.23	63	4055	0.49	PPB		70
30) Chloroprene	4.29	53	13314	1.76	PPB		96
31) tert-Butyl Ethyl Ether	4.80	59	5499	0.47	PPB		97
32) 2,2-Dichloropropane	5.03	77	3022	0.48	PPB		90
33) cis-1,2-Dichloroethene	5.11	96	2225	0.49	PPB		90
34) 2-Butanone	5.19	72	5530	18.95	PPB	#	72
37) Methacrylonitrile	5.52	67	2473	1.96	PPB		86
38) Bromochloromethane	5.44	128	925	0.50	PPB	#	76
40) Chloroform	5.56	83	4202	0.53	PPB		98
41) Cyclohexane	5.64	56	4066	0.52	PPB		91
42) 1,1,1-Trichloroethane	5.70	97	3730	0.51	PPB		89
44) Carbon Tetrachloride	5.85	117	3119	0.48	PPB		89
45) 1,1-Dichloropropene	5.92	75	3013	0.47	PPB		80

SEP 21 2017

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS46\DATA\091517\0915F010.D Vial: 9
Acq On : 15 Sep 2017 05:55 pm Operator: KR
Sample : 8260 ICAL 0.5 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 13:52:08 2017 Quant Results File: 091517MS46_8260.RES

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
46)	Isobutyl Alcohol	6.29	43	783	11.55	PPB		86
48)	Benzene	6.17	78	8562	0.50	PPB		91
49)	1,2-Dichloroethane	6.32	62	2793	0.49	PPB		90
50)	tert-Amyl Methyl Ether	6.34	55	1508	0.53	PPB	#	50
51)	Trichloroethene	7.00	95	2216	0.47	PPB		91
52)	Methylcyclohexane	7.11	83	3176	0.43	PPB		86
53)	1,2-Dichloropropane	7.32	63	2064	0.47	PPB		78
54)	Dibromomethane	7.47	93	1145	0.49	PPB		87
55)	Methyl methacrylate	7.48	69	920	0.42	PPB	#	66
57)	Bromodichloromethane	7.66	83	2827	0.50	PPB		86
58)	2-Nitropropane	8.03	41	1438	2.27	PPB		94
59)	2-Chloroethyl Vinyl Ether	8.05	63	894	0.43	PPB		91
60)	cis-1,3-Dichloropropene	8.18	75	2998	0.46	PPB		92
61)	4-Methyl-2-pentanone (MIBK	8.37	58	18436	18.09	PPB		99
63)	Toluene	8.48	92	5505	0.50	PPB		99
65)	n-Octane	8.55	85	864	0.40	PPB		83
66)	trans-1,3-Dichloropropene	8.85	75	2698	0.49	PPB		80
67)	Ethyl methacrylate	8.91	69	1674	0.42	PPB		73
68)	1,1,2-Trichloroethane	9.04	83	1310	0.46	PPB		84
69)	Tetrachloroethene	9.04	164	1596	0.43	PPB	#	62
70)	2-Hexanone	9.31	57	5611	17.57	PPB		94
71)	1,3-Dichloropropane	9.22	76	2965	0.50	PPB		90
72)	Dibromochloromethane	9.43	129	1840	0.47	PPB		79
73)	1,2-Dibromoethane (EDB)	9.55	107	1450	0.48	PPB		85
74)	1-Chlorohexane	10.04	91	2488	0.42	PPB		81
75)	Chlorobenzene	10.07	112	5154	0.48	PPB		93
76)	Ethylbenzene	10.16	106	3019	0.50	PPB	#	60
77)	1,1,1,2-Tetrachloroethane	10.18	131	2013	0.51	PPB		80
78)	m,p-Xylenes	10.29	106	6481	0.91	PPB		84
79)	o-Xylene	10.73	106	3211	0.47	PPB	#	79
80)	Styrene	10.77	103	2777m	0.44	PPB		
81)	Bromoform	11.00	173	949	0.43	PPB		88
82)	Isopropylbenzene	11.13	105	7897	0.44	PPB		90
83)	cis-1,4-Dichloro-2-butene	11.31	89	706	4.48	PPB	#	44
86)	1,1,2,2-Tetrachloroethane	11.56	83	1669	0.52	PPB		75
88)	Bromobenzene	11.49	156	2003	0.47	PPB		81
89)	n-Propylbenzene	11.58	91	9915	0.46	PPB		97
90)	1,2,3-Trichloropropane	11.61	110	330m	0.32	PPB		
91)	2-Chlorotoluene	11.70	91	5706	0.48	PPB		92
92)	1,3,5-Trimethylbenzene	11.78	105	6324	0.46	PPB		93
93)	4-Chlorotoluene	11.83	91	6026	0.46	PPB		94
94)	tert-Butylbenzene	12.12	119	5323	0.45	PPB		90
95)	1,2,4-Trimethylbenzene	12.20	105	5793	0.44	PPB		96
96)	sec-Butylbenzene	12.36	105	7433	0.44	PPB		90
97)	p-Isopropyltoluene	12.53	119	5534	0.42	PPB		91
98)	1,3-Dichlorobenzene	12.53	146	3661	0.48	PPB		84
99)	1,4-Dichlorobenzene	12.65	146	3463	0.47	PPB		97
100)	n-Butylbenzene	12.98	91	5479	0.44	PPB		92
101)	1,2-Dichlorobenzene	13.05	146	3403	0.51	PPB		78
103)	1,3,5-Trichlorobenzene	14.10	180	1878	0.44	PPB		88
104)	1,2,4-Trichlorobenzene	14.81	180	1365	0.47	PPB		88

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS46\DATA\091517\0915F010.D Vial: 9
Acq On : 15 Sep 2017 05:55 pm Operator: KR
Sample : 8260 ICAL 0.5 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 13:52:08 2017 Quant Results File: 091517MS46_8260.RES

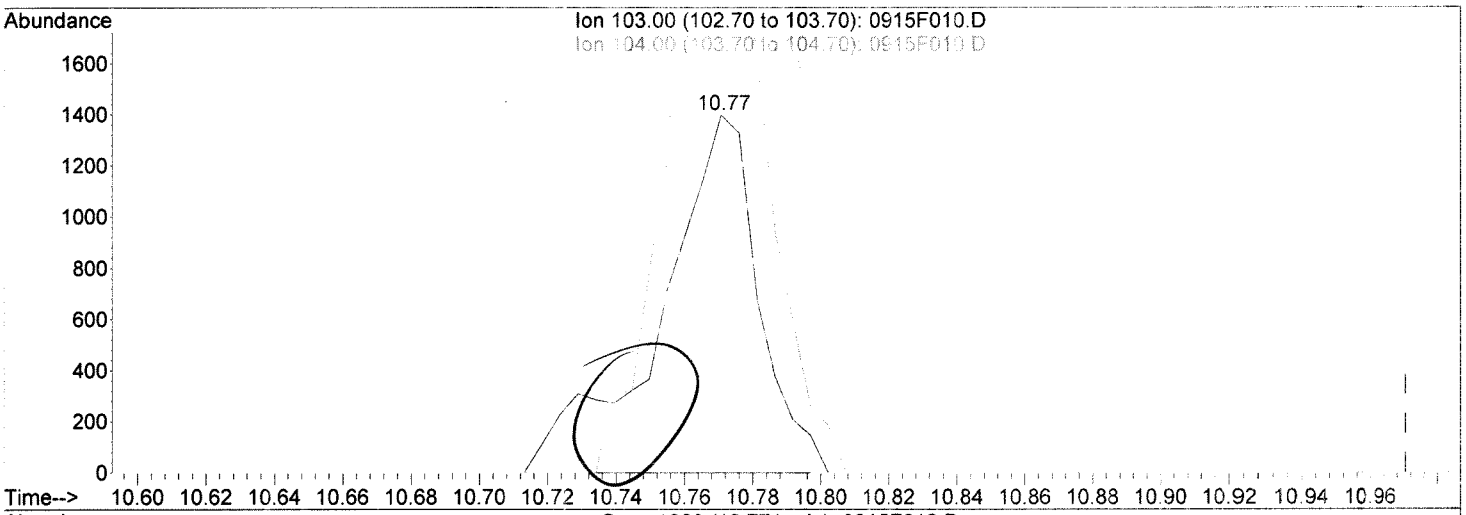
Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

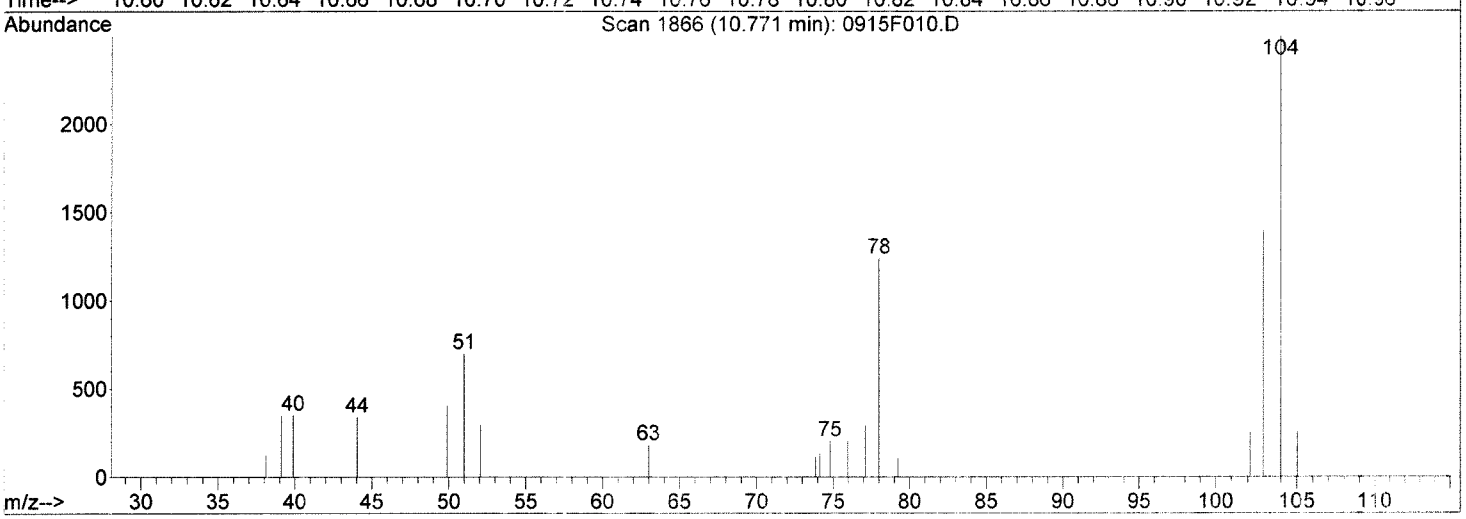
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
106)	Naphthalene	15.09	128	2166	0.46	PPB		69
107)	1,2,3-Trichlorobenzene	15.36	180	836	0.41	PPB	#	66

(#) = qualifier out of range (m) = manual integration
0915F010.D 091517MS46_8260.M Mon Sep 18 14:35:25 2017 Page 3

Data File : J:\MS46\DATA\091517\0915F010.D Vial: 9
Acq On : 15 Sep 2017 05:55 pm Operator: KR
Sample : 8260 ICAL 0.5 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 13:57 2017 Quant Results File: temp.res

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Single Level Calibration





TIC: 0915F010.D

(80) Styrene (T)

10.77min 0.44PPB m

response 2777

Ion	Exp%	Act%
103.00	100	100
104.00	200.20	178.83
78.00	96.30	88.70
0.00	0.00	0.00

Manual Integration:

After

Accidentally deleted, reintegrated

09/18/17

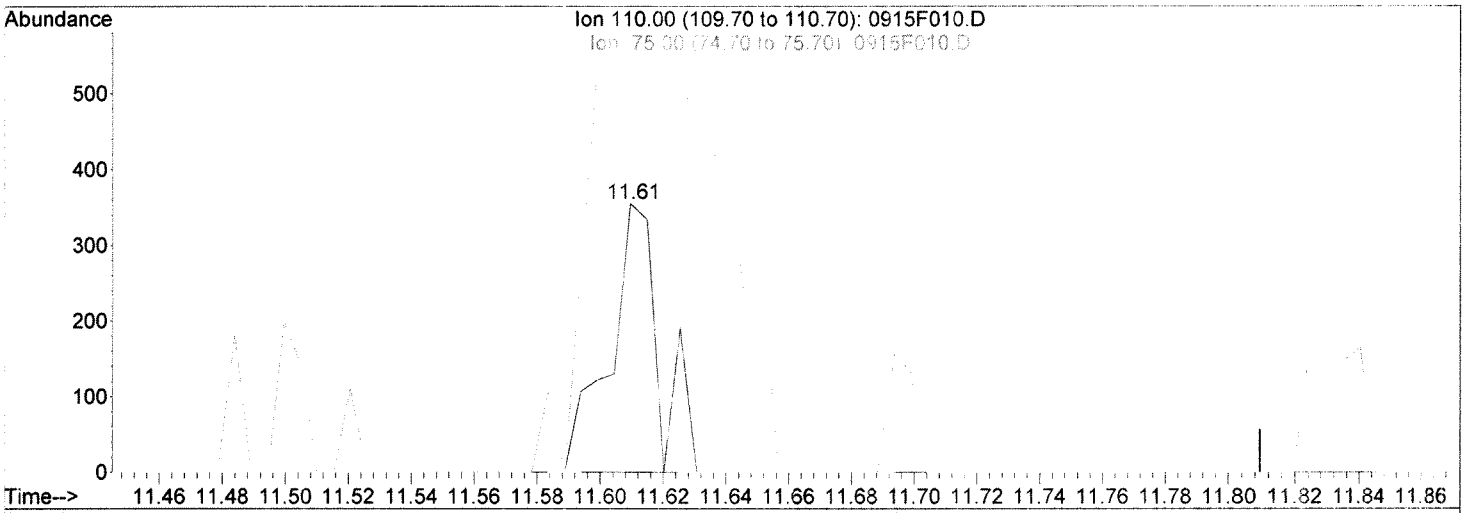
KR

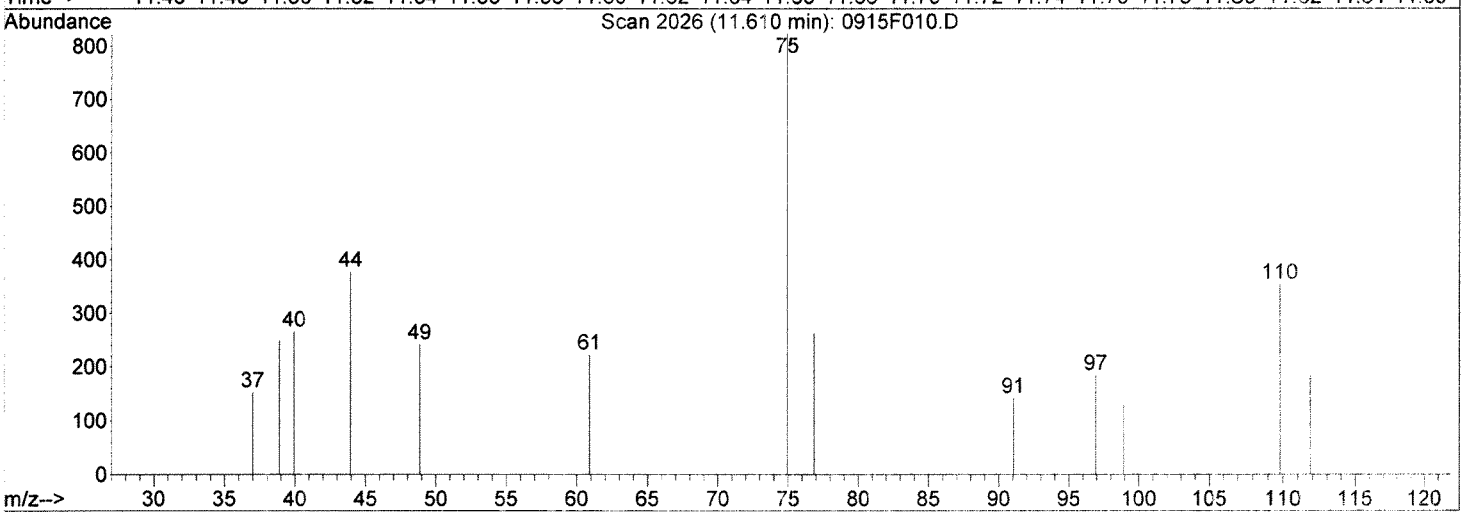
SEP 21 2017

0915F010.D 091517MS46_8260.M Mon Sep 18 13:57:20 2017

Data File : J:\MS46\DATA\091517\0915F010.D Vial: 9
Acq On : 15 Sep 2017 05:55 pm Operator: KR
Sample : 8260 ICAL 0.5 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:35 2017 Quant Results File: temp.res

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 14:11:25 2017
Response via : Single Level Calibration





TIC: 0915F010.D

(90) 1,2,3-Trichloropropane (T)

11.61min 0.32PPB m

response 330

Ion	Exp%	Act%
110.00	100	100
75.00	280.30	232.11#
61.00	65.90	62.82
0.00	0.00	0.00

Manual Integration:

After

Missed peak

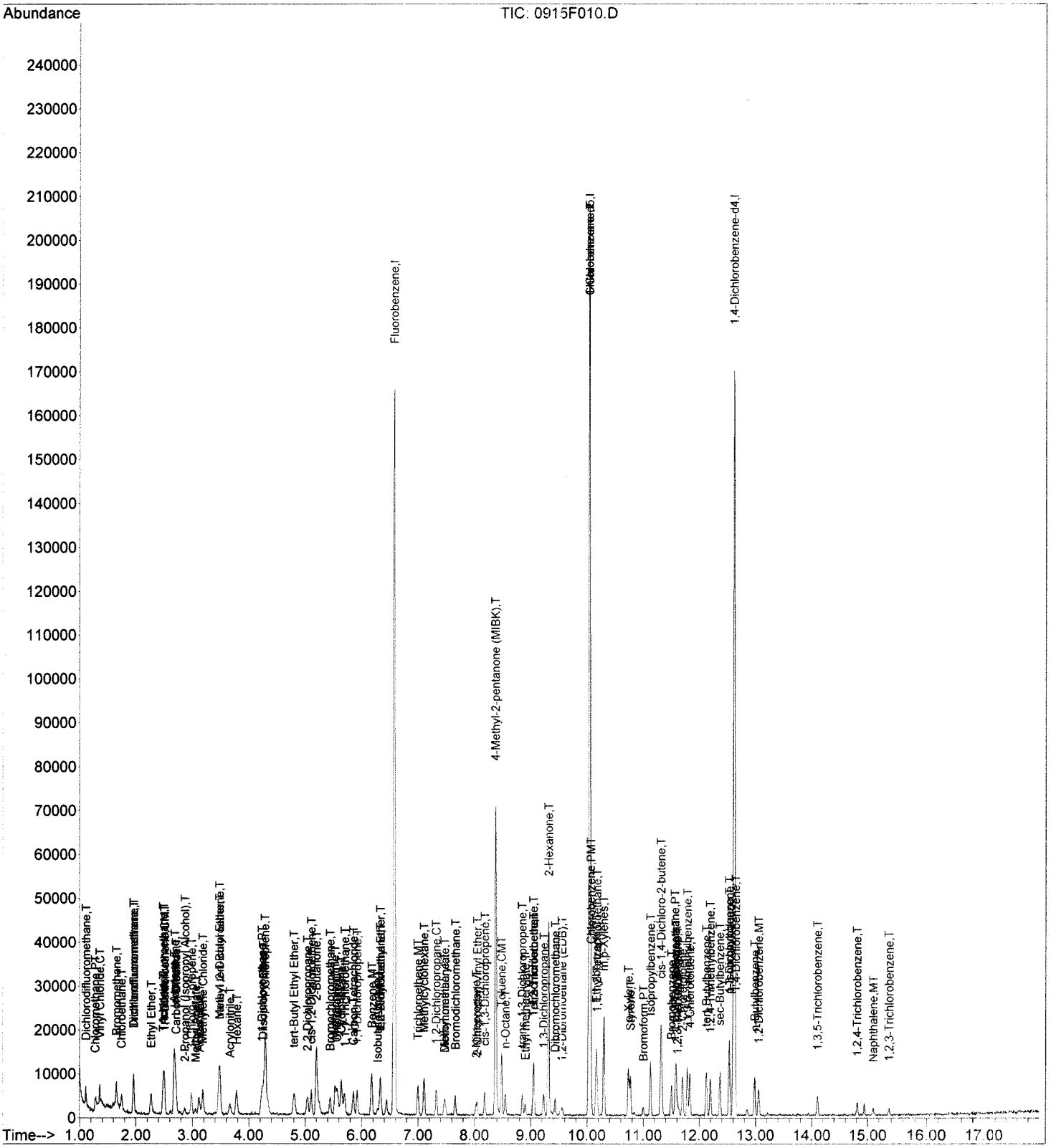
09/18/17

SEP 21 2017

0915F010.D 091517MS46_8260.M Mon Sep 18 14:35:15 2017

Data File : J:\MS46\DATA\091517\0915F010.D Vial: 9
Acq On : 15 Sep 2017 05:55 pm Operator: KR
Sample : 8260 ICAL 0.5 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:35 2017 Quant Results File: 091517MS46_8260.RES

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 14:11:25 2017
Response via : Initial Calibration



Data File : J:\MS46\DATA\091517\0915F011.D Vial: 10
Acq On : 15 Sep 2017 06:22 pm Operator: KR
Sample : 8260 ICAL 1 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 13:55:26 2017 Quant Results File: 091517MS46_8260.RES

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	6.58	96	147941	10.00	PPB		0.00
64) Chlorobenzene-d5	10.04	82	60126	10.00	PPB		0.00
85) 1,4-Dichlorobenzene-d4	12.62	152	50548	10.00	PPB		0.00
System Monitoring Compounds							
43) Dibromofluoromethane	5.78	113	13863	3.56	PPB		0.00
Spiked Amount 10.000			Recovery	=	35.60%		
47) 1,2-Dichloroethane-d4	6.23	65	17079	3.64	PPB		0.00
Spiked Amount 10.000			Recovery	=	36.40%		
62) Toluene-d8	8.41	98	45197	3.13	PPB		0.00
Spiked Amount 10.000			Recovery	=	31.30%		
84) 4-Bromofluorobenzene	11.34	95	14961	3.23	PPB		0.00
Spiked Amount 10.000			Recovery	=	32.30%		
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.11	85	5418	1.11	PPB		97
3) Chloromethane	1.28	50	5086	0.96	PPB		92
4) Vinyl Chloride	1.35	62	6270	1.00	PPB		99
6) Bromomethane	1.65	96	4380	1.15	PPB		95
7) Chloroethane	1.75	64	3928	1.06	PPB		96
8) Dichlorofluoromethane	1.96	67	7332	0.92	PPB		94
9) Trichlorofluoromethane	1.95	101	7744	0.97	PPB		84
10) Ethyl Ether	2.27	59	2809	0.95	PPB		86
11) Acrolein	2.49	56	8352	21.91	PPB		99
12) Trichlorotrifluoroethane	2.47	151	3863	1.10	PPB		90
13) 1,1-Dichloroethene	2.50	96	3708	0.97	PPB		92
14) Acetone	2.66	43	31874	41.72	PPB		97
15) Iodomethane	2.69	142	14297	3.18	PPB		93
16) Carbon Disulfide	2.71	76	11711	0.98	PPB		97
17) 2-Propanol (Isopropyl Alco	2.86	45	5951	52.49	PPB		81
18) 3-Chloro-1-propene	2.97	76	2197	0.99	PPB	#	78
19) Methyl Acetate	3.05	43	3416	1.21	PPB		86
20) Acetonitrile	3.11	40	6977	45.28	PPB		98
21) Methylene Chloride	3.18	84	4824	1.10	PPB	#	81
22) tert-Butyl Alcohol	3.40	59	1115	6.16	PPB		77
23) Acrylonitrile	3.67	53	4199	3.87	PPB		92
24) Methyl tert-Butyl Ether	3.47	73	19584	2.01	PPB		95
25) trans-1,2-Dichloroethene	3.49	96	4444	1.00	PPB		87
26) Hexane	3.78	57	5613	0.90	PPB		92
27) Diisopropyl Ether	4.24	45	13455	0.99	PPB		96
28) 1,1-Dichloroethane	4.23	63	8606	1.05	PPB		94
29) Vinyl Acetate	4.34	86	881	2.00	PPB	#	56
30) Chloroprene	4.29	53	28388	3.75	PPB		96
31) tert-Butyl Ethyl Ether	4.80	59	10997	0.94	PPB		93
32) 2,2-Dichloropropane	5.04	77	6313	1.00	PPB		91
33) cis-1,2-Dichloroethene	5.11	96	4684	1.02	PPB		86
34) 2-Butanone	5.19	72	12405	42.54	PPB		96
36) Propionitrile	5.39	54	1614	4.53	PPB		84
37) Methacrylonitrile	5.53	67	4789	3.81	PPB		83
38) Bromochloromethane	5.44	128	1967	1.06	PPB		98
40) Chloroform	5.57	83	8323	1.04	PPB		85
41) Cyclohexane	5.64	56	7892	1.00	PPB		89

(#) = qualifier out of range (m) = manual integration

SEP 21 2017

Data File : J:\MS46\DATA\091517\0915F011.D Vial: 10
Acq On : 15 Sep 2017 06:22 pm Operator: KR
Sample : 8260 ICAL 1 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 13:55:26 2017 Quant Results File: 091517MS46_8260.RES

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
42)	1,1,1-Trichloroethane	5.70	97	7310	1.01 PPB		95
44)	Carbon Tetrachloride	5.85	117	6534	1.01 PPB		93
45)	1,1-Dichloropropene	5.92	75	6376	1.01 PPB		96
46)	Isobutyl Alcohol	6.28	43	2852	42.12 PPB		76
48)	Benzene	6.17	78	16609	0.97 PPB		99
49)	1,2-Dichloroethane	6.33	62	5600	0.99 PPB		94
50)	tert-Amyl Methyl Ether	6.32	55	2908	1.03 PPB	#	64
51)	Trichloroethene	6.99	95	4515	0.97 PPB		88
52)	Methylcyclohexane	7.11	83	6925	0.95 PPB		91
53)	1,2-Dichloropropane	7.32	63	4293	0.99 PPB		89
54)	Dibromomethane	7.46	93	2376	1.01 PPB	#	72
55)	Methyl methacrylate	7.49	69	2038	0.94 PPB	#	71
57)	Bromodichloromethane	7.66	83	5613	0.99 PPB		89
58)	2-Nitropropane	8.03	41	3259	5.14 PPB		89
59)	2-Chloroethyl Vinyl Ether	8.05	63	2349	1.13 PPB		88
60)	cis-1,3-Dichloropropene	8.18	75	6086	0.94 PPB		90
61)	4-Methyl-2-pentanone (MIBK	8.37	58	40244	39.51 PPB		95
63)	Toluene	8.48	92	10451	0.95 PPB		98
65)	n-Octane	8.55	85	2307	1.15 PPB		90
66)	trans-1,3-Dichloropropene	8.85	75	4717	0.92 PPB		90
67)	Ethyl methacrylate	8.90	69	3752	1.02 PPB		77
68)	1,1,2-Trichloroethane	9.05	83	2780	1.05 PPB		86
69)	Tetrachloroethene	9.05	164	3389	0.98 PPB		87
70)	2-Hexanone	9.31	57	12098	40.50 PPB	#	89
71)	1,3-Dichloropropane	9.23	76	5342	0.96 PPB		96
72)	Dibromochloromethane	9.43	129	3519	0.95 PPB		90
73)	1,2-Dibromoethane (EDB)	9.56	107	2844	1.00 PPB		75
74)	1-Chlorohexane	10.04	91	5728	1.02 PPB		100
75)	Chlorobenzene	10.07	112	9984	0.99 PPB		85
76)	Ethylbenzene	10.16	106	5412	0.96 PPB		93
77)	1,1,1,2-Tetrachloroethane	10.18	131	3628	0.98 PPB		94
78)	m,p-Xylenes	10.30	106	12782	1.92 PPB		95
79)	o-Xylene	10.73	106	5655	0.89 PPB		91
80)	Styrene	10.77	103	5492	0.93 PPB		94
81)	Bromoform	11.00	173	1981	0.97 PPB		89
82)	Isopropylbenzene	11.13	105	16261	0.96 PPB		96
83)	cis-1,4-Dichloro-2-butene	11.30	89	1487	10.09 PPB	#	77
86)	1,1,2,2-Tetrachloroethane	11.56	83	3220	0.98 PPB		92
87)	trans-1,4-Dichloro-2-buten	11.64	53	914	2.32 PPB		85
88)	Bromobenzene	11.50	156	3940	0.90 PPB		88
89)	n-Propylbenzene	11.58	91	21746	0.97 PPB		98
90)	1,2,3-Trichloropropane	11.61	110	1063	0.99 PPB	#	73
91)	2-Chlorotoluene	11.70	91	12009	0.98 PPB		97
92)	1,3,5-Trimethylbenzene	11.78	105	13514	0.95 PPB		92
93)	4-Chlorotoluene	11.83	91	12794	0.96 PPB		97
94)	tert-Butylbenzene	12.12	119	11381	0.94 PPB		95
95)	1,2,4-Trimethylbenzene	12.20	105	12443	0.92 PPB		99
96)	sec-Butylbenzene	12.37	105	16505	0.94 PPB		95
97)	p-Isopropyltoluene	12.53	119	12727	0.94 PPB		90
98)	1,3-Dichlorobenzene	12.53	146	7655	0.98 PPB		93
99)	1,4-Dichlorobenzene	12.64	146	7655	1.00 PPB		98

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS46\DATA\091517\0915F011.D Vial: 10
Acq On : 15 Sep 2017 06:22 pm Operator: KR
Sample : 8260 ICAL 1 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 13:55:26 2017 Quant Results File: 091517MS46_8260.RES

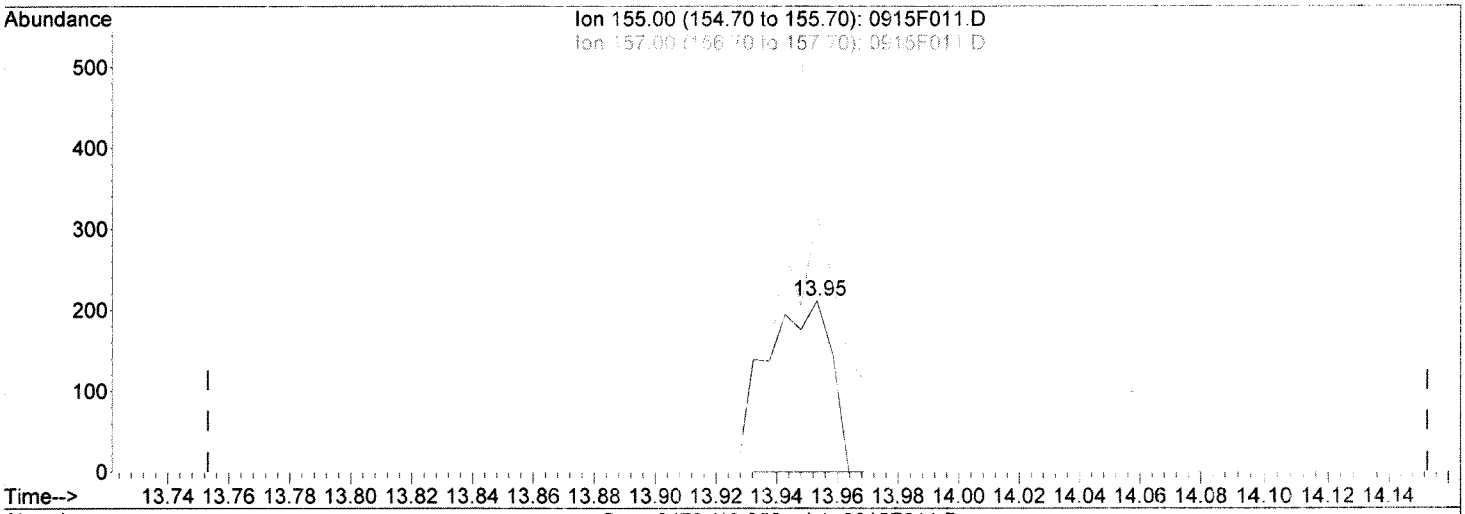
Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

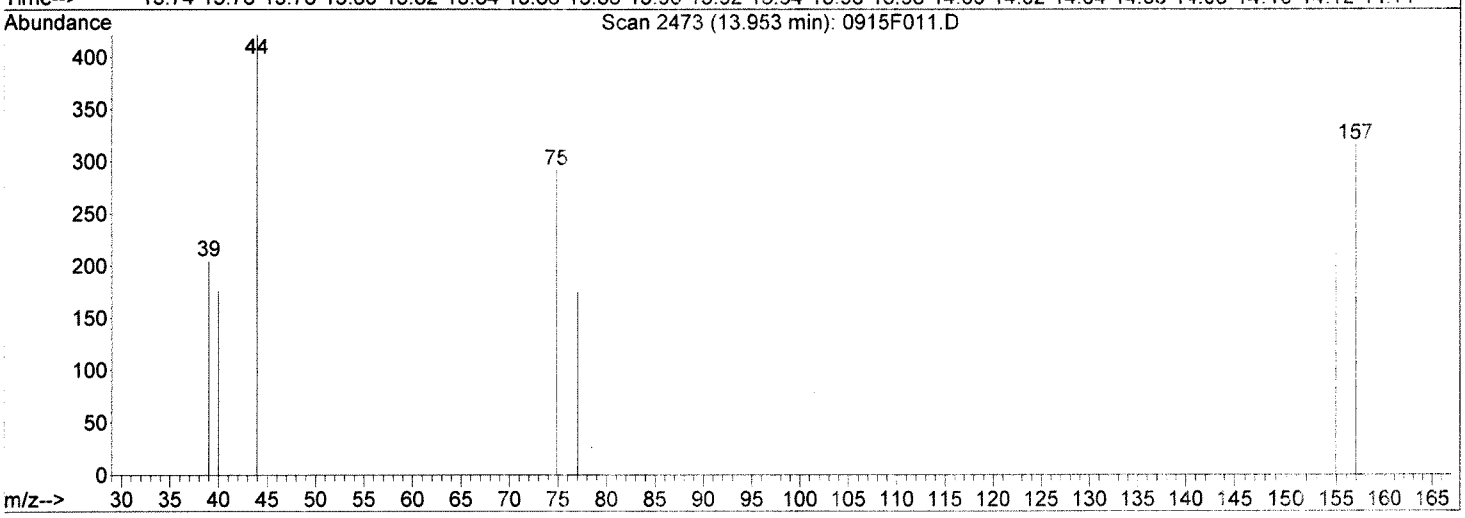
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
100)	n-Butylbenzene	12.98	91	12122	0.96 PPB	91
101)	1,2-Dichlorobenzene	13.06	146	6891	1.01 PPB	98
102)	1,2-Dibromo-3-chloropropan	13.95	155	316m	0.85 PPB	
103)	1,3,5-Trichlorobenzene	14.11	180	4654	1.06 PPB	85
104)	1,2,4-Trichlorobenzene	14.81	180	2572	0.85 PPB	97
105)	Hexachlorobutadiene	14.94	225	1738	0.99 PPB	69
106)	Naphthalene	15.10	128	4477	0.92 PPB	95
107)	1,2,3-Trichlorobenzene	15.37	180	1895	0.90 PPB	83

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS46\DATA\091517\0915F011.D Vial: 10
Acq On : 15 Sep 2017 06:22 pm Operator: KR
Sample : 8260 ICAL 1 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 13:56 2017 Quant Results File: temp.res

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Single Level Calibration





TIC: 0915F011.D

(102) 1,2-Dibromo-3-chloropropane (DBCP) (T)

13.95min 0.85PPB m

response 316

Ion	Exp%	Act%
155.00	100	100
157.00	98.20	149.06#
75.00	102.50	137.74#
0.00	0.00	0.00

Manual Integration:

After

Missed peak

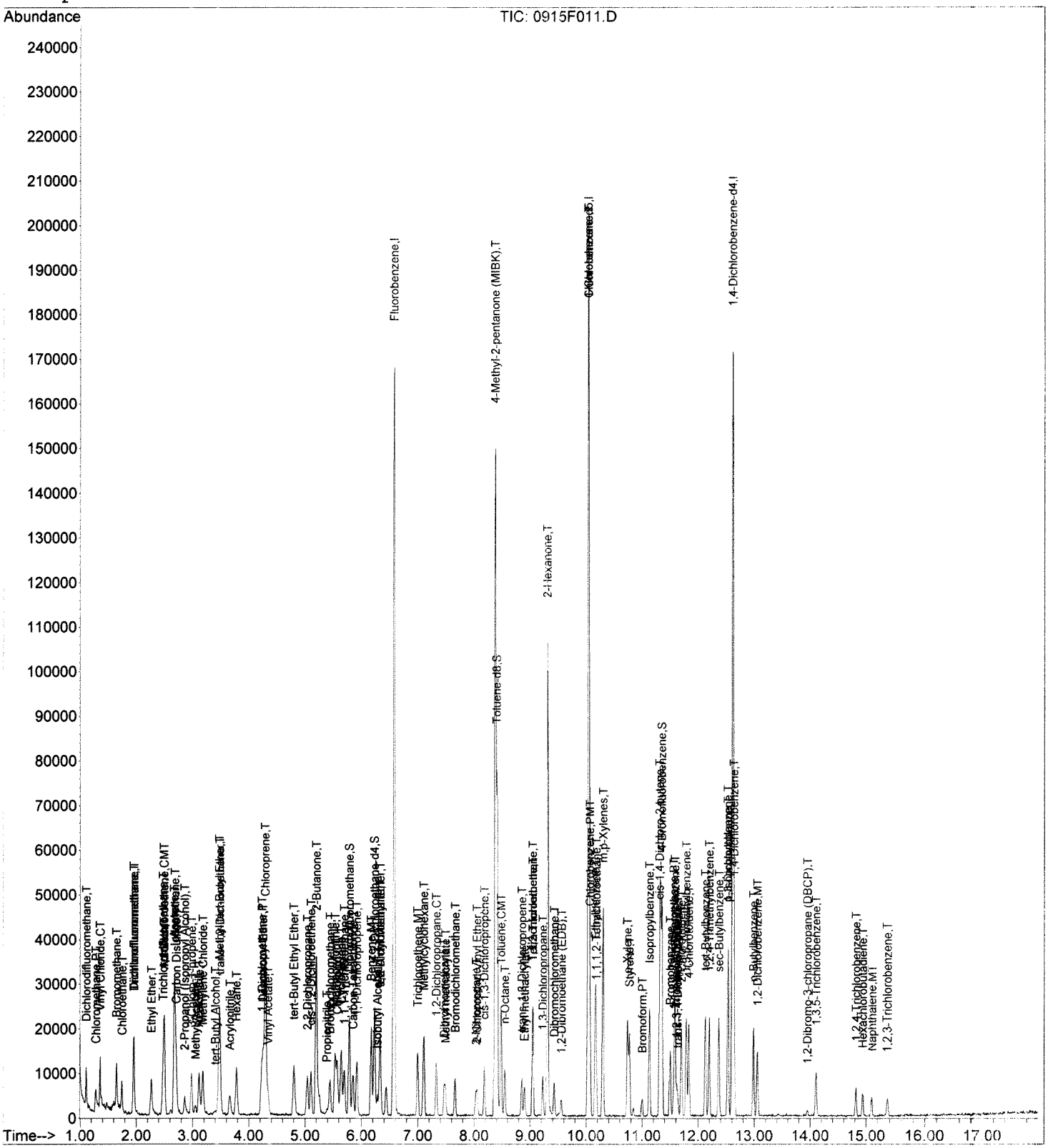
09/18/17

SEP 21 2017

0915F011.D 091517MS46_8260.M Mon Sep 18 13:56:50 2017

Data File : J:\MS46\DATA\091517\0915F011.D Vial: 10
Acq On : 15 Sep 2017 06:22 pm Operator: KR
Sample : 8260 ICAL 1 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 13:56 2017 Quant Results File: 091517MS46_8260.RES

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration



Data File : J:\MS46\DATA\091517\0915F012.D Vial: 11
Acq On : 15 Sep 2017 06:48 pm Operator: KR
Sample : 8260 ICAL 2 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:00:17 2017 Quant Results File: 091517MS46_8260.RES

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	6.57	96	151626	10.00	PPB		0.00
64) Chlorobenzene-d5	10.04	82	62165	10.00	PPB		0.00
85) 1,4-Dichlorobenzene-d4	12.62	152	51528	10.00	PPB		0.00
System Monitoring Compounds							
43) Dibromofluoromethane	5.78	113	25631	6.42	PPB		0.00
Spiked Amount 10.000			Recovery	=	64.20%		
47) 1,2-Dichloroethane-d4	6.23	65	32647	6.79	PPB		0.00
Spiked Amount 10.000			Recovery	=	67.90%		
62) Toluene-d8	8.41	98	91200	6.15	PPB		0.00
Spiked Amount 10.000			Recovery	=	61.50%		
84) 4-Bromofluorobenzene	11.35	95	32409	6.76	PPB		0.00
Spiked Amount 10.000			Recovery	=	67.60%		
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.11	85	10811	2.17	PPB		93
3) Chloromethane	1.27	50	10418	1.93	PPB		91
4) Vinyl Chloride	1.35	62	11712	1.83	PPB		87
6) Bromomethane	1.65	96	7575	1.94	PPB		91
7) Chloroethane	1.75	64	7139	1.88	PPB		98
8) Dichlorofluoromethane	1.96	67	15630	1.90	PPB		99
9) Trichlorofluoromethane	1.95	101	15674	1.93	PPB		87
10) Ethyl Ether	2.27	59	5118	1.69	PPB		82
11) Acrolein	2.49	56	13535	34.64	PPB		97
12) Trichlorotrifluoroethane	2.48	151	6218	1.72	PPB		99
13) 1,1-Dichloroethene	2.50	96	6946	1.78	PPB		98
14) Acetone	2.66	43	63127	80.62	PPB		97
15) Iodomethane	2.69	142	29002	6.30	PPB		92
16) Carbon Disulfide	2.71	76	21925	1.80	PPB		99
17) 2-Propanol (Isopropyl Alco	2.86	45	10695	92.04	PPB		96
18) 3-Chloro-1-propene	2.97	76	3852	1.69	PPB		89
19) Methyl Acetate	3.05	43	5446	1.89	PPB		90
20) Acetonitrile	3.11	40	12132	76.82	PPB	#	77
21) Methylene Chloride	3.18	84	8396	1.86	PPB		93
22) tert-Butyl Alcohol	3.39	59	1710	9.22	PPB		77
23) Acrylonitrile	3.66	53	7945	7.15	PPB		92
24) Methyl tert-Butyl Ether	3.47	73	34504	3.46	PPB		100
25) trans-1,2-Dichloroethene	3.48	96	7792	1.71	PPB		94
26) Hexane	3.78	57	11085	1.74	PPB		97
27) Diisopropyl Ether	4.25	45	24386	1.75	PPB		91
28) 1,1-Dichloroethane	4.22	63	15338	1.82	PPB		95
29) Vinyl Acetate	4.33	86	1498	3.31	PPB	#	3
30) Chloroprene	4.29	53	54867	7.08	PPB		98
31) tert-Butyl Ethyl Ether	4.80	59	20688	1.72	PPB		90
32) 2,2-Dichloropropane	5.04	77	11122	1.72	PPB		95
33) cis-1,2-Dichloroethene	5.10	96	8769	1.87	PPB		95
34) 2-Butanone	5.19	72	24953	83.48	PPB	#	84
35) Ethyl Acetate	5.25	61	1672	4.06	PPB		77
36) Propionitrile	5.39	54	2662	7.29	PPB		85
37) Methacrylonitrile	5.53	67	9024	7.00	PPB		91
38) Bromochloromethane	5.44	128	3852	2.03	PPB	#	84
39) Tetrahydrofuran	5.44	71	418m	1.43	PPB		

(#) = qualifier out of range (m) = manual integration

KL 9/18/17

SEP 21 2017

Data File : J:\MS46\DATA\091517\0915F012.D Vial: 11
Acq On : 15 Sep 2017 06:48 pm Operator: KR
Sample : 8260 ICAL 2 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:00:17 2017 Quant Results File: 091517MS46_8260.RES

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
40)	Chloroform	5.56	83	15411	1.88 PPB		92
41)	Cyclohexane	5.64	56	15532	1.92 PPB		97
42)	1,1,1-Trichloroethane	5.69	97	13676	1.84 PPB		95
44)	Carbon Tetrachloride	5.85	117	12036	1.82 PPB		97
45)	1,1-Dichloropropene	5.92	75	11667	1.80 PPB		97
46)	Isobutyl Alcohol	6.28	43	4701	67.74 PPB		82
48)	Benzene	6.17	78	32712	1.87 PPB		96
49)	1,2-Dichloroethane	6.33	62	10856	1.87 PPB		90
50)	tert-Amyl Methyl Ether	6.32	55	5640	1.95 PPB	#	66
51)	Trichloroethene	7.00	95	8841	1.85 PPB		93
52)	Methylcyclohexane	7.11	83	13434	1.79 PPB		94
53)	1,2-Dichloropropane	7.33	63	7943	1.78 PPB		90
54)	Dibromomethane	7.47	93	4178	1.74 PPB		91
55)	Methyl methacrylate	7.48	69	3676	1.65 PPB		86
56)	1,4-Dioxane	7.50	88	852	89.59 PPB		90
57)	Bromodichloromethane	7.66	83	9809	1.68 PPB		87
58)	2-Nitropropane	8.03	41	5173	7.96 PPB		92
59)	2-Chloroethyl Vinyl Ether	8.05	63	3313	1.56 PPB		86
60)	cis-1,3-Dichloropropene	8.18	75	10783	1.63 PPB		99
61)	4-Methyl-2-pentanone (MIBK	8.37	58	83197	79.69 PPB		97
63)	Toluene	8.48	92	19256	1.71 PPB		95
65)	n-Octane	8.55	85	3680	1.78 PPB		94
66)	trans-1,3-Dichloropropene	8.85	75	9293	1.76 PPB		92
67)	Ethyl methacrylate	8.90	69	6199	1.63 PPB		94
68)	1,1,2-Trichloroethane	9.05	83	4821	1.76 PPB		92
69)	Tetrachloroethene	9.05	164	6606	1.85 PPB		85
70)	2-Hexanone	9.31	57	25328	82.01 PPB		98
71)	1,3-Dichloropropane	9.23	76	10106	1.75 PPB		90
72)	Dibromochloromethane	9.43	129	7123	1.86 PPB		91
73)	1,2-Dibromoethane (EDB)	9.55	107	5181	1.76 PPB		82
74)	1-Chlorohexane	10.04	91	10188	1.76 PPB		95
75)	Chlorobenzene	10.07	112	18885	1.81 PPB		89
76)	Ethylbenzene	10.16	106	10301	1.77 PPB	#	81
77)	1,1,1,2-Tetrachloroethane	10.18	131	7125	1.85 PPB		88
78)	m,p-Xylenes	10.30	106	24538	3.57 PPB		100
79)	o-Xylene	10.74	106	13393	2.04 PPB		97
80)	Styrene	10.77	103	11702	1.92 PPB		90
81)	Bromoform	11.00	173	3914	1.85 PPB		86
82)	Isopropylbenzene	11.13	105	34382	1.96 PPB		96
83)	cis-1,4-Dichloro-2-butene	11.31	89	3201	21.01 PPB		91
86)	1,1,2,2-Tetrachloroethane	11.56	83	5929	1.78 PPB		91
87)	trans-1,4-Dichloro-2-buten	11.63	53	1879m	3.12 PPB		
88)	Bromobenzene	11.50	156	8463	1.89 PPB		94
89)	n-Propylbenzene	11.58	91	42209	1.85 PPB		99
90)	1,2,3-Trichloropropane	11.60	110	2390	2.19 PPB	#	49
91)	2-Chlorotoluene	11.70	91	22632	1.81 PPB		96
92)	1,3,5-Trimethylbenzene	11.79	105	25102	1.74 PPB		99
93)	4-Chlorotoluene	11.84	91	24344	1.79 PPB		98
94)	tert-Butylbenzene	12.12	119	22827	1.84 PPB		98
95)	1,2,4-Trimethylbenzene	12.20	105	25240	1.83 PPB		96
96)	sec-Butylbenzene	12.36	105	32191	1.80 PPB		97

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS46\DATA\091517\0915F012.D Vial: 11
Acq On : 15 Sep 2017 06:48 pm Operator: KR
Sample : 8260 ICAL 2 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:00:17 2017 Quant Results File: 091517MS46_8260.RES

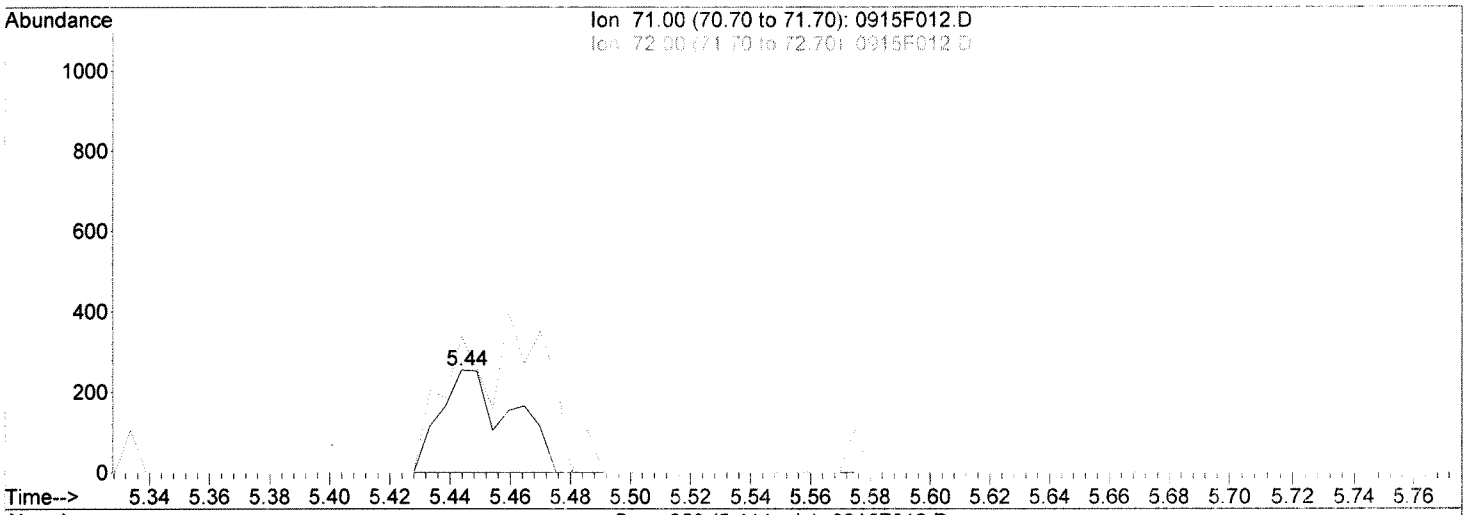
Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

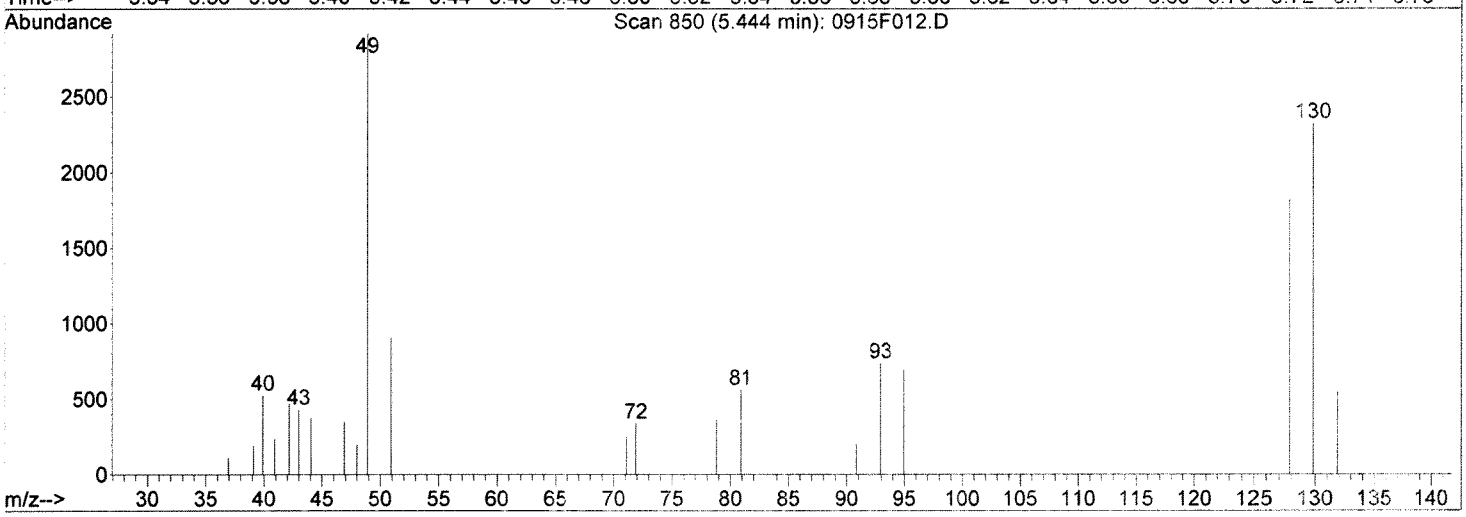
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
97)	p-Isopropyltoluene	12.53	119	24299	1.76	PPB		94
98)	1,3-Dichlorobenzene	12.53	146	14014	1.77	PPB		92
99)	1,4-Dichlorobenzene	12.64	146	13868	1.78	PPB		87
100)	n-Butylbenzene	12.98	91	20412	1.58	PPB		97
101)	1,2-Dichlorobenzene	13.05	146	11554	1.65	PPB		90
102)	1,2-Dibromo-3-chloropropan	13.95	155	593	1.56	PPB		82
103)	1,3,5-Trichlorobenzene	14.11	180	7498	1.67	PPB		90
104)	1,2,4-Trichlorobenzene	14.81	180	4886	1.59	PPB		83
105)	Hexachlorobutadiene	14.94	225	3032	1.69	PPB	#	47
106)	Naphthalene	15.11	128	8133	1.63	PPB		98
107)	1,2,3-Trichlorobenzene	15.37	180	3736	1.75	PPB		87

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS46\DATA\091517\0915F012.D Vial: 11
Acq On : 15 Sep 2017 06:48 pm Operator: KR
Sample : 8260 ICAL 2 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:00 2017 Quant Results File: temp.res

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Single Level Calibration





TIC: 0915F012.D

(39) Tetrahydrofuran (T)

5.44min 1.43PPB m

response 418

Ion	Exp%	Act%
71.00	100	100
72.00	104.70	132.94
42.00	180.40	183.92
0.00	0.00	0.00

Manual Integration:

After

WRT

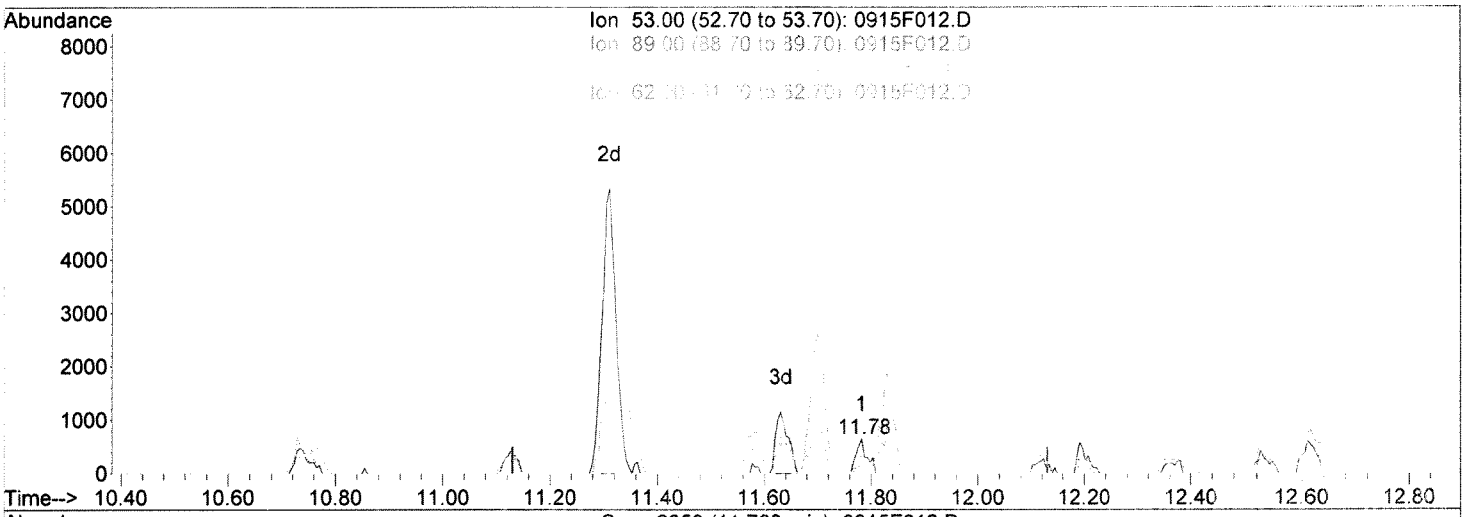
09/18/17

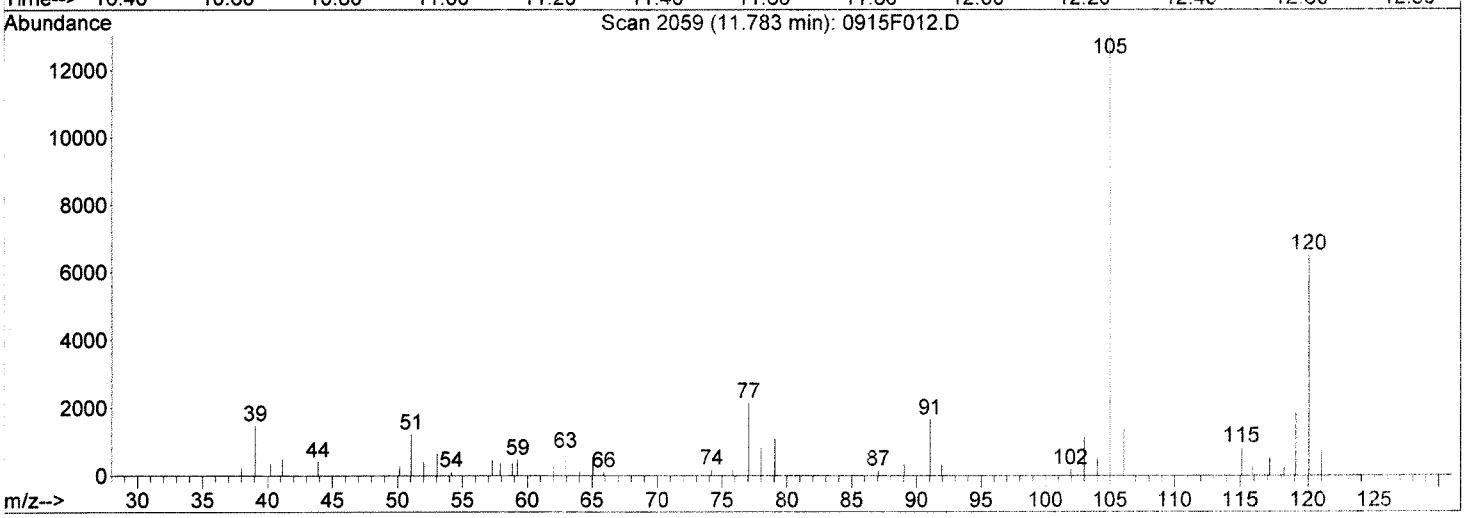
SEP 21 2017

0915F012.D 091517MS46_8260.M Mon Sep 18 14:01:02 2017

Data File : J:\MS46\DATA\091517\0915F012.D Vial: 11
Acq On : 15 Sep 2017 06:48 pm Operator: KR
Sample : 8260 ICAL 2 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:00 2017 Quant Results File: temp.res

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 14:36:23 2017
Response via : Single Level Calibration





TIC: 0915F012.D

(87) trans-1,4-Dichloro-2-butene (T)

11.78min 2.29PPB

response 894

Ion	Exp%	Act%
53.00	100	100
89.00	51.30	55.04
124.00	18.30	0.00
62.00	26.80	44.03

Manual Integration:

Before

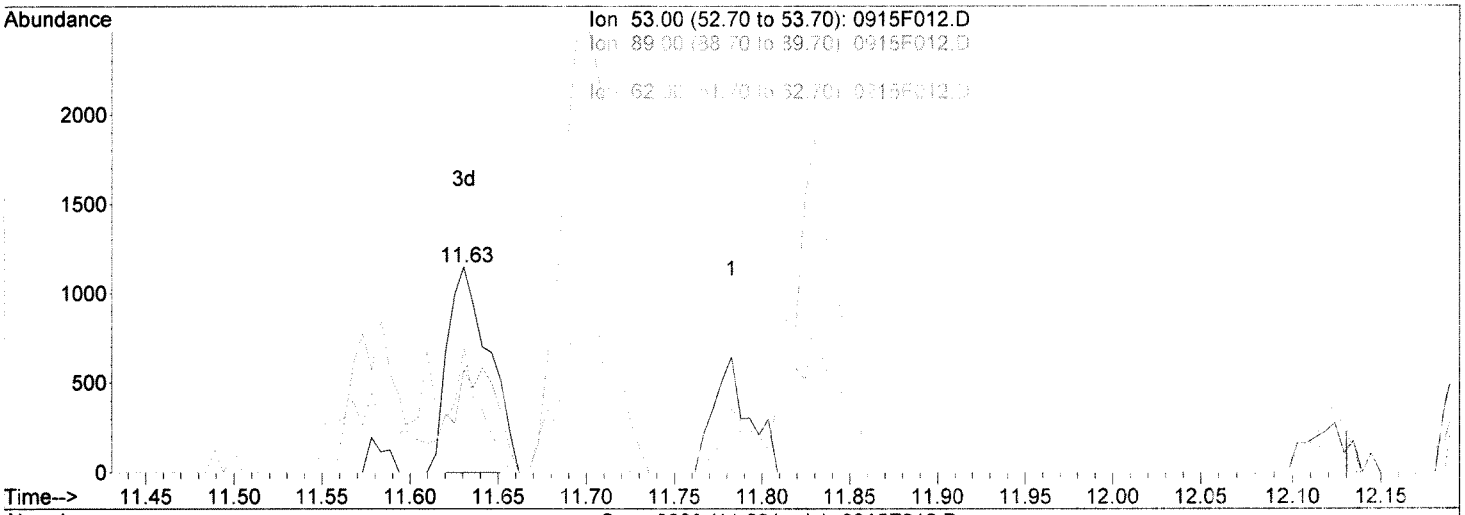
09/18/17

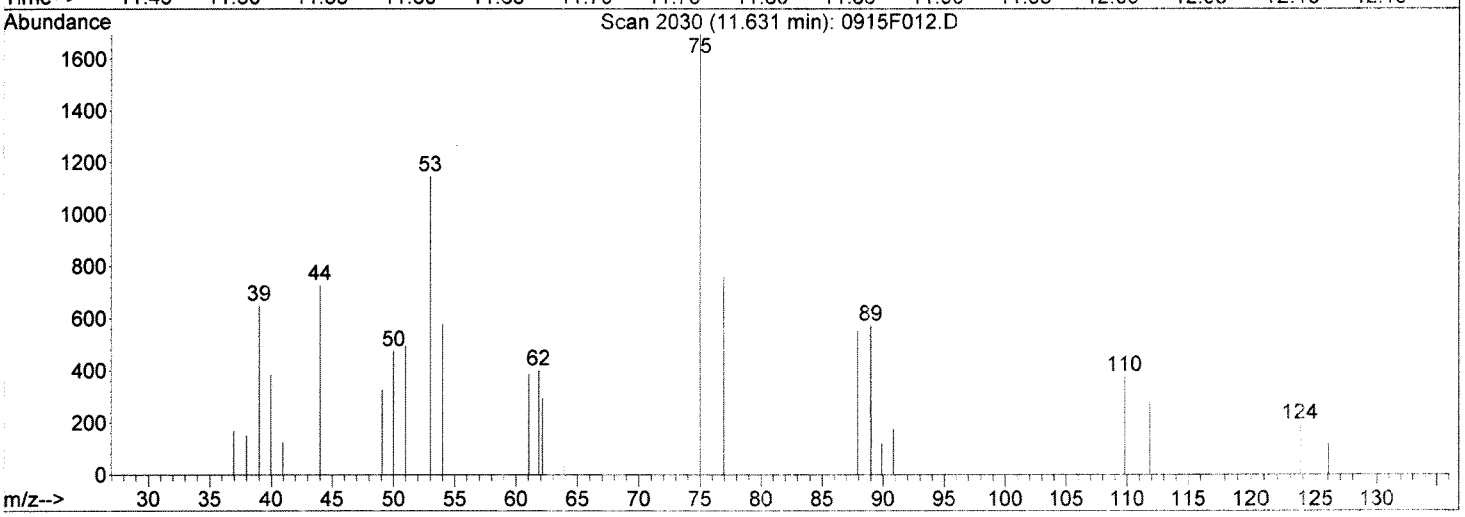
SEP 21 2017

0915F012.D 091517MS46_8260.M Mon Sep 18 15:01:41 2017

Data File : J:\MS46\DATA\091517\0915F012.D Vial: 11
Acq On : 15 Sep 2017 06:48 pm Operator: KR
Sample : 8260 ICAL 2 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 15:01 2017 Quant Results File: temp.res

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 14:36:23 2017
Response via : Single Level Calibration





TIC: 0915F012.D

(87) trans-1,4-Dichloro-2-butene (T)

11.63min 3.12PPB m

response 1879

Ion	Exp%	Act%
53.00	100	100
89.00	51.30	49.91
124.00	18.30	16.99
62.00	26.80	35.02

Manual Integration:

After

WRT

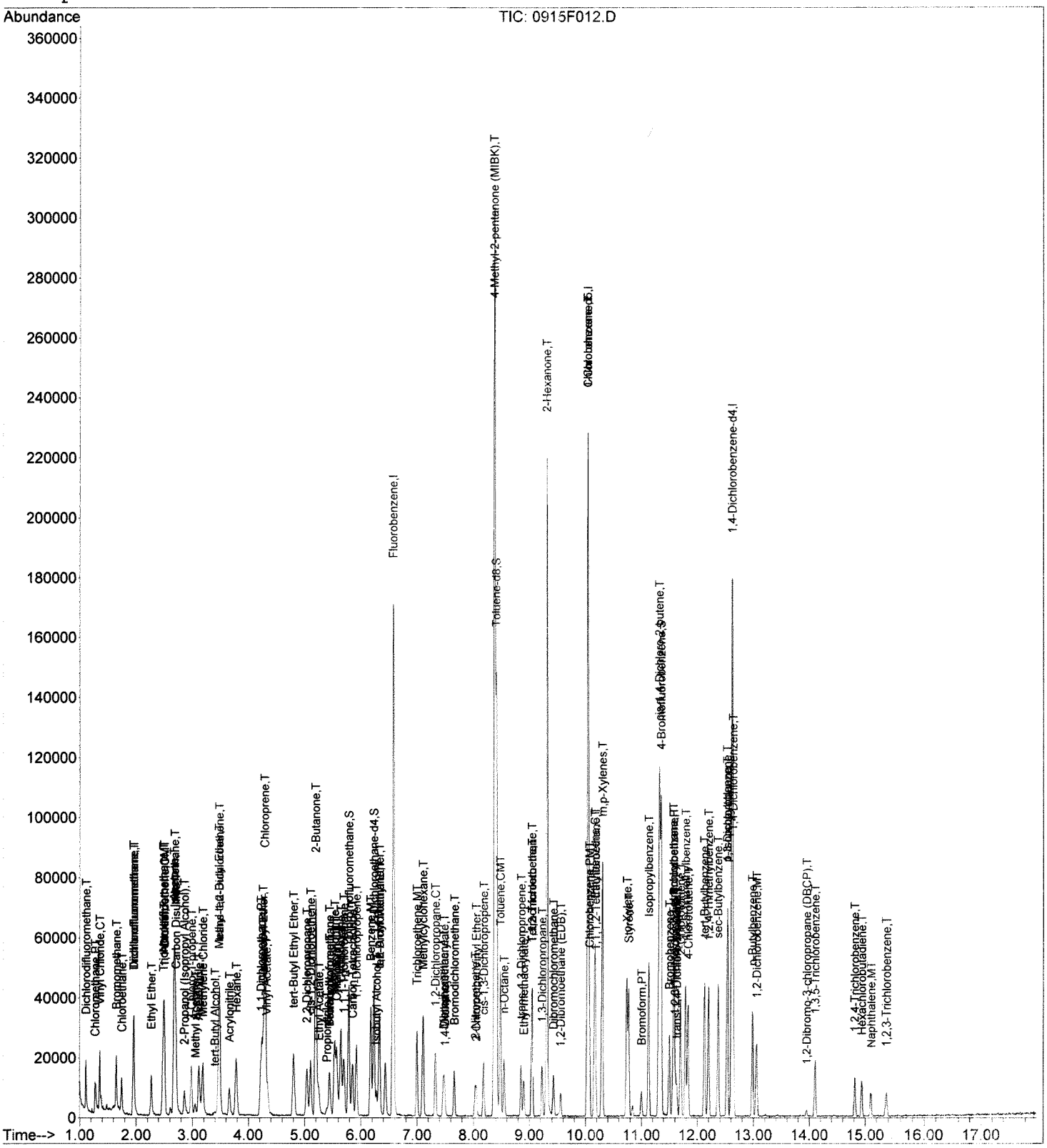
09/18/17

SEP 21 2017

0915F012.D 091517MS46_8260.M Mon Sep 18 15:01:50 2017

Data File : J:\MS46\DATA\091517\0915F012.D Vial: 11
Acq On : 15 Sep 2017 06:48 pm Operator: KR
Sample : 8260 ICAL 2 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 15:01 2017 Quant Results File: 091517MS46_8260.RES

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 14:36:23 2017
Response via : Initial Calibration



Data File : J:\MS46\DATA\091517\0915F013.D Vial: 12
Acq On : 15 Sep 2017 07:15 pm Operator: KR
Sample : 8260 ICAL 5 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:01:49 2017 Quant Results File: 091517MS46_8260.RES

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	6.58	96	159014	10.00	PPB		0.00
64) Chlorobenzene-d5	10.04	82	61882	10.00	PPB		0.00
85) 1,4-Dichlorobenzene-d4	12.61	152	49415	10.00	PPB		0.00
System Monitoring Compounds							
43) Dibromofluoromethane	5.78	113	33123	7.91	PPB		0.00
Spiked Amount 10.000			Recovery	=	79.10%		
47) 1,2-Dichloroethane-d4	6.23	65	39548	7.84	PPB		0.00
Spiked Amount 10.000			Recovery	=	78.40%		
62) Toluene-d8	8.41	98	110266	7.10	PPB		0.00
Spiked Amount 10.000			Recovery	=	71.00%		
84) 4-Bromofluorobenzene	11.35	95	36889	7.73	PPB		0.00
Spiked Amount 10.000			Recovery	=	77.30%		
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.11	85	29806	5.67	PPB		95
3) Chloromethane	1.28	50	29614	5.22	PPB		96
4) Vinyl Chloride	1.35	62	34872	5.20	PPB		98
6) Bromomethane	1.65	96	17697	4.33	PPB		98
7) Chloroethane	1.75	64	19736	4.95	PPB		94
8) Dichlorofluoromethane	1.96	67	44649	5.19	PPB		98
9) Trichlorofluoromethane	1.95	101	42739	5.01	PPB		91
10) Ethyl Ether	2.27	59	15686	4.95	PPB		92
11) Acrolein	2.49	56	40688	99.29	PPB		98
12) Trichlorotrifluoroethane	2.47	151	19193	5.07	PPB		95
13) 1,1-Dichloroethene	2.50	96	21245	5.19	PPB		99
14) Acetone	2.66	43	75603	92.07	PPB		99
15) Iodomethane	2.69	142	93974	19.46	PPB		97
16) Carbon Disulfide	2.71	76	66516	5.19	PPB		99
17) 2-Propanol (Isopropyl Alco	2.85	45	32523	266.89	PPB		95
18) 3-Chloro-1-propene	2.98	76	12054	5.04	PPB		96
19) Methyl Acetate	3.04	43	14307	4.73	PPB		95
20) Acetonitrile	3.11	40	35880	216.65	PPB		97
21) Methylene Chloride	3.18	84	23322	4.94	PPB		92
22) tert-Butyl Alcohol	3.39	59	5299	27.24	PPB		93
23) Acrylonitrile	3.66	53	24246	20.82	PPB		96
24) Methyl tert-Butyl Ether	3.46	73	106758	10.20	PPB		96
25) trans-1,2-Dichloroethene	3.48	96	23936	5.01	PPB		97
26) Hexane	3.78	57	33969	5.08	PPB		99
27) Diisopropyl Ether	4.25	45	73207	5.01	PPB		99
28) 1,1-Dichloroethane	4.22	63	45656	5.16	PPB		99
29) Vinyl Acetate	4.34	86	5223	11.02	PPB	#	82
30) Chloroprene	4.29	53	170008	20.92	PPB		92
31) tert-Butyl Ethyl Ether	4.80	59	63191	5.00	PPB		97
32) 2,2-Dichloropropane	5.04	77	34246	5.05	PPB		92
33) cis-1,2-Dichloroethene	5.11	96	24280	4.94	PPB		95
34) 2-Butanone	5.20	72	28961	92.39	PPB		98
35) Ethyl Acetate	5.25	61	4419	10.23	PPB		91
36) Propionitrile	5.39	54	8379	21.87	PPB		94
37) Methacrylonitrile	5.53	67	28136	20.81	PPB		97
38) Bromochloromethane	5.44	128	10595	5.33	PPB		85
39) Tetrahydrofuran	5.44	71	1540	5.04	PPB	#	76

(#) = qualifier out of range (m) = manual integration

KR 9/18/17

SEP 21 2017

Data File : J:\MS46\DATA\091517\0915F013.D Vial: 12
Acq On : 15 Sep 2017 07:15 pm Operator: KR
Sample : 8260 ICAL 5 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:01:49 2017 Quant Results File: 091517MS46_8260.RES

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
40)	Chloroform	5.56	83	44693	5.21	PPB		96
41)	Cyclohexane	5.64	56	44505	5.25	PPB		99
42)	1,1,1-Trichloroethane	5.70	97	39232	5.04	PPB		98
44)	Carbon Tetrachloride	5.85	117	35214	5.09	PPB		94
45)	1,1-Dichloropropene	5.92	75	34763	5.10	PPB		92
46)	Isobutyl Alcohol	6.28	43	13734	188.70	PPB		85
48)	Benzene	6.17	78	95074	5.17	PPB		98
49)	1,2-Dichloroethane	6.32	62	29998	4.93	PPB		99
50)	tert-Amyl Methyl Ether	6.32	55	15622	5.15	PPB	#	80
51)	Trichloroethene	7.00	95	25532	5.09	PPB		93
52)	Methylcyclohexane	7.11	83	40378	5.13	PPB		99
53)	1,2-Dichloropropane	7.33	63	23300	4.99	PPB		96
54)	Dibromomethane	7.46	93	12419	4.92	PPB		93
55)	Methyl methacrylate	7.49	69	10619	4.55	PPB		93
56)	1,4-Dioxane	7.49	88	2303	221.01	PPB		84
57)	Bromodichloromethane	7.66	83	29353	4.80	PPB		99
58)	2-Nitropropane	8.03	41	16505	24.22	PPB		80
59)	2-Chloroethyl Vinyl Ether	8.05	63	10316	4.63	PPB		98
60)	cis-1,3-Dichloropropene	8.18	75	30705	4.42	PPB		98
61)	4-Methyl-2-pentanone (MIBK	8.37	58	93118	85.05	PPB		98
63)	Toluene	8.48	92	52311	4.42	PPB		98
65)	n-Octane	8.55	85	10493	5.10	PPB		92
66)	trans-1,3-Dichloropropene	8.85	75	25411	4.84	PPB		93
67)	Ethyl methacrylate	8.90	69	18593	4.90	PPB		97
68)	1,1,2-Trichloroethane	9.05	83	14379	5.27	PPB		98
69)	Tetrachloroethene	9.05	164	18527	5.21	PPB		96
70)	2-Hexanone	9.31	57	29700	96.61	PPB		91
71)	1,3-Dichloropropane	9.22	76	28595	4.99	PPB		99
72)	Dibromochloromethane	9.43	129	19756	5.19	PPB		94
73)	1,2-Dibromoethane (EDB)	9.56	107	15929	5.43	PPB		92
74)	1-Chlorohexane	10.04	91	29172	5.07	PPB		94
75)	Chlorobenzene	10.07	112	53694	5.18	PPB		98
76)	Ethylbenzene	10.16	106	29590	5.10	PPB		93
77)	1,1,1,2-Tetrachloroethane	10.17	131	19472	5.09	PPB		96
78)	m,p-Xylenes	10.30	106	71257	10.42	PPB		99
79)	o-Xylene	10.73	106	32968	5.05	PPB		99
80)	Styrene	10.77	103	30561	5.03	PPB		95
81)	Bromoform	11.00	173	10870	5.17	PPB		93
82)	Isopropylbenzene	11.13	105	90073	5.15	PPB		99
83)	cis-1,4-Dichloro-2-butene	11.31	89	8102	53.42	PPB		97
86)	1,1,2,2-Tetrachloroethane	11.56	83	16319	5.10	PPB		93
87)	trans-1,4-Dichloro-2-buten	11.64	53	4963	5.88	PPB		81
88)	Bromobenzene	11.50	156	20801	4.85	PPB		97
89)	n-Propylbenzene	11.58	91	110822	5.05	PPB		98
90)	1,2,3-Trichloropropane	11.61	110	5459	5.22	PPB		87
91)	2-Chlorotoluene	11.70	91	60761	5.07	PPB		98
92)	1,3,5-Trimethylbenzene	11.78	105	70618	5.09	PPB		98
93)	4-Chlorotoluene	11.83	91	64278	4.93	PPB		100
94)	tert-Butylbenzene	12.12	119	61446	5.18	PPB		94
95)	1,2,4-Trimethylbenzene	12.20	105	67664	5.12	PPB		98
96)	sec-Butylbenzene	12.37	105	88847	5.17	PPB		98

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS46\DATA\091517\0915F013.D Vial: 12
Acq On : 15 Sep 2017 07:15 pm Operator: KR
Sample : 8260 ICAL 5 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:01:49 2017 Quant Results File: 091517MS46_8260.RES

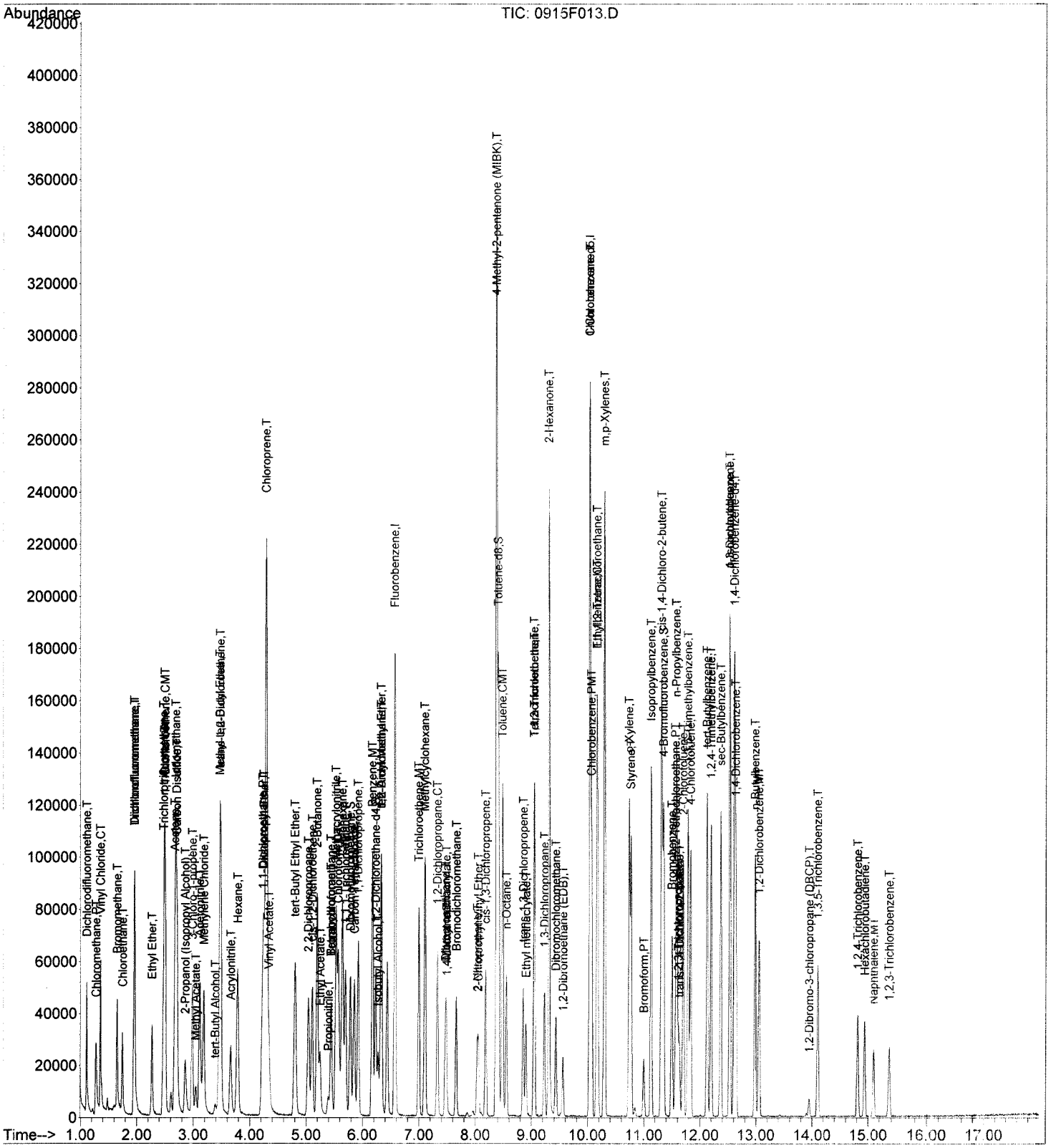
Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
97)	p-Isopropyltoluene	12.53	119	69694	5.27	PPB	97
98)	1,3-Dichlorobenzene	12.53	146	37680	4.95	PPB	94
99)	1,4-Dichlorobenzene	12.64	146	38824	5.19	PPB	96
100)	n-Butylbenzene	12.98	91	61472	4.96	PPB	94
101)	1,2-Dichlorobenzene	13.06	146	32808	4.90	PPB	97
102)	1,2-Dibromo-3-chloropropan	13.95	155	1795	4.91	PPB	91
103)	1,3,5-Trichlorobenzene	14.10	180	21492	4.99	PPB	91
104)	1,2,4-Trichlorobenzene	14.81	180	14236	4.83	PPB	95
105)	Hexachlorobutadiene	14.94	225	8848	5.14	PPB	90
106)	Naphthalene	15.10	128	25274	5.30	PPB	98
107)	1,2,3-Trichlorobenzene	15.36	180	10212	4.98	PPB	88

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS46\DATA\091517\0915F013.D Vial: 12
Acq On : 15 Sep 2017 07:15 pm Operator: KR
Sample : 8260 ICAL 5 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:01 2017 Quant Results File: 091517MS46_8260.RES

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration



Data File : J:\MS46\DATA\091517\0915F014.D Vial: 13
Acq On : 15 Sep 2017 07:41 pm Operator: KR
Sample : 8260 ICAL 10 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:03:12 2017 Quant Results File: 091517MS46_8260.RES

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	6.58	96	154265	10.00	PPB	0.00
64) Chlorobenzene-d5	10.04	82	70113	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	12.62	152	56459	10.00	PPB	0.00
System Monitoring Compounds						
43) Dibromofluoromethane	5.78	113	41799	10.29	PPB	0.00
Spiked Amount 10.000			Recovery	=	102.90%	
47) 1,2-Dichloroethane-d4	6.23	65	50433	10.31	PPB	0.00
Spiked Amount 10.000			Recovery	=	103.10%	
62) Toluene-d8	8.41	98	155058	10.28	PPB	0.00
Spiked Amount 10.000			Recovery	=	102.80%	
84) 4-Bromofluorobenzene	11.35	95	58407	10.80	PPB	0.00
Spiked Amount 10.000			Recovery	=	108.00%	
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.11	85	59743	11.61	PPB	100
3) Chloromethane	1.28	50	56938	10.35	PPB	100
4) Vinyl Chloride	1.35	62	67187	10.32	PPB	100
6) Bromomethane	1.65	96	37447	9.45	PPB	100
7) Chloroethane	1.75	64	40801	10.55	PPB	100
8) Dichlorofluoromethane	1.96	67	89002	10.66	PPB	100
9) Trichlorofluoromethane	1.95	101	84577	10.21	PPB	100
10) Ethyl Ether	2.27	59	31658	10.30	PPB	100
11) Acrolein	2.49	56	78632	197.80	PPB	100
12) Trichlorotrifluoroethane	2.48	151	37403	10.19	PPB	100
13) 1,1-Dichloroethene	2.50	96	41699	10.50	PPB	100
14) Acetone	2.66	43	161539	202.78	PPB	100
15) Iodomethane	2.69	142	200029	42.70	PPB	100
16) Carbon Disulfide	2.71	76	131448	10.58	PPB	100
17) 2-Propanol (Isopropyl Alco	2.85	45	60739	513.77	PPB	100
18) 3-Chloro-1-propene	2.98	76	24790	10.69	PPB	100
19) Methyl Acetate	3.04	43	29039	9.90	PPB	100
20) Acetonitrile	3.11	40	67642	421.01	PPB	100
21) Methylene Chloride	3.18	84	46167	10.08	PPB	100
22) tert-Butyl Alcohol	3.40	59	9384	49.72	PPB	100
23) Acrylonitrile	3.66	53	45632	40.38	PPB	100
24) Methyl tert-Butyl Ether	3.47	73	213640	21.05	PPB	100
25) trans-1,2-Dichloroethene	3.48	96	46579	10.05	PPB	100
26) Hexane	3.78	57	67992	10.47	PPB	100
27) Diisopropyl Ether	4.25	45	142387	10.04	PPB	100
28) 1,1-Dichloroethane	4.22	63	86205	10.05	PPB	100
29) Vinyl Acetate	4.34	86	9377	20.39	PPB	100
30) Chloroprene	4.29	53	328364	41.65	PPB	100
31) tert-Butyl Ethyl Ether	4.80	59	125980	10.28	PPB	100
32) 2,2-Dichloropropane	5.04	77	64464	9.80	PPB	100
33) cis-1,2-Dichloroethene	5.11	96	47670	10.00	PPB	100
34) 2-Butanone	5.19	72	64440	211.91	PPB	100
35) Ethyl Acetate	5.24	61	8267	19.73	PPB	100
36) Propionitrile	5.39	54	14154	38.08	PPB	100
37) Methacrylonitrile	5.53	67	51392	39.19	PPB	100
38) Bromochloromethane	5.44	128	19375	10.05	PPB	100
39) Tetrahydrofuran	5.44	71	2793	9.42	PPB	100

(#) = qualifier out of range (m) = manual integration

SEP 21 2017

Data File : J:\MS46\DATA\091517\0915F014.D Vial: 13
Acq On : 15 Sep 2017 07:41 pm Operator: KR
Sample : 8260 ICAL 10 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:03:12 2017 Quant Results File: 091517MS46_8260.RES

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
40)	Chloroform	5.56	83	77499	9.31	PPB	100
41)	Cyclohexane	5.64	56	80985	9.85	PPB	100
42)	1,1,1-Trichloroethane	5.70	97	72492	9.61	PPB	100
44)	Carbon Tetrachloride	5.85	117	66192	9.86	PPB	100
45)	1,1-Dichloropropene	5.92	75	63820	9.66	PPB	100
46)	Isobutyl Alcohol	6.28	43	26177	370.73	PPB	100
48)	Benzene	6.17	78	173404	9.72	PPB	100
49)	1,2-Dichloroethane	6.33	62	57112	9.68	PPB	100
50)	tert-Amyl Methyl Ether	6.33	55	29142	9.90	PPB	100
51)	Trichloroethene	7.00	95	48051	9.88	PPB	100
52)	Methylcyclohexane	7.11	83	75337	9.86	PPB	100
53)	1,2-Dichloropropane	7.33	63	43103	9.51	PPB	100
54)	Dibromomethane	7.46	93	24539	10.02	PPB	100
55)	Methyl methacrylate	7.49	69	21388	9.45	PPB	100
56)	1,4-Dioxane	7.49	88	5443	494.34	PPB	100
57)	Bromodichloromethane	7.66	83	56100	9.46	PPB	100
58)	2-Nitropropane	8.03	41	32521	49.20	PPB	100
59)	2-Chloroethyl Vinyl Ether	8.05	63	20981	9.70	PPB	100
60)	cis-1,3-Dichloropropene	8.18	75	64482	9.57	PPB	100
61)	4-Methyl-2-pentanone (MIBK	8.37	58	215656	203.04	PPB	100
63)	Toluene	8.48	92	106123	9.24	PPB	100
65)	n-Octane	8.55	85	21897	9.39	PPB	100
66)	trans-1,3-Dichloropropene	8.85	75	54445	9.15	PPB	100
67)	Ethyl methacrylate	8.90	69	38192	8.89	PPB	100
68)	1,1,2-Trichloroethane	9.04	83	28055	9.07	PPB	100
69)	Tetrachloroethene	9.05	164	37596	9.33	PPB	100
70)	2-Hexanone	9.31	57	67202	192.93	PPB	100
71)	1,3-Dichloropropane	9.23	76	58715	9.04	PPB	100
72)	Dibromochloromethane	9.43	129	40249	9.33	PPB	100
73)	1,2-Dibromoethane (EDB)	9.56	107	31215	9.39	PPB	100
74)	1-Chlorohexane	10.04	91	64269	9.85	PPB	100
75)	Chlorobenzene	10.07	112	119830	10.21	PPB	100
76)	Ethylbenzene	10.16	106	62816	9.55	PPB	100
77)	1,1,1,2-Tetrachloroethane	10.18	131	42672	9.84	PPB	100
78)	m,p-Xylenes	10.30	106	160560	20.73	PPB	100
79)	o-Xylene	10.73	106	76923	10.41	PPB	100
80)	Styrene	10.77	103	72306	10.50	PPB	100
81)	Bromoform	11.00	173	24269	10.19	PPB	100
82)	Isopropylbenzene	11.13	105	210129	10.61	PPB	100
83)	cis-1,4-Dichloro-2-butene	11.31	89	19480	113.36	PPB	100
86)	1,1,2,2-Tetrachloroethane	11.56	83	35790	9.79	PPB	100
87)	trans-1,4-Dichloro-2-buten	11.63	53	10944	9.90	PPB	100
88)	Bromobenzene	11.50	156	47733	9.73	PPB	100
89)	n-Propylbenzene	11.58	91	256680	10.25	PPB	100
90)	1,2,3-Trichloropropane	11.61	110	12154	10.17	PPB	100
91)	2-Chlorotoluene	11.70	91	142621	10.42	PPB	100
92)	1,3,5-Trimethylbenzene	11.79	105	164503	10.38	PPB	100
93)	4-Chlorotoluene	11.83	91	149923	10.05	PPB	100
94)	tert-Butylbenzene	12.12	119	138347	10.21	PPB	100
95)	1,2,4-Trimethylbenzene	12.20	105	158541	10.51	PPB	100
96)	sec-Butylbenzene	12.37	105	205846	10.49	PPB	100

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS46\DATA\091517\0915F014.D Vial: 13
Acq On : 15 Sep 2017 07:41 pm Operator: KR
Sample : 8260 ICAL 10 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:03:12 2017 Quant Results File: 091517MS46_8260.RES

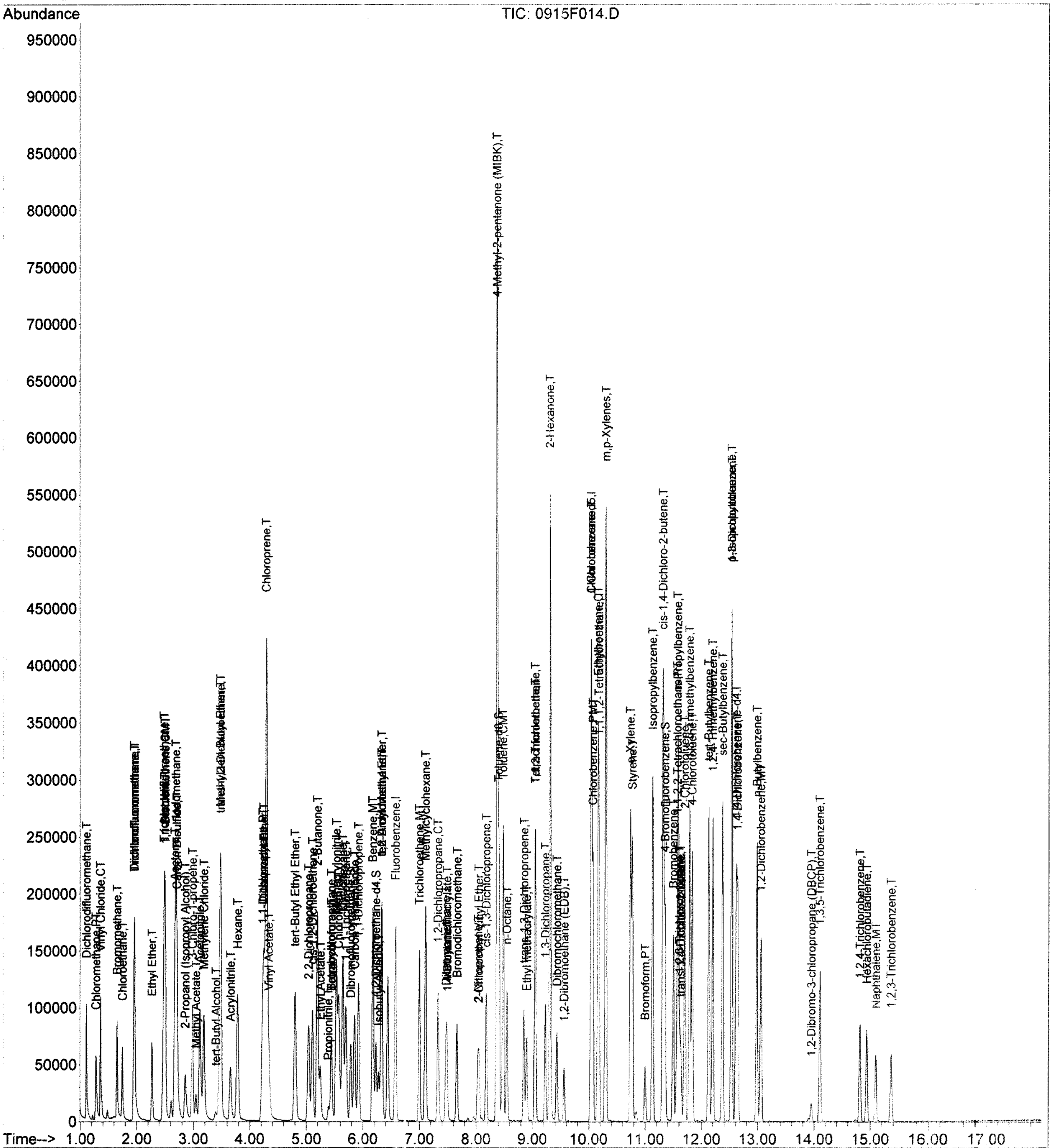
Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
97)	p-Isopropyltoluene	12.53	119	159962	10.58	PPB	100
98)	1,3-Dichlorobenzene	12.53	146	85886	9.87	PPB	100
99)	1,4-Dichlorobenzene	12.64	146	85808	10.03	PPB	100
100)	n-Butylbenzene	12.98	91	147356	10.41	PPB	100
101)	1,2-Dichlorobenzene	13.05	146	74571	9.74	PPB	100
102)	1,2-Dibromo-3-chloropropan	13.95	155	4245	10.16	PPB	100
103)	1,3,5-Trichlorobenzene	14.10	180	49097	9.97	PPB	100
104)	1,2,4-Trichlorobenzene	14.81	180	33907	10.08	PPB	100
105)	Hexachlorobutadiene	14.94	225	18897	9.61	PPB	100
106)	Naphthalene	15.10	128	57197	10.49	PPB	100
107)	1,2,3-Trichlorobenzene	15.36	180	22785	9.72	PPB	100

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS46\DATA\091517\0915F014.D Vial: 13
Acq On : 15 Sep 2017 07:41 pm Operator: KR
Sample : 8260 ICAL 10 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:03 2017 Quant Results File: 091517MS46_8260.RES

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\MS46\DATA\091517\0915F015.D Vial: 14
Acq On : 15 Sep 2017 08:08 pm Operator: KR
Sample : 8260 ICAL 20 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:04:26 2017 Quant Results File: 091517MS46_8260.RES

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	6.58	96	157463	10.00	PPB		0.00
64) Chlorobenzene-d5	10.04	82	72941	10.00	PPB		0.00
85) 1,4-Dichlorobenzene-d4	12.62	152	57470	10.00	PPB		0.00
System Monitoring Compounds							
43) Dibromofluoromethane	5.78	113	47469	11.45	PPB		0.00
Spiked Amount 10.000			Recovery	=	114.50%		
47) 1,2-Dichloroethane-d4	6.22	65	57938	11.60	PPB		0.00
Spiked Amount 10.000			Recovery	=	116.00%		
62) Toluene-d8	8.41	98	191068	12.42	PPB		0.00
Spiked Amount 10.000			Recovery	=	124.20%		
84) 4-Bromofluorobenzene	11.35	95	68045	12.09	PPB		0.00
Spiked Amount 10.000			Recovery	=	120.90%		
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.11	85	123455	23.13	PPB		99
3) Chloromethane	1.28	50	112375	20.02	PPB		99
4) Vinyl Chloride	1.35	62	134821	20.28	PPB		99
6) Bromomethane	1.65	96	71346	17.63	PPB		99
7) Chloroethane	1.75	64	75775	19.20	PPB		97
8) Dichlorofluoromethane	1.96	67	168445	19.76	PPB		97
9) Trichlorofluoromethane	1.95	101	165102	19.53	PPB		93
10) Ethyl Ether	2.27	59	66620	21.23	PPB		98
11) Acrolein	2.49	56	159694	393.55	PPB		93
12) Trichlorotrifluoroethane	2.48	151	76186	20.33	PPB		91
13) 1,1-Dichloroethene	2.50	96	81946	20.21	PPB		99
14) Acetone	2.66	43	324183	398.67	PPB		98
15) Iodomethane	2.69	142	408965	85.52	PPB		99
16) Carbon Disulfide	2.71	76	255375	20.14	PPB		98
17) 2-Propanol (Isopropyl Alco	2.85	45	131697	1091.36	PPB		99
18) 3-Chloro-1-propene	2.98	76	51017	21.55	PPB		96
19) Methyl Acetate	3.04	43	62858	21.00	PPB		92
20) Acetonitrile	3.11	40	145554	887.54	PPB		93
21) Methylene Chloride	3.18	84	95386	20.40	PPB		91
22) tert-Butyl Alcohol	3.39	59	20088	104.28	PPB		92
23) Acrylonitrile	3.66	53	97008	84.10	PPB		93
24) Methyl tert-Butyl Ether	3.47	73	451146	43.55	PPB		100
25) trans-1,2-Dichloroethene	3.48	96	94047	19.88	PPB		95
26) Hexane	3.78	57	136239	20.56	PPB		93
27) Diisopropyl Ether	4.25	45	320463	22.14	PPB		99
28) 1,1-Dichloroethane	4.22	63	186146	21.25	PPB		98
29) Vinyl Acetate	4.34	86	21947	46.75	PPB	#	84
30) Chloroprene	4.29	53	714759	88.82	PPB		96
31) tert-Butyl Ethyl Ether	4.80	59	271829	21.73	PPB		97
32) 2,2-Dichloropropane	5.04	77	135906	20.24	PPB		97
33) cis-1,2-Dichloroethene	5.11	96	96938	19.92	PPB		94
34) 2-Butanone	5.19	72	129512	417.24	PPB		96
35) Ethyl Acetate	5.24	61	16779	39.22	PPB		89
36) Propionitrile	5.39	54	30454	80.27	PPB		96
37) Methacrylonitrile	5.53	67	111406	83.22	PPB		93
38) Bromochloromethane	5.44	128	38803	19.72	PPB		94
39) Tetrahydrofuran	5.44	71	6188	20.46	PPB	#	67

(#) = qualifier out of range (m) = manual integration

SEP 21 2017

Data File : J:\MS46\DATA\091517\0915F015.D Vial: 14
Acq On : 15 Sep 2017 08:08 pm Operator: KR
Sample : 8260 ICAL 20 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:04:26 2017 Quant Results File: 091517MS46_8260.RES

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
40)	Chloroform	5.56	83	164610	19.37	PPB		94
41)	Cyclohexane	5.64	56	166096	19.79	PPB		95
42)	1,1,1-Trichloroethane	5.70	97	149843	19.45	PPB		95
44)	Carbon Tetrachloride	5.85	117	137444	20.06	PPB		96
45)	1,1-Dichloropropene	5.92	75	131725	19.52	PPB		96
46)	Isobutyl Alcohol	6.28	43	59953	831.83	PPB		97
48)	Benzene	6.17	78	357627	19.65	PPB		99
49)	1,2-Dichloroethane	6.33	62	115712	19.22	PPB		97
50)	tert-Amyl Methyl Ether	6.32	55	58816	19.57	PPB		98
51)	Trichloroethene	7.00	95	97846	19.70	PPB		96
52)	Methylcyclohexane	7.11	83	162220	20.81	PPB		98
53)	1,2-Dichloropropane	7.33	63	89661	19.38	PPB		97
54)	Dibromomethane	7.47	93	49890	19.96	PPB		82
55)	Methyl methacrylate	7.48	69	46812	20.27	PPB		95
56)	1,4-Dioxane	7.49	88	12200	954.12	PPB		84
57)	Bromodichloromethane	7.66	83	117428	19.40	PPB		93
58)	2-Nitropropane	8.03	41	72223	107.05	PPB		91
59)	2-Chloroethyl Vinyl Ether	8.05	63	47952	21.72	PPB		97
60)	cis-1,3-Dichloropropene	8.18	75	137070	19.93	PPB		95
61)	4-Methyl-2-pentanone (MIBK	8.37	58	512460	472.68	PPB		96
63)	Toluene	8.48	92	245323	20.93	PPB		93
65)	n-Octane	8.55	85	52407	21.60	PPB		93
66)	trans-1,3-Dichloropropene	8.85	75	135158	21.82	PPB		96
67)	Ethyl methacrylate	8.90	69	99151	22.18	PPB		90
68)	1,1,2-Trichloroethane	9.05	83	69152	21.50	PPB		95
69)	Tetrachloroethene	9.05	164	87477	20.86	PPB		99
70)	2-Hexanone	9.31	57	166320	458.97	PPB	#	90
71)	1,3-Dichloropropane	9.23	76	143733	21.26	PPB		98
72)	Dibromochloromethane	9.43	129	97082	21.64	PPB		96
73)	1,2-Dibromoethane (EDB)	9.55	107	75309	21.78	PPB		94
74)	1-Chlorohexane	10.04	91	141473	20.85	PPB		98
75)	Chlorobenzene	10.07	112	256522	21.00	PPB		98
76)	Ethylbenzene	10.16	106	143645	21.00	PPB		99
77)	1,1,1,2-Tetrachloroethane	10.18	131	94468	20.94	PPB		90
78)	m,p-Xylenes	10.30	106	341924	42.43	PPB		96
79)	o-Xylene	10.74	106	160175	20.83	PPB		99
80)	Styrene	10.77	103	153166	21.39	PPB		97
81)	Bromoform	11.00	173	52528	21.20	PPB		95
82)	Isopropylbenzene	11.13	105	447094	21.71	PPB		98
83)	cis-1,4-Dichloro-2-butene	11.31	89	44671	249.87	PPB		95
86)	1,1,2,2-Tetrachloroethane	11.56	83	77469	20.82	PPB		97
87)	trans-1,4-Dichloro-2-buten	11.63	53	24510	19.94	PPB		96
88)	Bromobenzene	11.50	156	99845	20.00	PPB		96
89)	n-Propylbenzene	11.58	91	540484	21.19	PPB		99
90)	1,2,3-Trichloropropane	11.61	110	26159	21.50	PPB		88
91)	2-Chlorotoluene	11.70	91	296568	21.29	PPB		98
92)	1,3,5-Trimethylbenzene	11.78	105	350333	21.71	PPB		98
93)	4-Chlorotoluene	11.83	91	311149	20.50	PPB		99
94)	tert-Butylbenzene	12.12	119	297738	21.58	PPB		99
95)	1,2,4-Trimethylbenzene	12.20	105	332609	21.66	PPB		98
96)	sec-Butylbenzene	12.37	105	431716	21.61	PPB		99

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS46\DATA\091517\0915F015.D Vial: 14
Acq On : 15 Sep 2017 08:08 pm Operator: KR
Sample : 8260 ICAL 20 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:04:26 2017 Quant Results File: 091517MS46_8260.RES

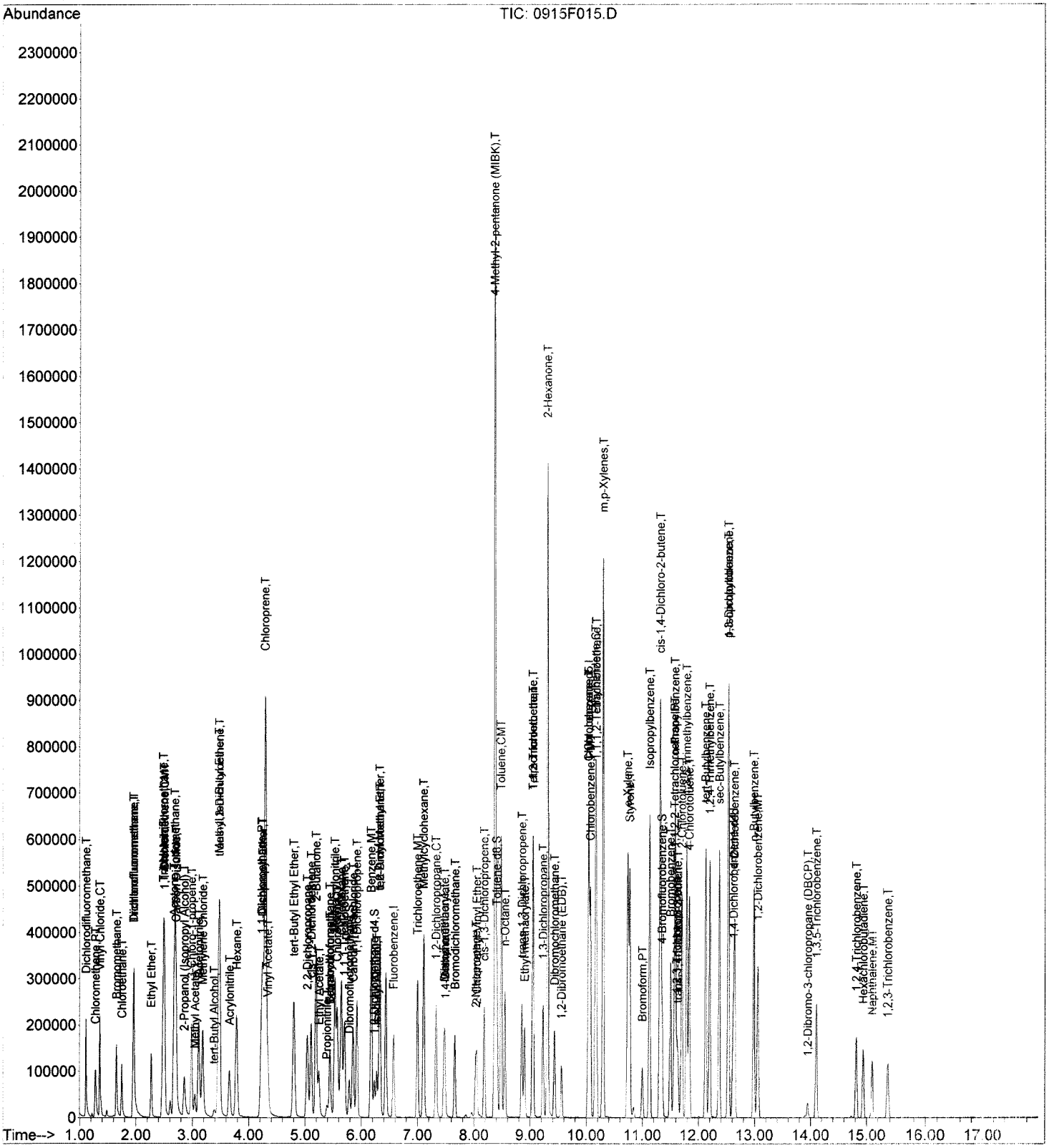
Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
97)	p-Isopropyltoluene	12.53	119	340583	22.14 PPB	97
98)	1,3-Dichlorobenzene	12.53	146	178735	20.19 PPB	95
99)	1,4-Dichlorobenzene	12.64	146	180001	20.68 PPB	97
100)	n-Butylbenzene	12.98	91	308440	21.40 PPB	97
101)	1,2-Dichlorobenzene	13.05	146	155696	19.99 PPB	99
102)	1,2-Dibromo-3-chloropropan	13.95	155	8547	20.11 PPB	85
103)	1,3,5-Trichlorobenzene	14.11	180	91631	18.29 PPB	94
104)	1,2,4-Trichlorobenzene	14.81	180	66129	19.31 PPB	98
105)	Hexachlorobutadiene	14.93	225	35180	17.58 PPB	98
106)	Naphthalene	15.10	128	119170	21.48 PPB	97
107)	1,2,3-Trichlorobenzene	15.37	180	46889	19.64 PPB	99

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS46\DATA\091517\0915F015.D Vial: 14
Acq On : 15 Sep 2017 08:08 pm Operator: KR
Sample : 8260 ICAL 20 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:04 2017 Quant Results File: 091517MS46_8260.RES

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration



Data File : J:\MS46\DATA\091517\0915F016.D Vial: 15
Acq On : 15 Sep 2017 08:34 pm Operator: KR
Sample : 8260 ICAL 40 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:05:34 2017 Quant Results File: 091517MS46_8260.RES

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	6.57	96	161170	10.00	PPB	0.00
64) Chlorobenzene-d5	10.04	82	77996	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	12.62	152	59593	10.00	PPB	0.00
System Monitoring Compounds						
43) Dibromofluoromethane	5.78	113	58798	13.86	PPB	0.00
Spiked Amount 10.000			Recovery	=	138.60%	
47) 1,2-Dichloroethane-d4	6.23	65	70347	13.76	PPB	0.00
Spiked Amount 10.000			Recovery	=	137.60%	
62) Toluene-d8	8.41	98	216443	13.74	PPB	0.00
Spiked Amount 10.000			Recovery	=	137.40%	
84) 4-Bromofluorobenzene	11.35	95	83998	13.96	PPB	0.00
Spiked Amount 10.000			Recovery	=	139.60%	
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.11	85	227057	40.56	PPB	96
3) Chloromethane	1.28	50	226201	39.37	PPB	99
4) Vinyl Chloride	1.35	62	269102	39.56	PPB	99
6) Bromomethane	1.65	96	161068	38.89	PPB	98
7) Chloroethane	1.75	64	161212	39.90	PPB	97
8) Dichlorofluoromethane	1.96	67	347520	39.83	PPB	97
9) Trichlorofluoromethane	1.95	101	342698	39.60	PPB	92
10) Ethyl Ether	2.27	59	131867	41.06	PPB	96
11) Acrolein	2.49	56	317249	763.84	PPB	93
12) Trichlorotrifluoroethane	2.48	151	154293	40.23	PPB	97
13) 1,1-Dichloroethene	2.50	96	167460	40.35	PPB	97
14) Acetone	2.66	43	645246	775.26	PPB	99
15) Iodomethane	2.69	142	855872	174.86	PPB	99
16) Carbon Disulfide	2.71	76	512674	39.49	PPB	97
17) 2-Propanol (Isopropyl Alco	2.85	45	269150	2179.13	PPB	98
18) 3-Chloro-1-propene	2.98	76	92179	38.04	PPB	91
19) Methyl Acetate	3.04	43	115207	37.60	PPB	93
20) Acetonitrile	3.11	40	271039	1614.70	PPB	94
21) Methylene Chloride	3.18	84	185591	38.77	PPB	94
22) tert-Butyl Alcohol	3.39	59	39853	202.13	PPB	95
23) Acrylonitrile	3.66	53	189660	160.64	PPB	94
24) Methyl tert-Butyl Ether	3.46	73	908593	85.69	PPB	98
25) trans-1,2-Dichloroethene	3.48	96	189098	39.06	PPB	99
26) Hexane	3.78	57	276642	40.79	PPB	97
27) Diisopropyl Ether	4.24	45	622508	42.02	PPB	99
28) 1,1-Dichloroethane	4.22	63	344027	38.37	PPB	99
29) Vinyl Acetate	4.34	86	39888	83.01	PPB	99
30) Chloroprene	4.29	53	1352000	164.14	PPB	99
31) tert-Butyl Ethyl Ether	4.80	59	568630	44.42	PPB	97
32) 2,2-Dichloropropane	5.03	77	279513	40.67	PPB	100
33) cis-1,2-Dichloroethene	5.11	96	202803	40.72	PPB	92
34) 2-Butanone	5.19	72	272308	857.10	PPB	97
35) Ethyl Acetate	5.24	61	37202	84.96	PPB	96
36) Propionitrile	5.39	54	58547	150.77	PPB	95
37) Methacrylonitrile	5.53	67	215034	156.94	PPB	96
38) Bromochloromethane	5.44	128	76963	38.22	PPB	96
39) Tetrahydrofuran	5.43	71	11606	37.48	PPB #	74

(#) = qualifier out of range (m) = manual integration

SEP 21 2017

Data File : J:\MS46\DATA\091517\0915F016.D Vial: 15
Acq On : 15 Sep 2017 08:34 pm Operator: KR
Sample : 8260 ICAL 40 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:05:34 2017 Quant Results File: 091517MS46_8260.RES

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
40)	Chloroform	5.56	83	324789	37.33	PPB	100
41)	Cyclohexane	5.64	56	330211	38.44	PPB	91
42)	1,1,1-Trichloroethane	5.70	97	303536	38.50	PPB	98
44)	Carbon Tetrachloride	5.85	117	276254	39.38	PPB	97
45)	1,1-Dichloropropene	5.92	75	264196	38.26	PPB	97
46)	Isobutyl Alcohol	6.27	43	122398	1659.17	PPB	96
48)	Benzene	6.17	78	717971	38.54	PPB	100
49)	1,2-Dichloroethane	6.33	62	230225	37.36	PPB	97
50)	tert-Amyl Methyl Ether	6.32	55	114120	37.10	PPB	90
51)	Trichloroethene	7.00	95	201124	39.57	PPB	99
52)	Methylcyclohexane	7.11	83	326628	40.93	PPB	98
53)	1,2-Dichloropropane	7.33	63	182798	38.61	PPB	96
54)	Dibromomethane	7.47	93	99064	38.72	PPB	82
55)	Methyl methacrylate	7.48	69	96552	40.85	PPB	97
56)	1,4-Dioxane	7.48	88	25012	1624.44	PPB	88
57)	Bromodichloromethane	7.66	83	241992	39.05	PPB	96
58)	2-Nitropropane	8.03	41	148119	214.49	PPB	91
59)	2-Chloroethyl Vinyl Ether	8.05	63	97092	42.96	PPB	99
60)	cis-1,3-Dichloropropene	8.19	75	284626	40.44	PPB	99
61)	4-Methyl-2-pentanone (MIBK	8.37	58	943824	850.54	PPB	99
63)	Toluene	8.48	92	435488	36.30	PPB	96
65)	n-Octane	8.55	85	92324	35.58	PPB	91
66)	trans-1,3-Dichloropropene	8.85	75	241089	36.41	PPB	98
67)	Ethyl methacrylate	8.90	69	179052	37.45	PPB	91
68)	1,1,2-Trichloroethane	9.05	83	119622	34.78	PPB	94
69)	Tetrachloroethene	9.05	164	158780	35.41	PPB	97
70)	2-Hexanone	9.31	57	298277	769.76	PPB	99
71)	1,3-Dichloropropane	9.23	76	246608	34.12	PPB	98
72)	Dibromochloromethane	9.43	129	174595	36.39	PPB	94
73)	1,2-Dibromoethane (EDB)	9.55	107	133877	36.21	PPB	96
74)	1-Chlorohexane	10.04	91	289337	39.87	PPB	94
75)	Chlorobenzene	10.07	112	519327	39.77	PPB	98
76)	Ethylbenzene	10.16	106	286600	39.18	PPB	99
77)	1,1,1,2-Tetrachloroethane	10.18	131	194691	40.36	PPB	90
78)	m,p-Xylenes	10.30	106	701744	81.43	PPB	99
79)	o-Xylene	10.73	106	329890	40.12	PPB	97
80)	Styrene	10.77	103	312947	40.87	PPB	96
81)	Bromoform	11.00	173	106154	40.06	PPB	98
82)	Isopropylbenzene	11.13	105	902800	40.99	PPB	99
83)	cis-1,4-Dichloro-2-butene	11.31	89	93782	490.58	PPB	97
86)	1,1,2,2-Tetrachloroethane	11.56	83	149920	38.85	PPB	98
87)	trans-1,4-Dichloro-2-buten	11.64	53	49124	37.10	PPB	92
88)	Bromobenzene	11.50	156	204474	39.51	PPB	96
89)	n-Propylbenzene	11.58	91	1075367	40.66	PPB	98
90)	1,2,3-Trichloropropane	11.61	110	49761	39.43	PPB	87
91)	2-Chlorotoluene	11.70	91	597975	41.40	PPB	98
92)	1,3,5-Trimethylbenzene	11.78	105	704558	42.11	PPB	97
93)	4-Chlorotoluene	11.83	91	623799	39.63	PPB	100
94)	tert-Butylbenzene	12.12	119	595432	41.61	PPB	99
95)	1,2,4-Trimethylbenzene	12.20	105	685189	43.03	PPB	98
96)	sec-Butylbenzene	12.37	105	878767	42.43	PPB	99

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS46\DATA\091517\0915F016.D Vial: 15
Acq On : 15 Sep 2017 08:34 pm Operator: KR
Sample : 8260 ICAL 40 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:05:34 2017 Quant Results File: 091517MS46_8260.RES

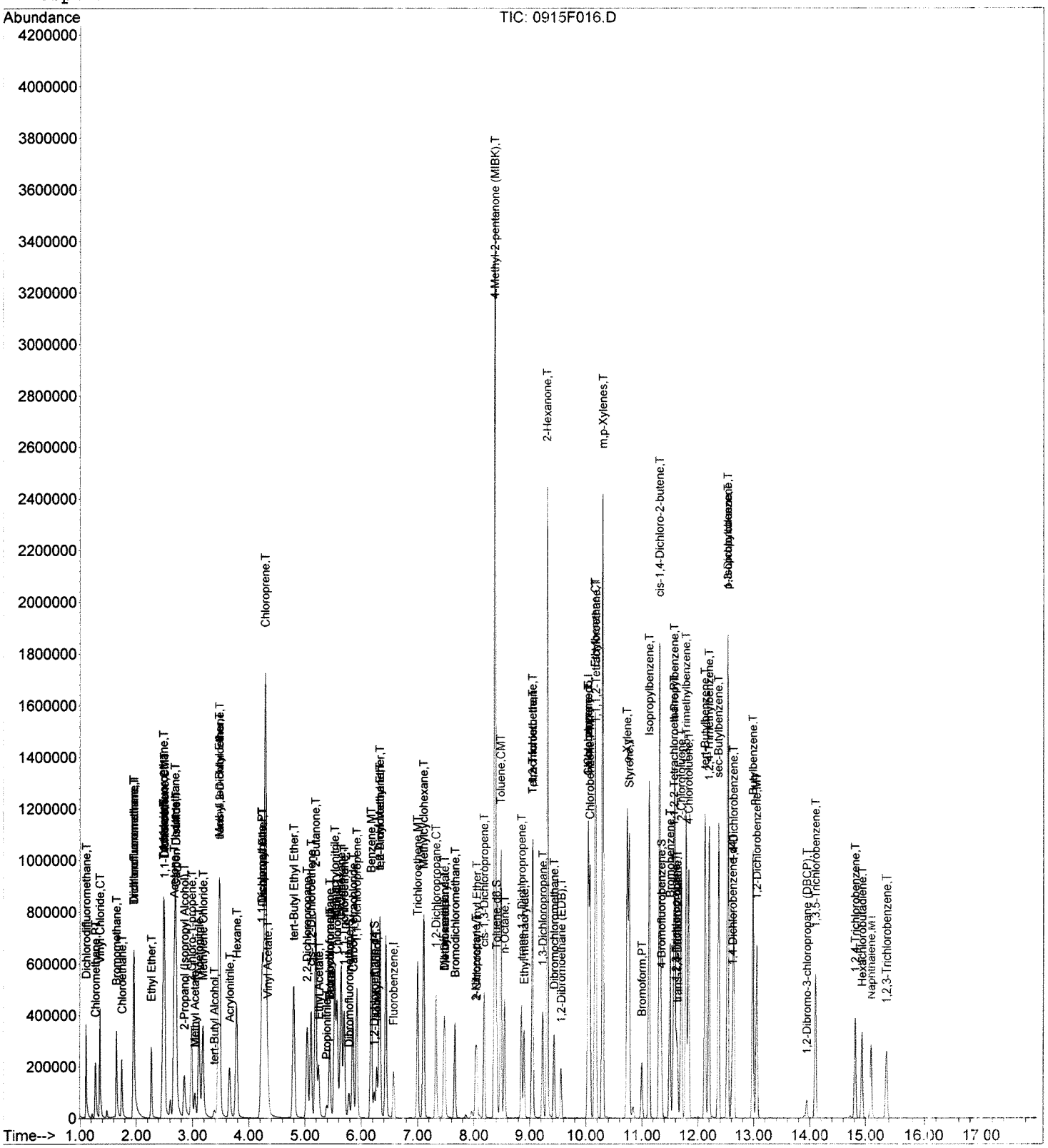
Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
97)	p-Isopropyltoluene	12.53	119	703826	44.12 PPB	96
98)	1,3-Dichlorobenzene	12.53	146	367806	40.06 PPB	97
99)	1,4-Dichlorobenzene	12.64	146	363620	40.28 PPB	94
100)	n-Butylbenzene	12.98	91	645340	43.17 PPB	99
101)	1,2-Dichlorobenzene	13.06	146	317330	39.28 PPB	99
102)	1,2-Dibromo-3-chloropropan	13.95	155	18071	40.99 PPB	78
103)	1,3,5-Trichlorobenzene	14.11	180	210976	40.61 PPB	92
104)	1,2,4-Trichlorobenzene	14.81	180	149170	42.01 PPB	98
105)	Hexachlorobutadiene	14.93	225	82987	39.99 PPB	94
106)	Naphthalene	15.10	128	268912	46.74 PPB	98
107)	1,2,3-Trichlorobenzene	15.36	180	103087	41.65 PPB	99

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS46\DATA\091517\0915F016.D Vial: 15
Acq On : 15 Sep 2017 08:34 pm Operator: KR
Sample : 8260 ICAL 40 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:05 2017 Quant Results File: 091517MS46_8260.RES

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration



Data File : J:\MS46\DATA\091517\0915F017.D Vial: 16
Acq On : 15 Sep 2017 09:01 pm Operator: KR
Sample : 8260 ICAL 60 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:06:38 2017 Quant Results File: 091517MS46_8260.RES

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	6.58	96	181063	10.00	PPB	0.00
64) Chlorobenzene-d5	10.04	82	74402	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	12.62	152	52718	10.00	PPB	0.00
System Monitoring Compounds						
43) Dibromofluoromethane	5.78	113	77025	16.16	PPB	0.00
Spiked Amount 10.000			Recovery	=	161.60%	
47) 1,2-Dichloroethane-d4	6.23	65	92253	16.06	PPB	0.00
Spiked Amount 10.000			Recovery	=	160.60%	
62) Toluene-d8	8.41	98	292786	16.55	PPB	0.00
Spiked Amount 10.000			Recovery	=	165.50%	
84) 4-Bromofluorobenzene	11.35	95	98069	17.08	PPB	0.00
Spiked Amount 10.000			Recovery	=	170.80%	

Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.11	85	355632	55.41	PPB		97
3) Chloromethane	1.28	50	366345	56.76	PPB		99
4) Vinyl Chloride	1.35	62	453094	59.28	PPB		99
5) 1,3-Butadiene	1.38	54	10434	27.48	PPB		96
6) Bromomethane	1.65	96	261342	56.16	PPB		98
7) Chloroethane	1.75	64	258092	56.86	PPB		99
8) Dichlorofluoromethane	1.96	67	557771	56.90	PPB		97
9) Trichlorofluoromethane	1.95	101	546516	56.22	PPB		94
10) Ethyl Ether	2.27	59	209109	57.96	PPB		94
11) Acrolein	2.49	56	492917	1056.41	PPB		95
12) Trichlorotrifluoroethane	2.48	151	247593	57.46	PPB		95
13) 1,1-Dichloroethene	2.50	96	265702	56.98	PPB		97
14) Acetone	2.66	43	1349168	1442.92	PPB		99
15) Iodomethane	2.69	142	1367998	248.78	PPB		99
16) Carbon Disulfide	2.71	76	832895	57.11	PPB		98
17) 2-Propanol (Isopropyl Alco	2.85	45	392131	2826.01	PPB		97
18) 3-Chloro-1-propene	2.98	76	143356	52.66	PPB		98
19) Methyl Acetate	3.04	43	182939	53.14	PPB		94
20) Acetonitrile	3.11	40	374593	1986.43	PPB		98
21) Methylene Chloride	3.18	84	268952	50.02	PPB		95
22) tert-Butyl Alcohol	3.39	59	56617	255.61	PPB		98
23) Acrylonitrile	3.66	53	276696	208.62	PPB		96
24) Methyl tert-Butyl Ether	3.46	73	1369188	114.94	PPB		98
25) trans-1,2-Dichloroethene	3.48	96	287643	52.89	PPB		99
26) Hexane	3.78	57	415001	54.46	PPB		98
27) Diisopropyl Ether	4.25	45	903031	54.25	PPB		98
28) 1,1-Dichloroethane	4.22	63	515429	51.17	PPB		98
29) Vinyl Acetate	4.34	86	56233	104.17	PPB	#	86
30) Chloroprene	4.29	53	2030406	219.42	PPB		99
31) tert-Butyl Ethyl Ether	4.80	59	920764	64.02	PPB		97
32) 2,2-Dichloropropane	5.03	77	460501	59.65	PPB		99
33) cis-1,2-Dichloroethene	5.11	96	332341	59.40	PPB		98
34) 2-Butanone	5.19	72	616175	1726.36	PPB		97
35) Ethyl Acetate	5.24	61	59676	121.31	PPB		90
36) Propionitrile	5.39	54	104581	239.73	PPB		98
37) Methacrylonitrile	5.53	67	391316	254.22	PPB		98
38) Bromochloromethane	5.44	128	127607	56.41	PPB		92

(#) = qualifier out of range (m) = manual integration

KR 9/18/17

SEP 21 2017

Data File : J:\MS46\DATA\091517\0915F017.D Vial: 16
Acq On : 15 Sep 2017 09:01 pm Operator: KR
Sample : 8260 ICAL 60 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:06:38 2017 Quant Results File: 091517MS46_8260.RES

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Tetrahydrofuran	5.43	71	21966	63.15	PPB	#	81
40)	Chloroform	5.56	83	577428	59.08	PPB		99
41)	Cyclohexane	5.64	56	612038	63.42	PPB		95
42)	1,1,1-Trichloroethane	5.70	97	543674	61.38	PPB		97
44)	Carbon Tetrachloride	5.85	117	492606	62.51	PPB		95
45)	1,1-Dichloropropene	5.92	75	486827	62.75	PPB		96
46)	Isobutyl Alcohol	6.28	43	213753	2579.19	PPB		95
48)	Benzene	6.17	78	1290021	61.64	PPB		99
49)	1,2-Dichloroethane	6.33	62	410664	59.33	PPB		96
50)	tert-Amyl Methyl Ether	6.32	55	204591	59.21	PPB		92
51)	Trichloroethene	7.00	95	361101	63.23	PPB		97
52)	Methylcyclohexane	7.11	83	591279	65.96	PPB		99
53)	1,2-Dichloropropane	7.33	63	327233	61.52	PPB		98
54)	Dibromomethane	7.47	93	174428	60.69	PPB		82
55)	Methyl methacrylate	7.49	69	172375	64.91	PPB		95
56)	1,4-Dioxane	7.49	88	44317	2248.20	PPB		93
57)	Bromodichloromethane	7.66	83	425248	61.09	PPB		95
58)	2-Nitropropane	8.03	41	272985	351.87	PPB		95
59)	2-Chloroethyl Vinyl Ether	8.05	63	178524	70.32	PPB		99
60)	cis-1,3-Dichloropropene	8.19	75	502458	63.54	PPB		99
61)	4-Methyl-2-pentanone (MIBK	8.37	58	2351194	1886.02	PPB		97
63)	Toluene	8.48	92	779910	57.87	PPB		97
65)	n-Octane	8.55	85	164262	66.36	PPB		91
66)	trans-1,3-Dichloropropene	8.85	75	429135	67.93	PPB		96
67)	Ethyl methacrylate	8.90	69	327771	71.87	PPB		92
68)	1,1,2-Trichloroethane	9.05	83	210149	64.05	PPB		95
69)	Tetrachloroethene	9.05	164	281591	65.83	PPB		98
70)	2-Hexanone	9.31	57	726578	1965.66	PPB		96
71)	1,3-Dichloropropane	9.23	76	434611	63.03	PPB		97
72)	Dibromochloromethane	9.43	129	304324	66.49	PPB		95
73)	1,2-Dibromoethane (EDB)	9.56	107	236306	67.01	PPB		98
74)	1-Chlorohexane	10.04	91	460436	66.51	PPB		94
75)	Chlorobenzene	10.07	112	804141	64.55	PPB		98
76)	Ethylbenzene	10.16	106	451676	64.72	PPB		98
77)	1,1,1,2-Tetrachloroethane	10.18	131	296913	64.52	PPB		89
78)	m,p-Xylenes	10.30	106	1089446	132.53	PPB		98
79)	o-Xylene	10.73	106	508036	64.76	PPB		100
80)	Styrene	10.77	103	480804	65.83	PPB		98
81)	Bromoform	11.00	173	169912	67.22	PPB		98
82)	Isopropylbenzene	11.13	105	1408341	67.03	PPB		99
83)	cis-1,4-Dichloro-2-butene	11.31	89	148750	815.71	PPB		95
86)	1,1,2,2-Tetrachloroethane	11.56	83	228721	67.00	PPB		98
87)	trans-1,4-Dichloro-2-buten	11.64	53	73743	61.88	PPB		94
88)	Bromobenzene	11.50	156	307888	67.25	PPB		95
89)	n-Propylbenzene	11.58	91	1672427	71.49	PPB		99
90)	1,2,3-Trichloropropane	11.61	110	76458	68.49	PPB		92
91)	2-Chlorotoluene	11.70	91	918386	71.87	PPB		97
92)	1,3,5-Trimethylbenzene	11.78	105	1095542	74.02	PPB		98
93)	4-Chlorotoluene	11.83	91	953459	68.48	PPB		99
94)	tert-Butylbenzene	12.12	119	914149	72.22	PPB		98
95)	1,2,4-Trimethylbenzene	12.20	105	1034785	73.45	PPB		97

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS46\DATA\091517\0915F017.D Vial: 16
Acq On : 15 Sep 2017 09:01 pm Operator: KR
Sample : 8260 ICAL 60 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:06:38 2017 Quant Results File: 091517MS46_8260.RES

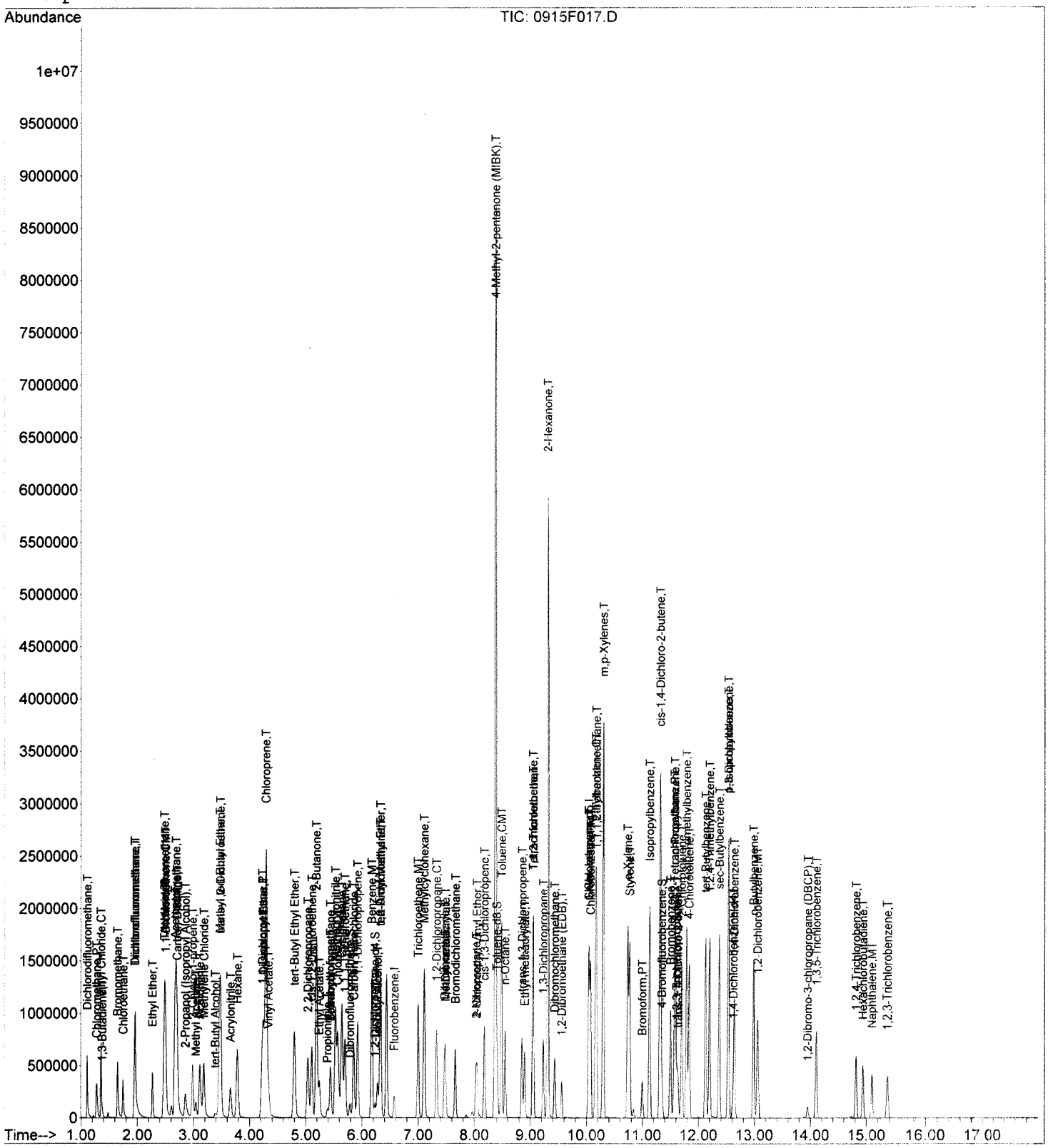
Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
96)	sec-Butylbenzene	12.37	105	1331787	72.68	PPB	99
97)	p-Isopropyltoluene	12.53	119	1014324	71.87	PPB	96
98)	1,3-Dichlorobenzene	12.53	146	524257	64.54	PPB	98
99)	1,4-Dichlorobenzene	12.64	146	520029	65.12	PPB	96
100)	n-Butylbenzene	12.98	91	930064	70.33	PPB	99
101)	1,2-Dichlorobenzene	13.05	146	452339	63.30	PPB	99
102)	1,2-Dibromo-3-chloropropan	13.94	155	27923	71.60	PPB	83
103)	1,3,5-Trichlorobenzene	14.11	180	319468	69.50	PPB	97
104)	1,2,4-Trichlorobenzene	14.81	180	229397	73.02	PPB	98
105)	Hexachlorobutadiene	14.94	225	125975	68.62	PPB	97
106)	Naphthalene	15.10	128	416318	81.80	PPB	98
107)	1,2,3-Trichlorobenzene	15.37	180	158042	72.18	PPB	99

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS46\DATA\091517\0915F017.D Vial: 16
Acq On : 15 Sep 2017 09:01 pm Operator: KR
Sample : 8260 ICAL 60 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:06 2017 Quant Results File: 091517MS46_8260.RES

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\MS46\DATA\091517\0915F018.D Vial: 17
Acq On : 15 Sep 2017 09:27 pm Operator: KR
Sample : 8260 ICAL 80 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:07:33 2017 Quant Results File: 091517MS46_8260.RES

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	6.58	96	164652	10.00	PPB		0.00
64) Chlorobenzene-d5	10.04	82	76579	10.00	PPB		0.00
85) 1,4-Dichlorobenzene-d4	12.62	152	53504	10.00	PPB		0.00
System Monitoring Compounds							
43) Dibromofluoromethane	5.78	113	92471	21.34	PPB		0.00
Spiked Amount 10.000			Recovery	=	213.40%		
47) 1,2-Dichloroethane-d4	6.23	65	103873	19.89	PPB		0.00
Spiked Amount 10.000			Recovery	=	198.90%		
62) Toluene-d8	8.41	98	395028	24.55	PPB		0.00
Spiked Amount 10.000			Recovery	=	245.50%		
84) 4-Bromofluorobenzene	11.35	95	112169	18.99	PPB		0.00
Spiked Amount 10.000			Recovery	=	189.90%		
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.11	85	496561	82.12	PPB		97
3) Chloromethane	1.28	50	491780	83.79	PPB		98
4) Vinyl Chloride	1.35	62	597496	85.97	PPB		99
6) Bromomethane	1.65	96	374608	88.53	PPB		98
7) Chloroethane	1.74	64	343234	83.16	PPB		98
8) Dichlorofluoromethane	1.96	67	775277	86.98	PPB		98
9) Trichlorofluoromethane	1.95	101	745228	84.30	PPB		93
10) Ethyl Ether	2.27	59	284323	86.65	PPB		94
11) Acrolein	2.49	56	643217	1515.93	PPB		95
12) Trichlorotrifluoroethane	2.48	151	338642	86.43	PPB		96
13) 1,1-Dichloroethene	2.50	96	358047	84.44	PPB		96
14) Acetone	2.66	43	1609720	1893.17	PPB		97
15) Iodomethane	2.69	142	1885514	377.07	PPB		99
16) Carbon Disulfide	2.71	76	1121927	84.60	PPB		99
17) 2-Propanol (Isopropyl Alco	2.85	45	562664	4459.18	PPB		98
18) 3-Chloro-1-propene	2.98	76	197062	79.61	PPB		99
19) Methyl Acetate	3.04	43	257580	82.29	PPB		94
20) Acetonitrile	3.11	40	552669	3222.86	PPB		93
21) Methylene Chloride	3.18	84	397387	81.27	PPB		93
22) tert-Butyl Alcohol	3.39	59	87702	435.41	PPB		94
23) Acrylonitrile	3.66	53	426238	353.39	PPB		95
24) Methyl tert-Butyl Ether	3.46	73	1984765	183.23	PPB		99
25) trans-1,2-Dichloroethene	3.48	96	417271	84.37	PPB		97
26) Hexane	3.78	57	634033	91.50	PPB		97
27) Diisopropyl Ether	4.24	45	1397557	92.33	PPB		99
28) 1,1-Dichloroethane	4.22	63	792156	86.49	PPB		98
29) Vinyl Acetate	4.34	86	76769	156.38	PPB	#	86
30) Chloroprene	4.29	53	3068575	364.67	PPB		99
31) tert-Butyl Ethyl Ether	4.79	59	1135892	86.85	PPB		97
32) 2,2-Dichloropropane	5.04	77	564744	80.44	PPB		97
33) cis-1,2-Dichloroethene	5.10	96	409025	80.40	PPB		97
34) 2-Butanone	5.19	72	666779	2054.33	PPB		94
35) Ethyl Acetate	5.24	61	70476	157.55	PPB		89
36) Propionitrile	5.39	54	122746	309.42	PPB		98
37) Methacrylonitrile	5.53	67	468019	334.36	PPB		93
38) Bromochloromethane	5.44	128	158877	77.23	PPB		99
39) Tetrahydrofuran	5.44	71	26244	82.97	PPB	#	76

(#) = qualifier out of range (m) = manual integration

SEP 21 2017

Data File : J:\MS46\DATA\091517\0915F018.D Vial: 17
Acq On : 15 Sep 2017 09:27 pm Operator: KR
Sample : 8260 ICAL 80 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:07:33 2017 Quant Results File: 091517MS46_8260.RES

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
40)	Chloroform	5.56	83	703895	79.20	PPB		99
41)	Cyclohexane	5.64	56	715845	81.57	PPB		90
42)	1,1,1-Trichloroethane	5.70	97	671476	83.36	PPB		98
44)	Carbon Tetrachloride	5.85	117	616639	86.05	PPB		98
45)	1,1-Dichloropropene	5.92	75	587343	83.26	PPB		96
46)	Isobutyl Alcohol	6.28	43	260135	3451.69	PPB		95
48)	Benzene	6.17	78	1571140	82.55	PPB		100
49)	1,2-Dichloroethane	6.33	62	489246	77.72	PPB		98
50)	tert-Amyl Methyl Ether	6.32	55	255165	81.21	PPB	#	84
51)	Trichloroethene	7.00	95	450555	86.76	PPB		98
52)	Methylcyclohexane	7.11	83	722562	88.63	PPB		96
53)	1,2-Dichloropropane	7.33	63	403572	83.43	PPB		95
54)	Dibromomethane	7.47	93	247054	94.53	PPB		86
55)	Methyl methacrylate	7.48	69	243688	100.92	PPB		95
56)	1,4-Dioxane	7.48	88	70028	3259.40	PPB		85
57)	Bromodichloromethane	7.66	83	605466	95.64	PPB		91
58)	2-Nitropropane	8.03	41	379441	537.84	PPB		95
59)	2-Chloroethyl Vinyl Ether	8.05	63	247811	107.34	PPB		98
60)	cis-1,3-Dichloropropene	8.19	75	718491	99.92	PPB		97
61)	4-Methyl-2-pentanone (MIBK	8.37	58	2953712	2605.48	PPB		96
63)	Toluene	8.48	92	1092418	89.13	PPB		98
65)	n-Octane	8.55	85	227369	89.24	PPB		91
66)	trans-1,3-Dichloropropene	8.85	75	610545	93.90	PPB		98
67)	Ethyl methacrylate	8.90	69	453037	96.52	PPB		94
68)	1,1,2-Trichloroethane	9.05	83	295908	87.63	PPB		96
69)	Tetrachloroethene	9.05	164	394996	89.72	PPB		98
70)	2-Hexanone	9.31	57	907573	2385.52	PPB		99
71)	1,3-Dichloropropane	9.23	76	609629	85.91	PPB		97
72)	Dibromochloromethane	9.43	129	425108	90.24	PPB		94
73)	1,2-Dibromoethane (EDB)	9.56	107	324117	89.29	PPB		97
74)	1-Chlorohexane	10.04	91	636687	89.36	PPB		93
75)	Chlorobenzene	10.07	112	1114071	86.88	PPB		98
76)	Ethylbenzene	10.16	106	625435	87.07	PPB		97
77)	1,1,1,2-Tetrachloroethane	10.18	131	417322	88.11	PPB		90
78)	m,p-Xylenes	10.30	106	1503174	177.66	PPB		98
79)	o-Xylene	10.73	106	633998	78.52	PPB		99
80)	Styrene	10.77	103	592688	78.84	PPB		96
81)	Bromoform	11.00	173	210480	80.90	PPB		97
82)	Isopropylbenzene	11.13	105	1712988	79.22	PPB		99
83)	cis-1,4-Dichloro-2-butene	11.31	89	180758	963.06	PPB		99
86)	1,1,2,2-Tetrachloroethane	11.56	83	263233	75.98	PPB		99
87)	trans-1,4-Dichloro-2-buten	11.64	53	87522	72.11	PPB		92
88)	Bromobenzene	11.50	156	387129	83.31	PPB		98
89)	n-Propylbenzene	11.58	91	2021485	85.14	PPB		99
90)	1,2,3-Trichloropropane	11.61	110	91985	81.19	PPB		91
91)	2-Chlorotoluene	11.70	91	1120426	86.40	PPB		98
92)	1,3,5-Trimethylbenzene	11.79	105	1340548	89.25	PPB		97
93)	4-Chlorotoluene	11.83	91	1169817	82.78	PPB		99
94)	tert-Butylbenzene	12.12	119	1154453	89.86	PPB		99
95)	1,2,4-Trimethylbenzene	12.20	105	1296165	90.65	PPB		98
96)	sec-Butylbenzene	12.37	105	1669678	89.79	PPB		100

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS46\DATA\091517\0915F018.D Vial: 17
Acq On : 15 Sep 2017 09:27 pm Operator: KR
Sample : 8260 ICAL 80 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:07:33 2017 Quant Results File: 091517MS46_8260.RES

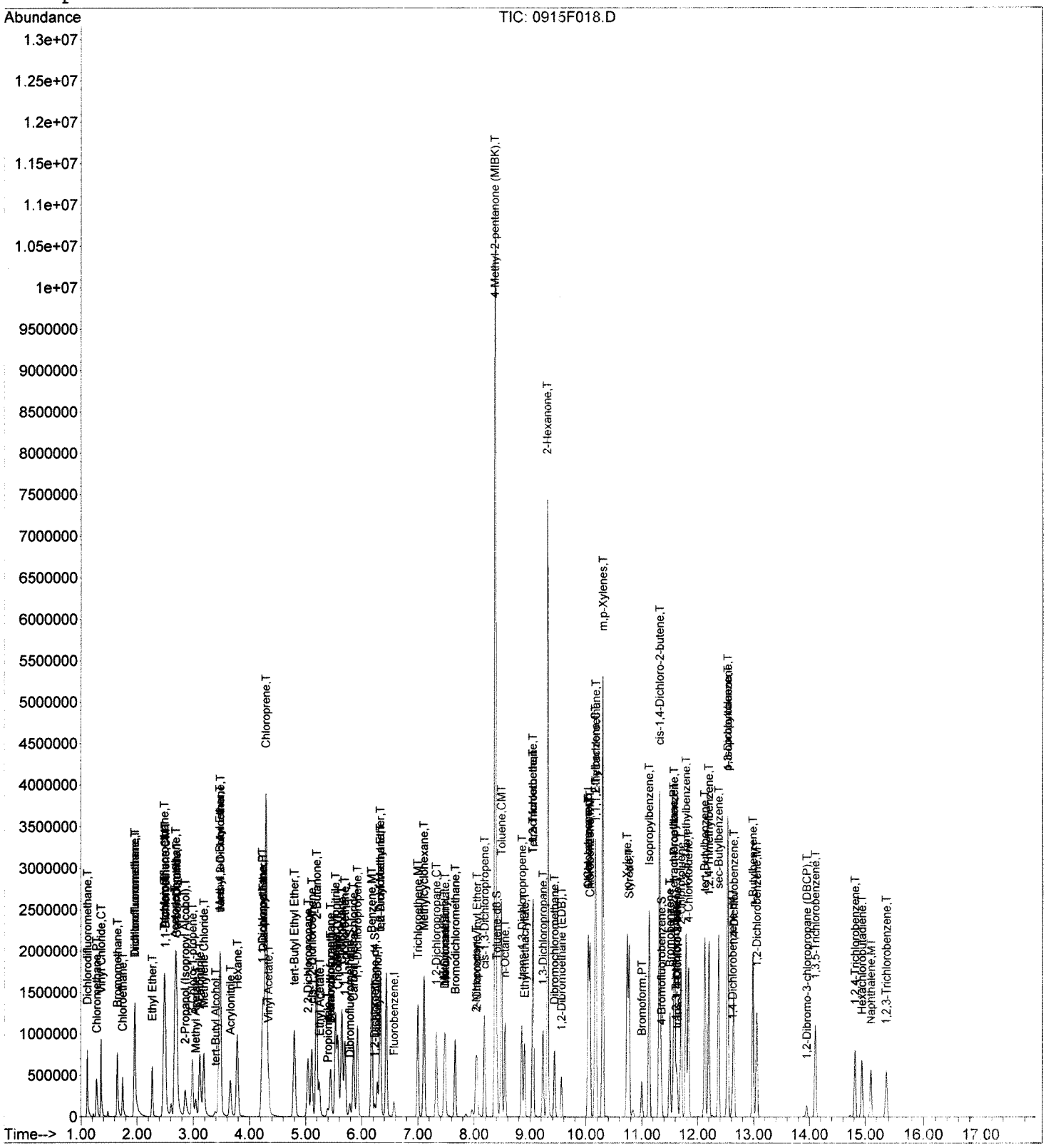
Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
97)	p-Isopropyltoluene	12.53	119	1359706	94.92	PPB	97
98)	1,3-Dichlorobenzene	12.53	146	708695	85.97	PPB	98
99)	1,4-Dichlorobenzene	12.64	146	698164	86.14	PPB	96
100)	n-Butylbenzene	12.98	91	1253442	93.40	PPB	99
101)	1,2-Dichlorobenzene	13.06	146	617010	85.08	PPB	100
102)	1,2-Dibromo-3-chloropropan	13.95	155	37749	95.38	PPB	86
103)	1,3,5-Trichlorobenzene	14.11	180	430722	92.33	PPB	96
104)	1,2,4-Trichlorobenzene	14.81	180	308671	96.81	PPB	98
105)	Hexachlorobutadiene	14.94	225	172259	92.46	PPB	95
106)	Naphthalene	15.10	128	562870	108.97	PPB	98
107)	1,2,3-Trichlorobenzene	15.36	180	215324	96.90	PPB	97

(#) = qualifier out of range (m) = manual integration
0915F018.D 091517MS46_8260.M Mon Sep 18 14:08:24 2017

Data File : J:\MS46\DATA\091517\0915F018.D Vial: 17
Acq On : 15 Sep 2017 09:27 pm Operator: KR
Sample : 8260 ICAL 80 Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:07 2017 Quant Results File: 091517MS46_8260.RES

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 09:19:53 2017
Response via : Initial Calibration



Data File : J:\MS46\DATA\091517\0915F021.D Vial: 20
Acq On : 15 Sep 2017 10:47 pm Operator: KR
Sample : 8260 ICV Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 15:05:00 2017 Quant Results File: 091517MS46_8260.RES

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 15:04:39 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	6.57	96	201341	10.00	PPB	0.00
64) Chlorobenzene-d5	10.04	82	78585	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	12.62	152	59460	10.00	PPB	0.00
System Monitoring Compounds						
43) Dibromofluoromethane	5.78	113	52988	10.00	PPB	0.00
Spiked Amount 10.000			Recovery	=	100.00%	
47) 1,2-Dichloroethane-d4	6.23	65	62512	9.79	PPB	0.00
Spiked Amount 10.000			Recovery	=	97.90%	
62) Toluene-d8	8.41	98	196342	9.98	PPB	0.00
Spiked Amount 10.000			Recovery	=	99.80%	
84) 4-Bromofluorobenzene	11.35	95	58984	9.73	PPB	0.00
Spiked Amount 10.000			Recovery	=	97.30%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.11	85	57263	8.56	PPB	98
3) Chloromethane	1.28	50	63393	8.83	PPB	98
4) Vinyl Chloride	1.35	62	70503	8.30	PPB	99
6) Bromomethane	1.65	96	46232	8.93	PPB	96
7) Chloroethane	1.74	64	43745	8.67	PPB	99
8) Dichlorofluoromethane	1.96	67	103012	9.45	PPB	98
9) Trichlorofluoromethane	1.95	101	86773	8.03	PPB	96
10) Ethyl Ether	2.27	59	35377	8.82	PPB	96
11) Acrolein	2.49	56	55581	107.12	PPB	100
12) Trichlorotrifluoroethane	2.48	151	41197	8.60	PPB	96
13) 1,1-Dichloroethene	2.50	96	48032	9.26	PPB	97
14) Acetone	2.67	43	43311	41.66	PPB	99
15) Iodomethane	2.69	142	144601	23.65	PPB	99
16) Carbon Disulfide	2.71	76	305711	18.85	PPB	99
17) 2-Propanol (Isopropyl Alco	2.86	45	54886	355.71	PPB	99
18) 3-Chloro-1-propene	2.98	76	77855	25.72	PPB	97
20) Acetonitrile	3.11	40	57204	272.80	PPB	95
21) Methylene Chloride	3.18	84	51737	8.65	PPB	91
22) tert-Butyl Alcohol	3.39	59	21593	87.67	PPB	93
23) Acrylonitrile	3.66	53	51400	34.85	PPB	98
24) Methyl tert-Butyl Ether	3.47	73	125469	9.47	PPB	99
25) trans-1,2-Dichloroethene	3.48	96	51493	8.51	PPB	99
26) Hexane	3.78	57	230108	27.16	PPB	98
27) Diisopropyl Ether	4.24	45	310473	16.77	PPB	99
28) 1,1-Dichloroethane	4.22	63	97820	8.73	PPB	97
29) Vinyl Acetate	4.33	86	16892	28.14	PPB #	89
30) Chloroprene	4.29	53	252313	24.52	PPB	98
31) tert-Butyl Ethyl Ether	4.79	59	297275	18.59	PPB	99
32) 2,2-Dichloropropane	5.03	77	78020	9.09	PPB	98
33) cis-1,2-Dichloroethene	5.11	96	59907	9.63	PPB	97
34) 2-Butanone	5.20	72	19233	48.46	PPB	99
35) Ethyl Acetate	5.25	61	14724	26.68	PPB	99
36) Propionitrile	5.39	54	14024	28.91	PPB	95
37) Methacrylonitrile	5.53	67	50989	29.79	PPB	98
38) Bromochloromethane	5.44	128	23772	9.45	PPB	97
39) Tetrahydrofuran	5.44	71	9051	23.40	PPB	100
40) Chloroform	5.56	83	107230	9.87	PPB	98

(#) = qualifier out of range (m) = manual integration

SEP 21 2017

Data File : J:\MS46\DATA\091517\0915F021.D Vial: 20
Acq On : 15 Sep 2017 10:47 pm Operator: KR
Sample : 8260 ICV Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 15:05:00 2017 Quant Results File: 091517MS46_8260.RES

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 15:04:39 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
42)	1,1,1-Trichloroethane	5.70	97	95428	9.69	PPB		94
44)	Carbon Tetrachloride	5.85	117	86613	9.88	PPB		93
45)	1,1-Dichloropropene	5.92	75	80829	9.37	PPB		99
46)	Isobutyl Alcohol	6.28	43	24905	270.24	PPB		96
48)	Benzene	6.17	78	219076	9.41	PPB		99
49)	1,2-Dichloroethane	6.32	62	74013	9.62	PPB		95
50)	tert-Amyl Methyl Ether	6.32	55	74932	19.50	PPB	#	79
51)	Trichloroethene	7.00	95	64478	10.15	PPB		98
53)	1,2-Dichloropropane	7.33	63	59465	10.05	PPB		97
54)	Dibromomethane	7.47	93	30966	9.69	PPB		96
55)	Methyl methacrylate	7.48	69	88446	29.95	PPB		98
56)	1,4-Dioxane	7.48	88	4460	326.75	PPB		85
57)	Bromodichloromethane	7.66	83	75460	9.75	PPB		99
58)	2-Nitropropane	8.03	41	25372	29.41	PPB		97
59)	2-Chloroethyl Vinyl Ether	8.05	63	27310	9.67	PPB		96
60)	cis-1,3-Dichloropropene	8.19	75	84001	9.55	PPB		98
61)	4-Methyl-2-pentanone (MIBK	8.37	58	70865	51.12	PPB		96
63)	Toluene	8.48	92	131912	8.80	PPB		94
65)	n-Octane	8.55	85	58422	22.35	PPB		91
66)	trans-1,3-Dichloropropene	8.85	75	72151	10.81	PPB		99
67)	Ethyl methacrylate	8.89	69	167246	34.72	PPB		98
68)	1,1,2-Trichloroethane	9.04	83	36595	10.56	PPB		96
69)	Tetrachloroethene	9.05	164	48593	10.76	PPB		96
70)	2-Hexanone	9.31	57	22321	57.17	PPB		96
71)	1,3-Dichloropropane	9.23	76	75003	10.30	PPB		98
72)	Dibromochloromethane	9.43	129	49024	10.14	PPB		97
73)	1,2-Dibromoethane (EDB)	9.55	107	39344	10.56	PPB		100
74)	1-Chlorohexane	10.04	91	69203	9.46	PPB		97
75)	Chlorobenzene	10.07	112	126408	9.61	PPB		98
76)	Ethylbenzene	10.16	106	67971	9.22	PPB		95
77)	1,1,1,2-Tetrachloroethane	10.18	131	44208	9.10	PPB		97
78)	m,p-Xylenes	10.30	106	164398	18.93	PPB		99
79)	o-Xylene	10.73	106	76002	9.17	PPB		98
80)	Styrene	10.77	103	72211	9.36	PPB		97
81)	Bromoform	11.00	173	25654	9.61	PPB		97
82)	Isopropylbenzene	11.13	105	211827	9.55	PPB		98
83)	cis-1,4-Dichloro-2-butene	11.31	89	16097	28.75	PPB		85
86)	1,1,2,2-Tetrachloroethane	11.56	83	35674	9.27	PPB		98
87)	trans-1,4-Dichloro-2-buten	11.64	53	30945	25.40	PPB		94
88)	Bromobenzene	11.50	156	47323	9.16	PPB		98
89)	n-Propylbenzene	11.58	91	253488	9.61	PPB		100
90)	1,2,3-Trichloropropane	11.61	110	11758	9.34	PPB		92
91)	2-Chlorotoluene	11.70	91	140866	9.77	PPB		97
92)	1,3,5-Trimethylbenzene	11.78	105	165268	9.90	PPB		99
93)	4-Chlorotoluene	11.83	91	146669	9.34	PPB		99
94)	tert-Butylbenzene	12.13	119	141867	9.94	PPB		97
95)	1,2,4-Trimethylbenzene	12.20	105	164435	10.35	PPB		99
96)	sec-Butylbenzene	12.37	105	210218	10.17	PPB		99
97)	p-Isopropyltoluene	12.53	119	172591	10.84	PPB		97
98)	1,3-Dichlorobenzene	12.53	146	91440	9.98	PPB		94
99)	1,4-Dichlorobenzene	12.64	146	90891	10.09	PPB		99

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS46\DATA\091517\0915F021.D Vial: 20
Acq On : 15 Sep 2017 10:47 pm Operator: KR
Sample : 8260 ICV Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 15:05:00 2017 Quant Results File: 091517MS46_8260.RES

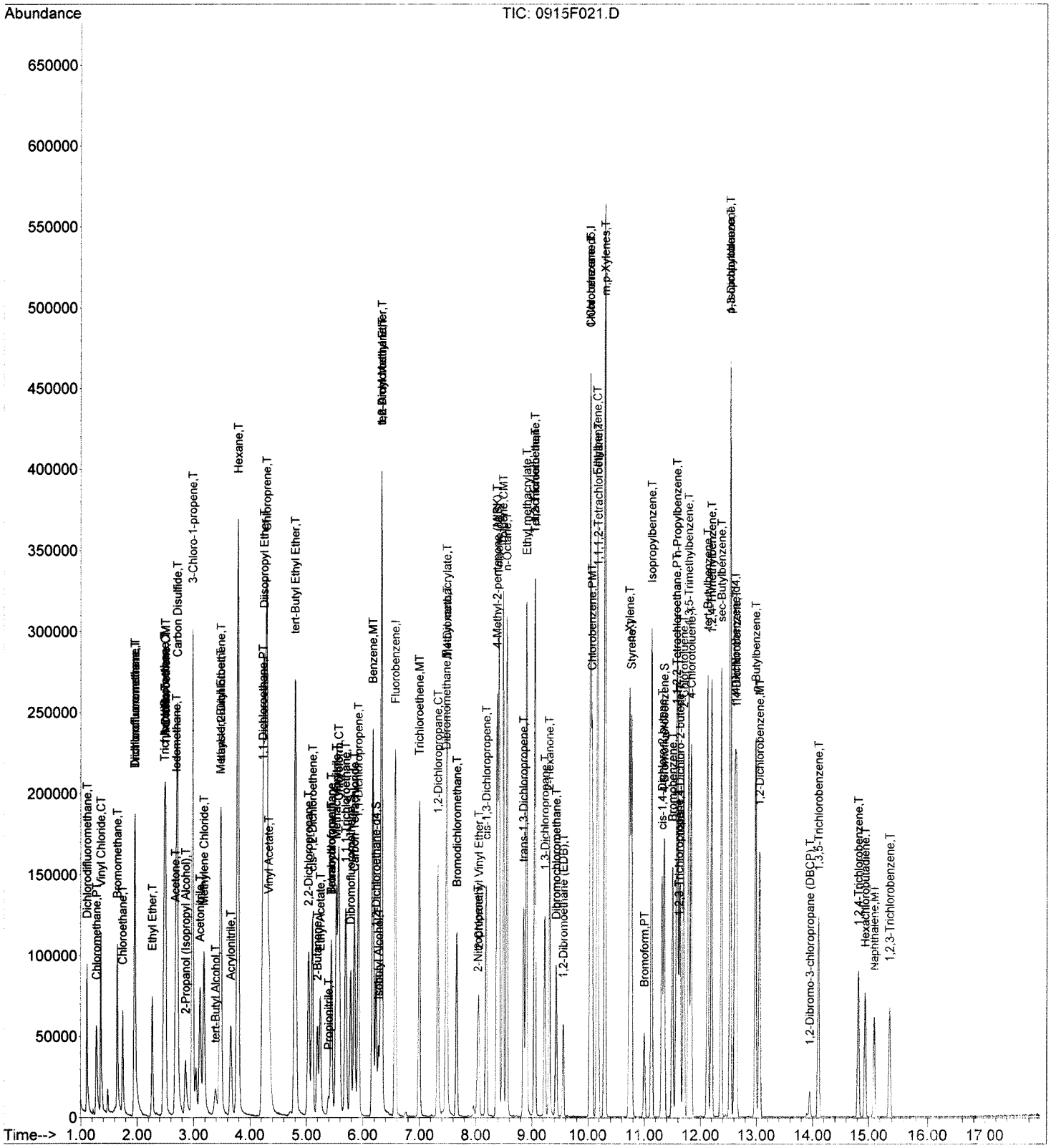
Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 15:04:39 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
100)	n-Butylbenzene	12.98	91	146925	9.85	PPB	98
101)	1,2-Dichlorobenzene	13.05	146	78831	9.78	PPB	99
102)	1,2-Dibromo-3-chloropropan	13.95	155	4159	9.46	PPB	92
103)	1,3,5-Trichlorobenzene	14.10	180	46811	9.03	PPB	91
104)	1,2,4-Trichlorobenzene	14.81	180	34107	9.63	PPB	93
105)	Hexachlorobutadiene	14.94	225	19725	9.53	PPB	88
106)	Naphthalene	15.10	128	61842	10.77	PPB	98
107)	1,2,3-Trichlorobenzene	15.36	180	24694	10.00	PPB	97

(#) = qualifier out of range (m) = manual integration
0915F021.D 091517MS46_8260.M Mon Sep 18 15:05:31 2017 Page 3

Data File : J:\MS46\DATA\091517\0915F021.D Vial: 20
Acq On : 15 Sep 2017 10:47 pm Operator: KR
Sample : 8260 ICV Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 15:05 2017 Quant Results File: 091517MS46_8260.RES

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 15:04:39 2017
Response via : Initial Calibration



Data File : J:\MS46\DATA\091517\0915F022.D Vial: 21
Acq On : 15 Sep 2017 11:13 pm Operator: KR
Sample : CLP ICV Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:14:06 2017 Quant Results File: 091517MS46_8260.RES

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 14:11:25 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	6.58	96	194485	10.00	PPB	0.00
64) Chlorobenzene-d5	10.04	82	69892	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	12.62	152	55215	10.00	PPB	0.00
System Monitoring Compounds						
43) Dibromofluoromethane	5.78	113	51667	10.09	PPB	0.00
Spiked Amount 10.000			Recovery	=	100.90%	
47) 1,2-Dichloroethane-d4	6.23	65	63959	10.37	PPB	0.00
Spiked Amount 10.000			Recovery	=	103.70%	
62) Toluene-d8	8.41	98	180795	9.51	PPB	0.00
Spiked Amount 10.000			Recovery	=	95.10%	
84) 4-Bromofluorobenzene	11.35	95	56239	10.43	PPB	0.00
Spiked Amount 10.000			Recovery	=	104.30%	
Target Compounds						Qvalue
41) Cyclohexane	5.64	56	87778	8.47	PPB	95
52) Methylcyclohexane	7.11	83	83119	8.63	PPB	96

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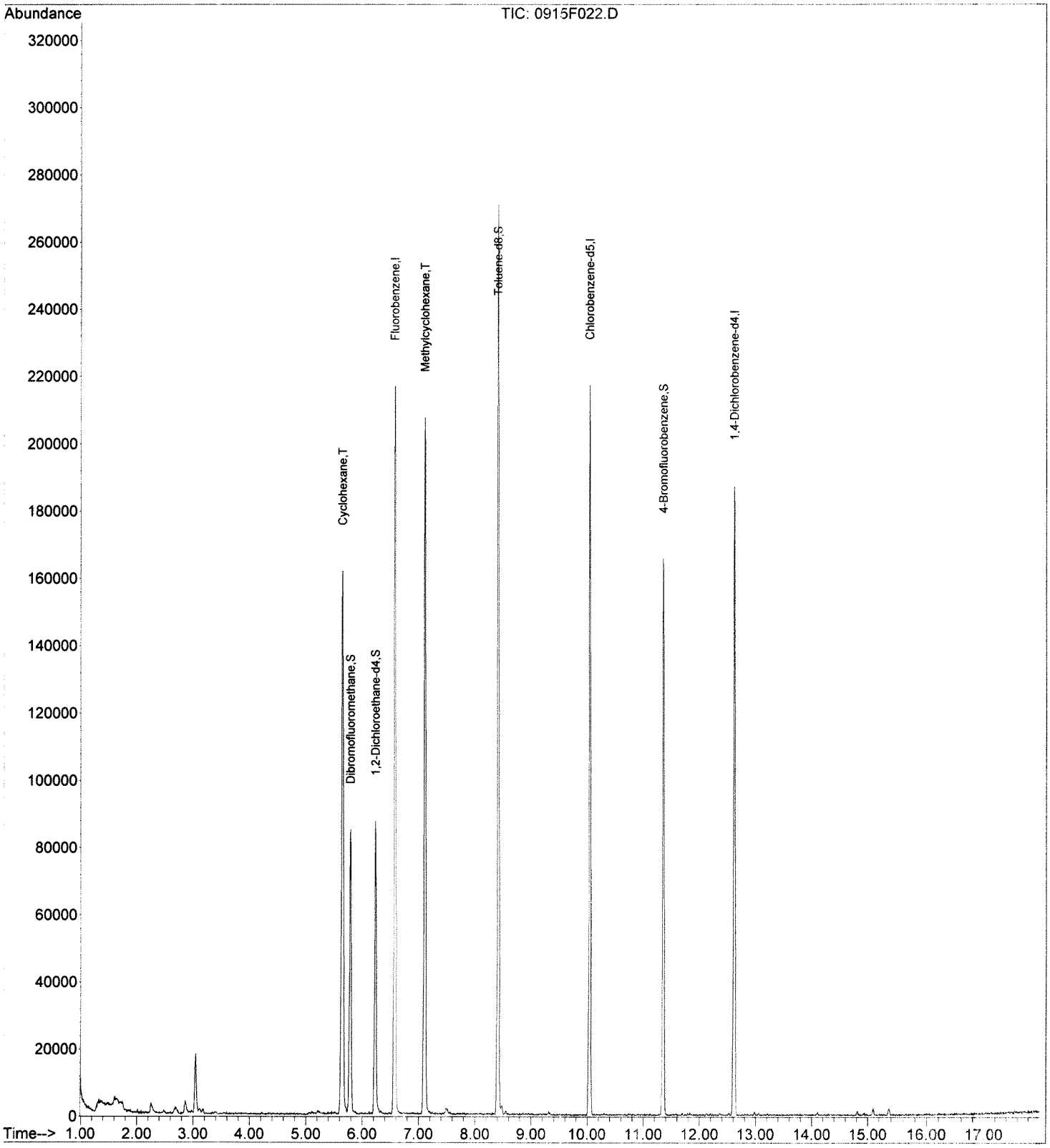
SEP 21 2017

(#) = qualifier out of range (m) = manual integration
0915F022.D 091517MS46_8260.M Mon Sep 18 14:14:54 2017 Page 1

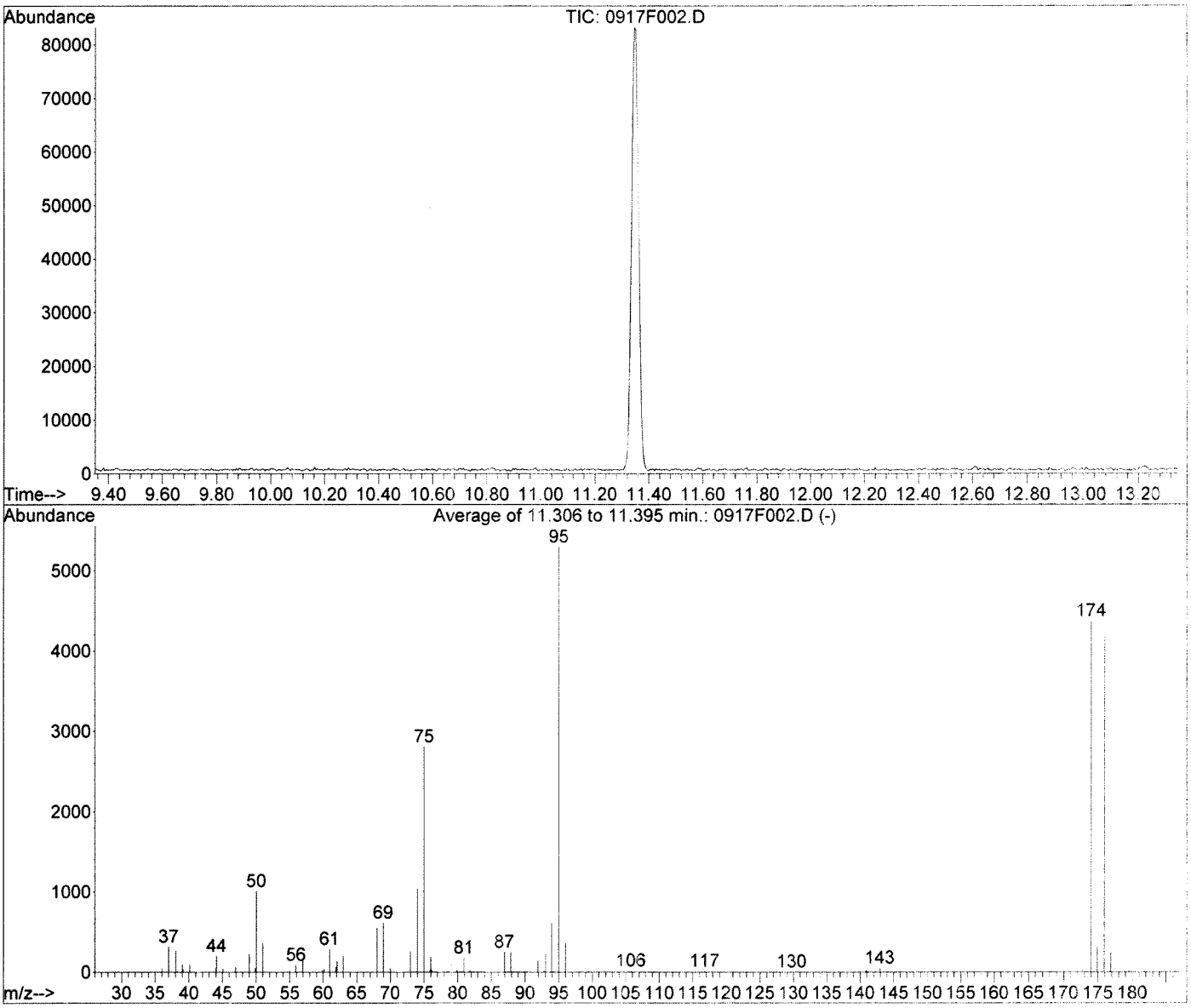
Data File : J:\MS46\DATA\091517\0915F022.D Vial: 21
Acq On : 15 Sep 2017 11:13 pm Operator: KR
Sample : CLP ICV Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:14 2017 Quant Results File: 091517MS46_8260.RES

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 14:11:25 2017
Response via : Initial Calibration



BFB

Data File : J:\MS46\DATA\091717\0917F002.D Vial: 4
Acq On : 17 Sep 2017 09:49 am Operator: KR
Sample : BFB Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B



Spectrum Information: Average of 11.306 to 11.395 min. Whole peak - 1969 scan KR 9/17/17

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.0	1007	PASS
75	95	30	60	53.1	2812	PASS
95	95	100	100	100.0	5299	PASS
96	95	5	9	6.8	360	PASS
173	174	0.00	2	0.6	26	PASS
174	95	50	120	82.6	4375	PASS
175	174	5	9	7.1	312	PASS
176	174	95	101	95.6	4181	PASS
177	176	5	9	6.0	249	PASS

SEP 21 2017

J:\MS46\DATA\091717\0917F002.D 091517MS46_8260.M Sun Sep 17 10:15:43 2017

Data File : J:\MS46\DATA\091717\0917F004.D Vial: 3
Acq On : 17 Sep 2017 11:51 am Operator: KR
Sample : METHYL ACE. ICV Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:15:16 2017 Quant Results File: 091517MS46_8260.RES

Quant Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 14:11:25 2017
Response via : Initial Calibration
DataAcq Meth : 8260.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	6.57	96	173022	10.00	PPB	0.00
64) Chlorobenzene-d5	10.04	82	68421	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	12.61	152	52451	10.00	PPB	0.00
System Monitoring Compounds						
43) Dibromofluoromethane	5.78	113	50336	11.05	PPB	0.00
Spiked Amount 10.000			Recovery = 110.50%			
47) 1,2-Dichloroethane-d4	6.23	65	59748	10.89	PPB	0.00
Spiked Amount 10.000			Recovery = 108.90%			
62) Toluene-d8	8.41	98	153080	9.05	PPB	0.00
Spiked Amount 10.000			Recovery = 90.50%			
84) 4-Bromofluorobenzene	11.35	95	53327	10.10	PPB	0.00
Spiked Amount 10.000			Recovery = 101.00%			
Target Compounds						Qvalue
19) Methyl Acetate	3.04	43	24166	7.35	PPB	96

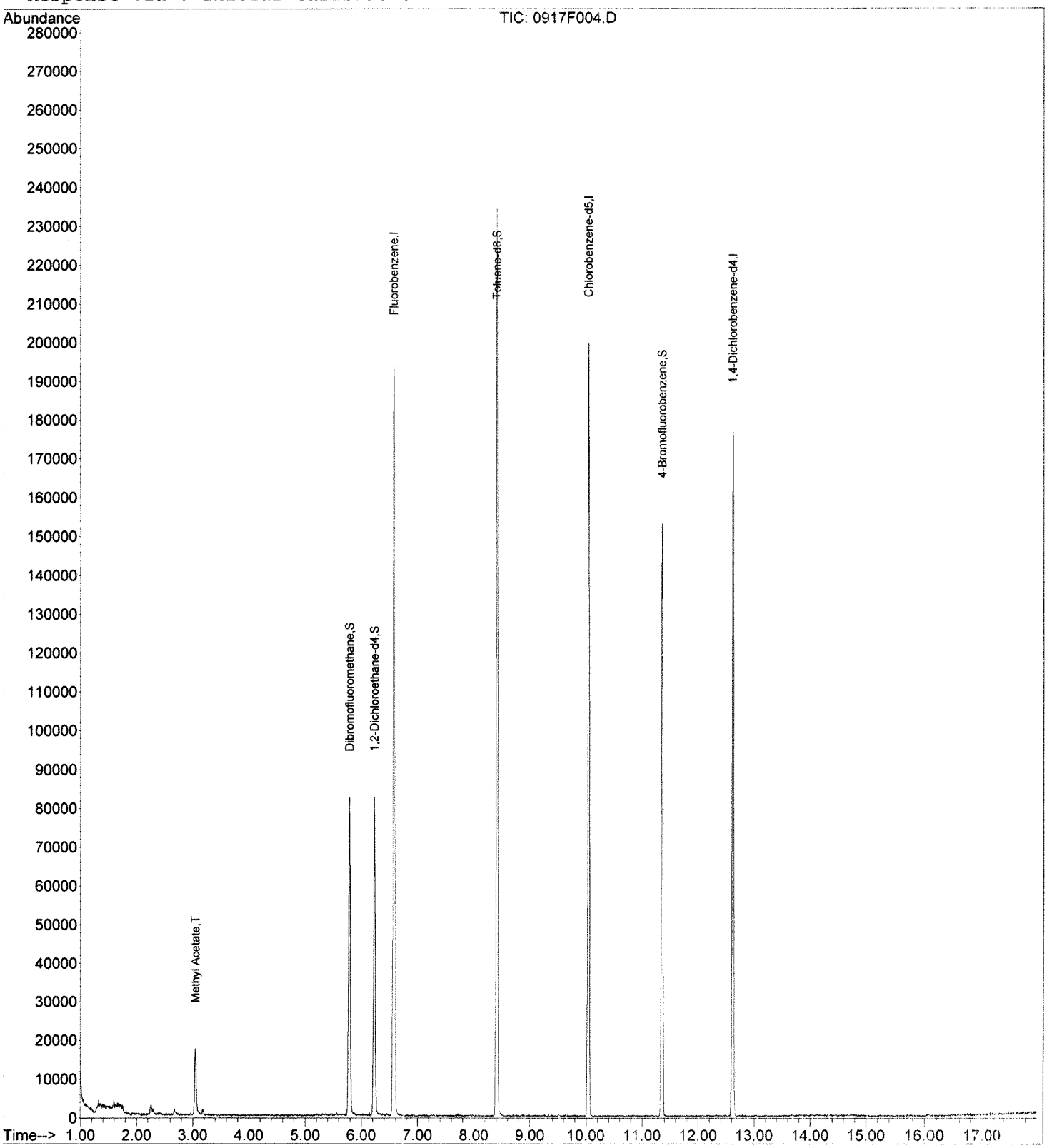
KL 9/20

SEP 21 2017

(#) = qualifier out of range (m) = manual integration
0917F004.D 091517MS46_8260.M Mon Sep 18 14:15:47 2017

Data File : J:\MS46\DATA\091717\0917F004.D Vial: 3
Acq On : 17 Sep 2017 11:51 am Operator: KR
Sample : METHYL ACE. ICV Inst : GCMS46
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 18 14:15 2017 Quant Results File: 091517MS46_8260.RES

Method : J:\MS46\METHODS\091517MS46_8260.M (RTE Integrator)
Title : VOA MS27 EPA Method 8260B
Last Update : Mon Sep 18 14:11:25 2017
Response via : Initial Calibration



Appendix C

Groundwater Results for All Monitoring to Date

Sample ID		Sample Date	Chemical Name Total/Dissolved Unit Action Level (µg/L) Sample Type	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Arsenic D µg/L 36	Cadmium D µg/L 8	Copper D µg/L 2.9	Lead D µg/L 5.8	Mercury D µg/L 0.025	Nickel D µg/L 7.9	Silver D µg/L 1.2	Thallium D µg/L 6.3	Zinc D µg/L 76.6
AC-06	AC-06A-1205	12/07/05	N	620	-154.2	1.35	1.91	< 1	< 2	< 2	< 1	< 0.00025	0.8	< 0.2 J	< 0.2	< 6
	AC-06A-0306	03/29/06	N	657	-102.4	0.12	2.28	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06A-0606	06/08/06	N	662	-65.2	0.21	0.18	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AC-16-0606	06/08/06	FD	662	-65.2	0.21	0.18	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06A-0906	09/19/06	N	785	-160.7	2.06	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06A-1206	12/20/06	N	667	-126.9	0.16	0.25	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AC06A-0307	03/07/07	N	685	-134.9	0.94	1	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06A-0607	06/05/07	N	786	-134.4	1.7	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06-1207	12/05/07	N	764	-123.4	0.11	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06-0608	06/18/08	N	822	-121.5	0.34	3.16	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06-1208	12/11/08	N	739	-74.8	0.26	0.19	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06A-0609	06/25/09	N	883	-118.9	0.07	1.89	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06A-0310	03/25/10	N	815	-143.9	0.14	4.71	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06A-1010	10/22/10	N	920	-188	1.1	1.03	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06A-0611	06/30/11	N	898	-3.6	0.17	0.63	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06A-1211	12/21/11	N	1803	-247.6	0.28	1.22	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06A-0612	06/06/12	N	911	-142.3	0.3	1.22	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06A-1212	12/18/12	N	693	-78.7	0.33	0.29	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06A-0613	06/25/13	N	707	-91.6	0.4	0.61	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06A-1213	12/17/13	N	736	-247.2	2.8	0.29	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06A-0614	06/25/14	N	672	-249.6	0.24	2.12	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06A-1114	11/05/14	N	608	79	1.09	1.28	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06A-1114	11/05/14	FD	608	79	1.09	1.28	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06A-0615	06/29/15	N	673	90.0	0.15	0.80	NA	NA	NA	NA	NA	NA	NA	NA	NA
FW-1	FW-1-0905	09/20/05	N	33830	-307.4	0.79	2	< 5	< 10	10	< 5	< J	7	< 1	< 1	< 30
	FW-1-1205	12/06/05	N	22490	-340.2	0.23	4.99	< 1.1	< 0.04	< 0.2	0.1	0.00013 J	0.6	< 0.04 J	< 0.04	< 1.1
	FW-1-0306	03/29/06	N	14680	-142.1	0.04	5.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
	FW-01-0606	06/08/06	N	12980	-278.7	0.29	1.49	NA	NA	NA	NA	NA	NA	NA	NA	NA
	FW-01-0906	09/20/06	N	17960	-330.4	0.73	4.36	NA	NA	NA	NA	NA	NA	NA	NA	NA
	FW-01-1206	12/20/06	N	15800	-271.9	0.44	2.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
	FW-1-0307	03/06/07	N	14160	-318.2	0.25	1.86	NA	NA	NA	NA	NA	NA	NA	NA	NA
	FW-01-0607	06/06/07	N	2138	-194.9	0.53	17	NA	NA	NA	NA	NA	NA	NA	NA	NA
	FW-1-1207	12/05/07	N	24080	-322.3	0.09	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	FW-01-0608	06/17/08	N	18270	-242.6	0.68	1.08	NA	NA	NA	NA	NA	NA	NA	NA	NA
	FW-01-1208	12/15/08	N	10187	-247	0.07	4.33	NA	NA	NA	NA	NA	NA	NA	NA	NA
	FW-01-0310	03/23/10	N	---	---	---	---	NA	NA	NA	NA	NA	NA	NA	NA	NA
FW-13	FW-13-0615	06/30/15	N	30723	-75.1	0.09	10.24	NA	NA	NA	NA	NA	NA	NA	NA	NA
	FW-13-0616	06/30/16	N	31101	-251.1	0.67	3.02	NA	NA	NA	NA	NA	NA	NA	NA	NA

			Chemical Name Total/Dissolved Unit Action Level (µg/L)	Conductivity	ORP	DO	Turbidity	Arsenic D µg/L 36	Cadmium D µg/L 8	Copper D µg/L 2.9	Lead D µg/L 5.8	Mercury D µg/L 0.025	Nickel D µg/L 7.9	Silver D µg/L 1.2	Thallium D µg/L 6.3	Zinc D µg/L 76.6
Sample ID		Sample Date	Sample Type	(µS/cm)	(mV)	(mg/L)	(NTU)									
TD-06	TD-06A-0609	06/24/09	N	7571	-82.1	2.29	1.21	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TD-06A-0909	09/28/09	N	6099	-198.5	1.61	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TD-06A-1209	12/16/09	N	6612	-171.0	0.07	3	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TD-06A-0310	03/23/10	N	4167	-105.4	1.77	1.82	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TD-06A-1010	10/21/10	N	7038	-2.2	0.50	0.59	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TD-06A-0611	06/28/11	N	5901	-13.9	0.63	0.8	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TD-06A-1211	12/21/11	N	14886	-243.8	0.21	0.8	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TD-06A-0612	06/06/12	N	4721	-273.3	0.31	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TD-06A-1212	12/20/12	N	5737	-246	0.27	1.81	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TD-06A-0613	06/27/13	N	5936	-203.7	0.39	0.88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TD-06A-1213	12/17/13	N	5094	-199.1	0.93	0.51	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TD-06A-0614	06/25/14	N	5222	14	0.57	0.45	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TD-06A-1114	11/05/14	N	5841	-139	0.41	0.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TD-06A-0517	05/25/17	N	6,503	-4.5	0.29	0.61	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TD-06A-0518	05/16/18	N	6,842	-95.2	0.22	0.89	NA	NA	NA	NA	NA	NA	NA	NA	NA
HI-1	HI-1-0905	09/19/05	N	1,179	-181.0	0.35	6.7	< 1	< 2	< 2	< 1	0.00058 J	0.8	< 0.2	< 0.2	< 6
	HI-1-1205	12/06/05	N	1,316	226.9	0.18	4.96	< 1	< 2	< 2	< 1	0.00024 J	0.8	< 0.2 J	< 0.2	< 6
	HI-1-0306	03/28/06	N	1,171	-123.4	0.28	1.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-0606	06/07/06	N	1,685	-137.6	0.81	2.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-0906	09/19/06	N	1,390	-156.9	0.60	0.71	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-1206	12/19/06	N	1,425	-160.3	0.22	2.76	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-0307	03/07/07	N	1,289	-104.3	0.84	1.62	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-01-0607	06/05/07	N	1,044	-175.4	0.26	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-1207	12/04/07	N	1,687	-123.8	0.15	1.91	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-1207RE	12/19/07	N					NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-0608	06/18/08	N	1,495	-162.2	0.42	1.13	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-1208	12/11/08	N	1611	-134	0.16	1.02	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-100-1208	12/11/08	FD	1611	-134	0.16	1.02	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-0609	06/24/09	N	1200	-263.7	0.06	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-0310	03/24/10	N	1013	-179.5	0.18	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-1010	10/21/10	N	1700	-221	1.17	0.11	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-0611	06/29/11	N	1377	26.7	0.32	0.54	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-1211	12/22/11	N	667	-159	0.33	29.9	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-0612	06/05/12	N	1422	-113.4	1.01	0.33	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-1212	12/19/12	N	1330	-221.5	0.31	1.92	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-0613	06/25/13	N	1126	-69	0.47	2.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-1213	12/16/13	N	1290	-93.4	0.31	0.91	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-0614	06/24/14	N	1830	-123	2.68	7.75	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-1114	11/04/14	N	1426	23.1	1.19	0.55	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-0615	06/29/15	N	1043	30.8	0.14	1.64	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-0616	06/30/16	N	1756	-154.4	0.02	2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-0517	05/25/17	N	1,390	56.5	1.37	2.10	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-0518	05/16/18	N	1,546	6.7	0.25	4.30	NA	NA	NA	NA	NA	NA	NA	NA	NA

	Sample ID	Sample Date	Chemical Name Total/Dissolved Unit Action Level (µg/L) Sample Type	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Arsenic D µg/L 36	Cadmium D µg/L 8	Copper D µg/L 2.9	Lead D µg/L 5.8	Mercury D µg/L 0.025	Nickel D µg/L 7.9	Silver D µg/L 1.2	Thallium D µg/L 6.3	Zinc D µg/L 76.6
HI-2	HI-2-0905	09/19/05	N	11,180	-186.1	0.38	0.5	2 J+	< 2	2	< 2	0.00022 J	3	< 0.5	< 0.5	< 6
	HI-2-1205	12/06/05	N	12,580	-9.8	0.19	1.3	0.6	< 0.02	< 0.1	0.1	< 0.00025	0.3	0.03 J-	< 0.02	1.4
	HI-2-0306	03/28/06	N	13,620	-101.2	0.17	6.8	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-0606	06/08/06	N	12,400	-111.0	0.67	10	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-0906	09/18/06	N	13,520	-128.8	0.18	8.79	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-1206	12/19/06	N	14,500	-132.7	0.28	1.97	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-0307	03/07/07	N	10,370	-126.3	0.68	1.15	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-02-0607	06/05/07	N	7,760	-103.5	0.60	8.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-1207	12/05/07	N	20,680	-131.9	0.17	6.21	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-0608	06/18/08	N	11,700	-149.4	0.52	1.86	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-1208	12/11/08	N	10738	-136.9	0.1	2.46	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-0609	06/24/09	N	12080	-207.9	0.31	1.98	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-0310	03/24/10	N	12075	-120.1	0.14	3.95	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-1010	10/21/10	N	13638	15.4	0.52	0.81	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-0611	06/29/11	N	14480	37.9	0.41	2.04	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-1211	12/22/11	N	1242	-160	0.21	4.61	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-0612	06/05/12	N	11440	-120	0.75	1.58	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-1212	12/19/12	N	10771	-153.9	1.41	1.8	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-0613	06/25/13	N	10252	-117	0.86	23.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-1213	12/17/13	N	8613	122.6	0.34	5.08	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-0614	06/24/14	N	10630	-123	1.89	4.31	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-1114	11/04/14	N	8252	-165.2	1.25	2.16	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-0615	06/29/15	N	7710	238.0	0.29	1.53	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-0616	06/30/16	N	8915	-186.2	0.06	0.70	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-0517	05/24/17	N	7,667	142.8	0.48	0.73	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-0518	05/16/18	N	6,987	10.0	0.20	0.82	NA	NA	NA	NA	NA	NA	NA	NA	NA
HI-3	HI-3-0905	09/19/05	N	945	-177.2	0.10	6.8	< 1	< 2	< 2	< 1	0.00027 J	0.8	< 0.2	< 0.2	< 6
	HI-3-1205	12/07/05	N	916	-209.2	1.94	11.11	< 1	< 2	< 2	< 1	< 0.00025	1	< 0.2 J	< 0.2	< 6
	HI-3-0306	03/28/06	N	876	-109.3	0.10	35.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-0606	06/08/06	N	901	-47.6	0.29	0.41	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-0906	09/18/06	N	949	-129.5	0.18	1.09	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-1206	12/19/06	N	982	-167.5	0.06	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-0307	03/07/07	N	1158	-194.3	0.07	2.9	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-03-0607	06/05/07	N	953	-194.2	0.12	0.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-1207	12/05/07	N	2734	-140.8	0.12	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-0608	06/18/08	N	2032	-111.6	0.46	3.8	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-1208	12/11/08	N	2563	-73.7	0.17	0.41	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-0609	06/24/09	N	2878	-115.8	0.32	1.21	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-0310	03/24/10	N	4018	-134.3	0.11	1.57	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-1010	10/22/10	N	2799	11.5	0.73	1.54	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-0611	06/29/11	N	2769	-242.2	0.26	2.09	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-1211	12/22/11	N	1687	-206.6	0.22	1.31	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-0612	06/05/12	N	1815	-175	0.51	0.71	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-1212	12/19/12	N	1750	-240.5	0.32	3.73	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-0613	06/25/13	N	2544	-135	0.2	3.87	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-1213	12/16/13	N	1975	-180.6	0.11	2.27	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-0614	06/25/14	N	2371	-101	1.13	0.93	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-1114	11/05/14	N	2335	53.5	3.49	2.31	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-0615	07/01/15	N	2498	-183.9	1.61	2.01	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-0616	07/01/16	N	2317	-136.9	0.03	8.97	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-30-0616	07/01/16	N	2317	-136.9	0.03	8.97	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-0517	05/24/17	N	1,807	13.8	0.28	0.82	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-0518	05/17/18	N	1,376	28.4	0.12	5.35	NA	NA	NA	NA	NA	NA	NA	NA	NA

			Chemical Name Total/Dissolved Unit Action Level (µg/L)	Conductivity	ORP	DO	Turbidity	Arsenic D µg/L 36	Cadmium D µg/L 8	Copper D µg/L 2.9	Lead D µg/L 5.8	Mercury D µg/L 0.025	Nickel D µg/L 7.9	Silver D µg/L 1.2	Thallium D µg/L 6.3	Zinc D µg/L 76.6
Sample ID		Sample Date	Sample Type	(µS/cm)	(mV)	(mg/L)	(NTU)									
HI-4	HI-4-0905	09/20/05	N	1,214	-167.6	0.22	2.5	< 1	< 2	< 2	< 1	0.00018 J	0.6	< 0.2	< 0.2	< 6
	HI-4-1205	12/06/05	N	920	-240.6	0.17	3.38	< 1	< 2	< 2	< 1	< 0.00025	0.9	< 0.2 J	< 0.2	< 6
	HI-4-0306	03/28/06	N	962	-65.5	0.06	2.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-0606	06/07/06	N	920	-70.6	0.76	2.16	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-0906	09/20/06	N	913	-176.8	0.83	0.35	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-1206	12/19/06	N	871	-60.9	0.25	1.94	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-0307	03/07/07	N	1,027	-206.4	0.06	7.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-04-0607	06/05/07	N	905	-135.2	3.71	0.35	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-1207	12/05/07	N	958	-137.5	0.10	3.35	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-0608	06/18/08	N	908	-139.3	0.80	3.88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-1208	12/11/08	N	909	-148.4	0.11	1.23	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-0609	06/24/09	N	1028	-242.7	0.09	4.99	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-0310	04/05/10	N	956	39.5	0.32	1.35	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-1010	10/22/10	N	985	36.9	0.7	0.49	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-0611	06/29/11	N	1465	15.9	0.27	0.34	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-1211	12/11/11	N	893	-164.6	0.58	0.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-0612	06/06/12	N	858	-242.8	0.17	2.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-1212	12/19/12	N	1057	-20.2	1.99	0.71	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-0613	06/25/13	N	1129	-258	0.57	17.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-1213	12/17/13	N	934	-148.2	0.16	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-0614	06/25/14	N	1219	-145	0.2	1.33	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-1114	11/05/14	N	1098	120	1.28	0.77	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-0615	07/01/15	N	1058	-137.8	1.60	1.37	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-400-0615	07/01/15	FD	1058	-137.8	1.60	1.37	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-0616	07/01/16	N	1105	-124.4	7.47	1.24	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-0517	05/26/17	N	1,042	-60.3	0.90	8.01	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-0518	05/17/18	N	1,054	3.8	0.27	1.18	NA	NA	NA	NA	NA	NA	NA	NA	NA

	Sample ID	Sample Date	Chemical Name Total/Dissolved Unit Action Level (µg/L) Sample Type	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Arsenic D µg/L 36	Cadmium D µg/L 8	Copper D µg/L 2.9	Lead D µg/L 5.8	Mercury D µg/L 0.025	Nickel D µg/L 7.9	Silver D µg/L 1.2	Thallium D µg/L 6.3	Zinc D µg/L 76.6
HI-5	HI-5-0905	09/20/05	N	2,721	-166.4	0.11	8.5	< 1	< 2	3	< 1	0.00199 J	1	< 0.2	< 0.2	< 6
	HI-5-1205	12/06/05	N	1,941	-277.4	0.30	5	< 0.6	< 0.02	< 0.1	< 0.02	0.0012	1.1	< 0.02 J	< 0.02	< 0.6
	HI-5-0306	03/28/06	N	2,013	-40.1	0.13	2.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-0606	06/08/06	N	2,015	-8.1	0.37	0.84	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-0906	09/18/06	N	1,994	-91.2	1.85	0.37	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-1206	12/19/06	N	2,070	-149.0	0.37	2.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-0307	03/07/07	N	1,766	-127.9	0.15	1.47	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-05-0607	06/05/07	N	2,088	-129.0	6.04	0.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-1207	12/05/07	N	4,406	-112.6	0.12	0.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-0608	06/18/08	N	2,244	-185.6	0.75	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-1208	12/10/08	N	2722	-19	0.14	0.65	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-0609	06/25/09	N	2159	-261	0.06	7.83	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-0310	03/25/10	N	2257	-156.2	0.09	8.49	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-1010	10/22/10	N	2322	58.9	0.9	4.89	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-0611	06/30/11	N	2750	-184.4	0.31	2.89	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-1211	12/21/11	N	4722	-289.3	0.29	0.29	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-0612	06/07/12	N	2103	-159.8	0.28	1.61	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-1212	12/18/12	N	2100	-72.8	0.26	3.08	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-0613	06/25/13	N	2391	-105.7	0.41	2.82	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-1213	12/18/13	N	2257	-135.8	0.1	2.48	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-0614	06/24/14	N	2863	-109	1.45	1.03	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-1114	11/04/14	N	2430	-165.5	0.36	0.54	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-0615	06/29/15	N	2730	69.8	0.19	2.16	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-0616	06/29/16	N	2550	-194.4	0.07	1.50	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-0517	05/25/17	N	2,438	-42.1	0.38	5.01	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-0518	05/17/18	N	2,433	18.1	0.38	3.27	NA	NA	NA	NA	NA	NA	NA	NA	NA
HI-6	HI-6-0905	09/20/05	N	41090	-51.6	1.35	0.75	< 5	< 10	20	< 5	0.00148 J	14	< 1	< 1	< 30
	HI-6-1205	12/07/05	N	28240	-47.5	3.65	0.38	0.6	0.07	1.4	0.06	0.00226	3.1	0.04 J-	< 0.02	0.6
	HI-6-0306	03/29/06	N	25660	235.0	1.52	2.7	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6-0606	06/07/06	N	13060	-123.9	0.70	0.7	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6-0906	09/19/06	N	24700	95.0	2.71	0.17	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6-1206	12/20/06	N	26760	32.1	2.63	0.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6-0307	03/07/07	N	18740	28.3	0.07	0.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-06-0607	06/06/07	N	26170	-145.5	1.56	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6-1207	12/05/07	N	58720	66.8	1.11	0.8	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6-0608	06/19/08	N	26290	66.8	1.33	3.49	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6-1208	12/10/08	N	37580	124	3.19	0.11	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6-0310	03/23/10	N	13996	-258.5	0.13	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6-1114	11/05/14	N	24754	8.9	0.57	2.04	NA	NA	NA	NA	NA	NA	NA	NA	NA

	Sample ID	Sample Date	Chemical Name Total/Dissolved Unit Action Level (µg/L) Sample Type	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Arsenic D µg/L 36	Cadmium D µg/L 8	Copper D µg/L 2.9	Lead D µg/L 5.8	Mercury D µg/L 0.025	Nickel D µg/L 7.9	Silver D µg/L 1.2	Thallium D µg/L 6.3	Zinc D µg/L 76.6
HI-6A	HI-6A-0609	06/24/09	N	9187	-309.6	0.02	5.15	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6A-0909	09/28/09	N	8084	-262.5	1.26	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6A-1209	12/15/09	N	7251	-329.0	0.01	1.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6A-0310	03/23/10	N	4655	-320.6	0.14	1.3	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6A-1010	10/20/10	N	9826	-130.5	0.35	0.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6A-0611	06/28/11	N	10850	-273.6	0.23	0.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6A-1211	12/21/11	N	2606	-352.6	0.31	0.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6A-0612	06/06/12	N	1174	-329.4	0.33	0.41	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6A-1212	12/19/12	N	15622	-211.1	0.6	1.86	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6A-0613	06/27/13	N	16736	-303.8	4.5	4.21	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6A-1213	12/16/13	N	16495	-335.4	4.64	0.59	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6A-0614	06/24/14	N	19070	-325.7	0.28	0.77	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6A-1114	11/05/14	N	9700	-301.3	1.48	1.79	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6A-0615	06/30/15	N	17959	-302.1	0.15	0.18	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6A-0616	07/01/16	N	14881	-320.1	0.69	0.89	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6A-0517	05/26/17	N	11,941	-244.8	0.40	0.61	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-60-0517	05/26/17	FD	11941	-244.8	0.4	0.61	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6A-0518	05/17/18	N	14,870	-291.4	1.12	0.54	NA	NA	NA	NA	NA	NA	NA	NA	NA
HI-7	HI-7-0905	09/21/05	N	880	-27.8	1.06	1	2 J+	< 2	< 2	< 1	0.00041 J	1.2	< 0.2	< 0.2	< 6
	HI-17A-0905	09/21/05	FD	880	-27.8	1.06	1	2	< 2	< 2	< 1	0.00054 J	2.3	< 0.2	< 0.2	< 6
	HI-7-1205	12/05/05	N	595	80.2	0.18	2.48	1	< 2	< 2	< 1	0.00011 J	1.9	< 0.2 J	< 0.2	< 6
	HI-7-0306	03/29/06	N	638	93.0	0.21	4.9	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-7-0606	06/08/06	N	621	-8.7	0.32	1.45	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-7-0906	09/19/06	N	720	-42.8	1.54	4.85	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-7-1206	12/20/06	N	690	-134.9	0.25	0.98	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-7-0307	03/06/07	N	695	19.5	0.12	20	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-07-0607	06/06/07	N	604	-133.5	0.48	4.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-7-1207	12/07/07	N	911	13.7	0.25	1.94	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-7-0608	06/18/08	N	1137	46.5	0.70	6.61	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-7-1208	12/10/08	N	1353	111.6	0.42	1	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-7-0609	06/23/09	N	1715	-35.4	0.17	2.73	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-7-0310	03/25/10	N	967	18.3	0.45	4.3	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-7-1010	10/20/10	N	108	-93	0.04	2.04	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-7-0611	06/29/11	N	1125	71.9	0.61	0.62	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-7-1211	12/19/11	N	886	139.9	1.27	10.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-7-0612	06/05/12	N	5260	-72.3	0.74	1.33	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-7-1212	12/20/12	N	15386	-31.1	0.28	33.7	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-7-0613	06/28/13	N	16727	-42.8	2.59	27.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-7 1213	12/18/13	N	7593	-44.2	1.38	1.03	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-7-0614	06/24/14	N	3348	136.7	0.56	1.85	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-7-1114	11/05/14	N	1548	-276	0.21	0.94	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-7-0615	06/29/15	N	995	16.3	0.32	3.49	NA	NA	NA	NA	NA	NA	NA	NA	NA

Sample ID		Sample Date	Chemical Name Total/Dissolved Unit Action Level (µg/L) Sample Type	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Arsenic D µg/L 36	Cadmium D µg/L 8	Copper D µg/L 2.9	Lead D µg/L 5.8	Mercury D µg/L 0.025	Nickel D µg/L 7.9	Silver D µg/L 1.2	Thallium D µg/L 6.3	Zinc D µg/L 76.6
HI-8	HI-8-0905	09/21/05	N	649	41.3	0.46	0.95	< 1	< 2	< 2	< 1	0.00024 J	1.2	< 0.2	< 0.2	< 6
	HI-8-1205	12/05/05	N	484	274.1	0.41	0.45	< 1	< 2	< 2	< 1	< 0.00025	1.5	< 0.2 J	< 0.2	< 6
	HI-8-0306	03/29/06	N	334	108.3	0.50	3.55	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-0606	06/08/06	N	428	-121.0	1.35	1.3	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-0906	09/19/06	N	435	23.5	1.69	0.37	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-1206	12/20/06	N	524	65.9	2.64	0.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-0307	03/06/07	N	333	77.7	1.14	0.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-0207-B	03/12/07	N					NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-08-0607	06/06/07	N	383	-40.9	0.27	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-1207	12/06/07	N	474	16.7	2.55	1.06	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-0608	06/19/08	N	384	99.6	0.76	0.72	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-1208	12/10/08	N	558	94	2.64	1.07	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-0609	06/23/09	N	450	200	1.53	2.32	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-80-0609	06/23/09	FD	450	200	1.53	2.32	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-0310	03/25/10	N	627	21.7	3.54	3.31	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-1010	10/21/10	N	551	96	1.89	0.19	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-0611	06/28/11	N	327	49.3	2.86	0.41	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-1211	12/20/11	N	280	149.4	3.62	0.76	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-0612	06/05/12	N	267	-41.9	3.69	1.49	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-1212	12/18/12	N	297	58.8	4.41	0.43	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-0613	06/26/13	N	385	123.3	4.21	0.78	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-1213	12/16/13	N	372	35.3	2.62	0.21	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-0614	06/25/14	N	179	99.9	5.32	0.65	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-1114	11/05/14	N	333	54.5	6.73	0.74	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-0615	06/30/15	N	1278	74.6	4.80	0.32	NA	NA	NA	NA	NA	NA	NA	NA	NA
HI-9	HI-9-0905	09/21/05	N	22180	11.0	1.09	1.3	< 5	< 4	5	< 5	0.00048 J	5	< 1	< 1	< 10
	HI-9-1205	12/05/05	N	17730	152.1	0.12	0.07	< 0.6	0.04	0.6	0.03	0.00031	0.8	< 0.02 J	< 0.02	0.7
	HI-9-0306	03/29/06	N	22780	61.5	2.78	0.9	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9-0606	06/08/06	N	21470	-129.5	2.28	1	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9-0906	09/19/06	N	23530	152.8	3.64	0.44	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9-1206	12/20/06	N	18430	144.9	0.20	0.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9-0307	03/07/07	N	9552	55.6	0.07	0.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-09-0607	06/06/07	N	21150	-65.4	0.52	0.35	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9-1207	12/05/07	N	13280	-101.2	0.19	0.24	NA	NA	NA	NA	NA	NA	NA	NA	NA
	DUP01-120507	12/05/07	FD	13280	-101.2	0.19	0.24	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9-0608	06/19/08	N	11920	98.7	0.53	3.52	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9-1208	12/10/08	N	14080	186.6	0.18	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9-0310	03/22/10	N	17964	45.1	1.94	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9-1114	11/04/14	N	9702	29.8	1.7	0.49	NA	NA	NA	NA	NA	NA	NA	NA	NA

	Sample ID	Sample Date	Chemical Name Total/Dissolved Unit Action Level (µg/L) Sample Type	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Arsenic D µg/L 36	Cadmium D µg/L 8	Copper D µg/L 2.9	Lead D µg/L 5.8	Mercury D µg/L 0.025	Nickel D µg/L 7.9	Silver D µg/L 1.2	Thallium D µg/L 6.3	Zinc D µg/L 76.6
HI-9A	HI-9A-0609	06/23/09	N	3120	59.4	1.12	5.37	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9A-0909	09/29/09	N	3993	36.2	0.12	19.9	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9A-1209	12/15/09	N	3038	-279.0	0.04	1.7	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9A-0310	03/22/10	N	4303	-15.7	0.11	1.8	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-90A-0310	03/22/10	FD	4303	-15.7	0.11	1.8	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9A-1010	10/20/10	N	463	-178.0	0.00	0.48	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-90A-1010	10/20/10	FD	463	-178.0	0.00	0.48	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9A-0611	06/28/11	N	3594	-87.0	0.54	0.8	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-90A-0611	06/28/11	FD	3594	-87.0	0.54	0.8	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9A-1211	21/21/11	N	3041	-178.0	0.54	2.9	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-90A-1211	21/21/11	FD	3041	-178.0	0.54	2.9	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9A-0612	06/07/12	N	1627	-140.0	0.40	1.23	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-90A-0612	06/07/12	FD	1627	-140.0	0.40	1.23	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9A-1212	12/18/12	N	1994	-122	0.21	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-90A-1212	12/18/12	FD	1994	-122	0.21	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9A-0613	06/28/13	N	2345	-144.4	2.15	12.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-90A-0613	06/28/13	FD	2345	-144.4	2.15	12.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9A-1213	12/17/13	N	2893	-146.2	0.8	0.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-90A-1213	12/17/13	FD	2893	-146.2	0.8	0.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9A-0614	06/24/14	N	1475	197.6	1.06	0.86	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-90A-0614	06/24/14	FD	1475	197.6	1.06	0.86	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9A-1114	11/04/14	N	1800	-72.4	8.1	3.16	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-90A-1114	11/04/14	FD	1800	-72.4	8.1	3.16	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9A-0615	06/29/15	N	2472	-64.2	0.30	0.46	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9A-0616	06/29/16	N	2502	-110.1	1.10	0.91	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9A-0517	05/25/17	N	2,453	79.1	0.56	0.52	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9A-0518	05/15/18	N	2,267	135.9	0.59	0.92	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-90-0518	05/15/18	FD	2,267	135.9	0.59	0.92	NA	NA	NA	NA	NA	NA	NA	NA	NA
HI-10	HI-10-0905	09/21/05	N	34380	97.8	0.55	0.05	< 5	< 4	6	< 5	0.00082 J	16	< 1	< 1	< 10
	HI-10-1205	12/05/05	N	18680	328.6	0.26	0.16	< 0.6	0.22	1.3	0.04	0.00037	4.4	0.04 J-	0.03	4.2
	HI-10-0306	03/29/06	N	4854	282.2	0.91	3.3	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-0606	06/08/06	N	6966	-103.2	2.91	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-0906	09/19/06	N	25900	76.3	2.39	0.07	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-100-1206	12/20/06	FD	25900	76.3	2.39	0.07	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-1206	12/20/06	N	11940	168.3	0.59	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-0307	03/07/07	N	4231	247.8	0.2	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-101-0307	03/07/07	FD	4231	247.8	0.2	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-0607	06/06/07	N	9344	22.2	2.9	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-1207	12/05/07	N	20860	-134	0.43	0.23	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-0608	06/17/08	N	12660	16.3	4.83	2.9	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-1208	12/10/08	N	22062	206.4	1.65	0.84	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-0310	03/22/10	N	4283	128.9	3.09	1.02	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-1010	10/20/10	N	14270	417.1	1.77	0.54	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-0611	06/28/11	N	4839	284.4	3.69	0.21	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-1211	12/21/11	N	1155	58.3	2.57	4.01	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-0612	06/07/12	N	4331	-30.7	3.8	2.7	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-1212	12/18/12	N	7126	47.7	2.87	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-0613	06/27/13	N	14190	81	4.88	0.8	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-1213	12/16/2013	N	19931	60.6	2.6	0.15	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-0814	8/5/2014	N	10255	189	6.33	0.77	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-1114	11/4/2014	N	17370	83.4	4.01	0.22	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-0615	6/30/2015	N	16886	102.9	3.72	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-0616	6/29/2016	N	10082	53.1	4.26	0.63	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-0517	05/24/17	N	1,033	132.3	11.08	0.62	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-0518	05/15/18	N	3,691	88.2	4.90	0.10	NA	NA	NA	NA	NA	NA	NA	NA	NA

	Sample ID	Sample Date	Chemical Name Total/Dissolved Unit Action Level (µg/L) Sample Type	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Arsenic D µg/L 36	Cadmium D µg/L 8	Copper D µg/L 2.9	Lead D µg/L 5.8	Mercury D µg/L 0.025	Nickel D µg/L 7.9	Silver D µg/L 1.2	Thallium D µg/L 6.3	Zinc D µg/L 76.6
HI-10A	HI-10A-0609	06/23/09	N	7708	-18.8	0.62	0.04	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10A-0909	09/28/09	N	8713	-74.9	0.19	0.07	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10A-1209	12/15/09	N	7320	-273.0	0.03	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10A-0310	03/22/10	N	5738	-130.4	0.61	1.92	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10A-1114	11/4/2014	N	8890	-273.5	2.63	0.49	NA	NA	NA	NA	NA	NA	NA	NA	NA
HI-11	HI-11-0905	09/21/05	N	178	48.1	0.82	0.5	< 1	< 2	< 2	< 1	0.00034 J	1	< 0.2	< 0.2	< 6
	HI-11-1205	12/05/05	N	177	218.1	0.15	0.1	< 1	< 2	< 2	< 1	< 0.00025	1.1	< 0.2 J	< 0.2	< 6
	HI-11-0306	03/29/06	N	189	125.7	0.33	1.9	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-0606	06/08/06	N	89	-66.5	7.60	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-0906	09/19/06	N	105	40.2	6.59	0.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-1206	12/20/06	N	201	111.2	7.05	1.33	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-0307	03/07/07	N	84	135.2	5.55	0.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-0607	06/07/07	N	164	307.4	9.71	2.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-1207	12/04/07	N	148	110.4	5.60	1.52	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-1207	12/04/07	N					NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-0608	06/19/08	N	75	103.7	6.77	0.02	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-1208	12/10/08	N	159	166.1	1.95	0.12	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-0609	06/23/09	N	204	102.7	4.39	0.09	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-0310	03/25/10	N	105	3.97	7.47	4	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-1010	10/21/10	N	81	-14	3.34	0.14	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-0611	06/30/11	N	96	193.2	8.22	0.17	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-1211	12/22/11	N	101	176	7.22	0.47	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-0612	06/06/12	N	56	105.2	9.12	0.17	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-1212	12/18/12	N	125	178	10.4	0.42	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-0613	06/26/13	N	179	85.8	2.48	0.44	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-1213	12/16/2013	N	310	38.1	2.75	0.11	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-0614	6/24/2014	N	981	195.3	2.5	13.95	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-1114	11/5/2014	N	1019	-18.1	1.73	0.38	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-0615	7/1/2015	N	1181	37.0	29.7	5.9	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-0616	6/30/2016	N	7136	0.87	1.94	7.54	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-0517	05/25/17	N	3,640	43.80	5.26	9.80	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-0518	05/15/18	N	6,651	114.9	2.01	1.24	NA	NA	NA	NA	NA	NA	NA	NA	NA

			Chemical Name Total/Dissolved Unit Action Level (µg/L)	Conductivity	ORP	DO	Turbidity	Arsenic D µg/L 36	Cadmium D µg/L 8	Copper D µg/L 2.9	Lead D µg/L 5.8	Mercury D µg/L 0.025	Nickel D µg/L 7.9	Silver D µg/L 1.2	Thallium D µg/L 6.3	Zinc D µg/L 76.6
Sample ID		Sample Date	Sample Type	(µS/cm)	(mV)	(mg/L)	(NTU)									
HI-12	HI-12-0905	09/19/05	N	35,020	109.7	0.69	109.7	< 5	< 10	20	< 5	0.0015 J	11	< 1	< 1	50
	HI-12-1205	12/06/05	N	20,400	366.1	0.31	0.89	< 0.6	0.11	2	0.03	0.00074	1.2	0.06 J-	< 0.02	12.1
	HI-12-0306	03/28/06	N	13,250	129.5	1.04	4.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-0606	06/07/06	N	25,470	-84.0	1.89	6.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-0906	09/18/06	N	32,800	115.8	0.53	1.35	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-1206	12/19/06	N	11,880	56.8	1.03	3.72	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-0307	03/07/07	N	14,510	39.0	0.96	0.31	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-0607	06/05/07	N	22,950	107.4	0.59	0.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-1207	12/04/07	N	40,400	80.7	0.57	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-0608	06/17/08	N	25,890	149.0	1.16	3.8	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-112-0608	06/17/08	FD					NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-1208	12/10/08	N	27643	103.9	0.13	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-0310	03/24/10	N	16910	-32.1	1.99	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-1010	10/21/10	N	45000	-14	0.09	0.54	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-0611	06/29/11	N	22030	319.4	0.95	0.28	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-1211	12/22/11	N	2127	68.6	0.21	19.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-0612	06/05/12	N	1073	-62.4	0.9	0.51	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-1212	12/19/12	N	619	226	1.41	2.38	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-0613	06/26/13	N	502	-224	1.43	3.61	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-1213	12/18/2013	N	21520	56.8	0.73	3.86	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-0614	6/24/2014	N	11290	NM	0.58	0.42	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-1114	11/4/2014	N	9977	22.4	1.23	0.82	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-0615	6/29/2015	N	21687	61.5	0.66	0.64	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-0616	7/1/2016	N	21168	85.9	0.13	4.56	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-0517	05/26/17	N	5,220	22.9	6.08	7.01	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-0518	05/17/18	N	10,452	-196.4	1.41	0.45	NA	NA	NA	NA	NA	NA	NA	NA	NA
HI-12A	HI-12A-0609	06/24/09	N	14050	-72.4	1.02	1.65	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12A-0909	09/29/09	N	15000	172.4	0.17	4.65	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12A-1209	12/16/09	N	14560	-125.0	0.07	3.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12A-0310	03/24/10	N	12094	-148.1	0.39	1.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12A-1114	11/4/2014	N	10163	-140.3	0.33	3.71	NA	NA	NA	NA	NA	NA	NA	NA	NA

			Chemical Name Total/Dissolved Unit Action Level (µg/L)	Conductivity	ORP	DO	Turbidity	Arsenic D µg/L 36	Cadmium D µg/L 8	Copper D µg/L 2.9	Lead D µg/L 5.8	Mercury D µg/L 0.025	Nickel D µg/L 7.9	Silver D µg/L 1.2	Thallium D µg/L 6.3	Zinc D µg/L 76.6
Sample ID		Sample Date	Sample Type	(µS/cm)	(mV)	(mg/L)	(NTU)									
HI-13	HI-13-0905	09/20/05	N	713	-131.6	0.36	6	< 1	< 2	< 2	< 1	0.00062 J	0.8	< 0.2	< 0.2	< 6
	HI-13-1205	12/07/05	N	685	-186	2.1	1.4	< 1	< 2	< 2	< 1	< 0.00025	0.8	< 0.2 J	< 0.2	< 6
	HI-13-0306	03/28/06	N	693	-66.9	0.21	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-0606	06/08/06	N	575	-128.6	0.25	6.9	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-0906	09/19/06	N	580	-137.9	0.24	1.06	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-1206	12/19/06	N	943	-106	0.27	0.9	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-0307	03/07/07	N	537	-96.8	0.24	1.29	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-0607	06/05/07	N	484	-145.9	0.37	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-113-0607	06/05/07	FD	484	-145.9	0.37	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-1207	12/06/07	N	943	-148.7	0.08	2.21	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-0608	06/18/08	N	528	-157.3	0.53	0.22	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-1208	12/11/08	N	673	-2.2	0.35	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-113-1208	12/11/08	FD	673	-2.2	0.35	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-0609	06/24/09	N	598	-46.3	0.43	1.55	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-0310	03/24/10	N	413	-189.4	0.18	1.22	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-1010	10/21/10	N	360	-136	1.73	1.11	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-0611	06/29/11	N	488	-202.1	0.36	1.27	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-1211	12/20/11	N	376	-128.6	0.55	1.29	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-0612	06/06/12	N	396	-85.7	0.84	0.86	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-1212	12/19/12	N	932	-89	0.41	8.04	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-0613	06/26/13	N	762	-225	0.2	5.03	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-1213	12/17/2013	N	541	-53.7	4.99	0.57	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-0614	6/24/2014	N	492	-103.4	0.31	0.84	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-1114	11/4/2014	N	998	326	1.49	1.81	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-0615	6/29/2015	N	734	-93.4	0.37	0.34	NA	NA	NA	NA	NA	NA	NA	NA	NA

	Sample ID	Sample Date	Chemical Name Total/Dissolved Unit Action Level (µg/L) Sample Type	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Arsenic D µg/L 36	Cadmium D µg/L 8	Copper D µg/L 2.9	Lead D µg/L 5.8	Mercury D µg/L 0.025	Nickel D µg/L 7.9	Silver D µg/L 1.2	Thallium D µg/L 6.3	Zinc D µg/L 76.6
HI-14	HI-14-0905	09/20/05	N	8,412	-120.3	0.36	0.35	< 1	< 2	2	< 1	0.00077 J	3.6	< 0.2	< 0.2	< 6
	HI-14-1205	12/06/05	N	7,391	-6.5	0.19	1.1	< 1.1	< 0.04	< 0.2	< 0.04	0.0002 J	0.7	< 0.04 J	< 0.04	< 1.1
	HI-14-0306	03/28/06	N	8,519	-24.7	0.07	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-0606	06/07/06	N	6,869	-117.5	0.57	3.3	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-0906	09/20/06	N	8,232	-101.5	2.48	3.32	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-1206	12/19/06	N	9,548	-115.4	1.67	0.35	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-0307	03/07/07	N	5,911	-89.4	0.29	0.38	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-0607	06/05/07	N	6,595	-160.1	0.12	0.9	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-1207	12/06/07	N	11,770	-114.4	0.12	1.33	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-0608	06/18/08	N	10,200	-60.0	1.03	3.12	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-1208	12/11/08	N	9432	-56.3	0.2	0.31	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-0609	06/25/09	N	9285	-41.8	2.08	1.21	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-0310	03/24/10	N	8059	-60.4	0.16	3.94	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-1010	10/21/10	N	9433	97.9	0.68	0.75	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-0611	06/29/11	N	8440	-162.3	0.34	0.44	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-1211	12/20/11	N	7635	-119.5	0.39	0.89	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-0612	06/05/12	N	7004	-105.6	0.36	1.16	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-1212	12/19/12	N	12907	-71.9	0.48	2.36	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-0613	06/27/13	N	7790	-88.2	0.24	1.27	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-1213	12/17/2013	N	6542	-103.8	0.22	0.85	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-0614	6/24/2014	N	6499	-120.1	2.47	0.88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-1114	11/4/2014	N	7783	81	1.55	0.83	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-0615	6/29/2015	N	6429	-123	0.56	0.35	NA	NA	NA	NA	NA	NA	NA	NA	NA
HI-15	HI-15-0905	09/20/05	N	730	-137.4	0.53	1	4	< 2	< 2	2	0.00039 J	1.6	< 0.2	< 0.2	< 6
	HI-15-1205	12/06/05	N	513	-38.3	0.34	0.6	3	< 2	< 2	< 1	< 0.00025	0.8	< 0.2 J	< 0.2	< 6
	HI-15-0306	03/29/06	N	467	-63.1	0.16	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-0606	06/08/06	N	528	-101.4	0.38	4.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-0906	09/19/06	N	616	-109.4	3.42	0.71	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-1206	12/19/06	N	517	-120.6	0.16	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-0307	03/07/07	N	411	-80.1	0.70	0.29	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-0607	06/05/07	N	434	-89.6	2.84	0.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-1207	12/06/07	N	509	-186.1	0.06	6.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-0608	06/18/08	N	442	-128.9	0.44	2.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-1208	12/11/08	N	518	-24.7	0.19	0.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-0609	06/25/09	N	455	-58.3	1.46	1.22	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-0310	03/24/10	N	385	-67.4	0.13	1.8	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-1010	10/22/10	N	441	-136	0.97	0.86	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-0611	06/29/11	N	431	-191	0.95	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-1211	12/21/11	N	841	-240.3	0.21	0.76	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-0612	06/07/12	N	350	-97.5	0.53	2.46	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-1212	12/18/12	N	326	-61.5	0.24	3.89	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-0613	06/25/13	N	565	-67.4	0.28	17.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-1213	12/18/2013	N	551	-104.3	0.09	4.64	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-150-0814	8/4/2014	FD	551	-104.3	0.09	4.64	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-0814	8/4/2014	N	578	291	2.02	4.43	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-1114	11/4/2014	N	364	-89.6	0.41	0.9	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-0615	6/30/2015	N	357	-53.6	0.49	2.72	NA	NA	NA	NA	NA	NA	NA	NA	NA

	Sample ID	Sample Date	Chemical Name Total/Dissolved Unit Action Level (µg/L) Sample Type	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Arsenic D µg/L 36	Cadmium D µg/L 8	Copper D µg/L 2.9	Lead D µg/L 5.8	Mercury D µg/L 0.025	Nickel D µg/L 7.9	Silver D µg/L 1.2	Thallium D µg/L 6.3	Zinc D µg/L 76.6
HI-16	HI-16-0905	09/19/05	N	1,998	-179.2	0.13	0	< 1	< 2	2	< 1	0.00018 J	1.9	< 0.2	< 0.2	< 6
	HI-16-1205	12/06/05	N	1,892	-210.6	0.15	2.27	< 1	< 2	< 2	< 1	< 0.00025	0.6	< 0.2 J	< 0.2	< 6
	HI-16-0306	03/28/06	N	2,021	-41.0	0.09	0.45	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-0606	06/07/06	N	2,004	-69.7	0.44	0.51	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-0906	09/20/06	N	1,645	-150.2	1.24	0.39	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-1206	12/19/06	N	2,077	-142.4	0.14	1	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-0307	03/06/07	N	1,651	-126.8	0.15	0.88	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-0607	06/06/07	N	2,249	-131.1	0.59	1.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-1207	12/05/07	N	2,177	-126.4	0.10	7.61	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-0608	06/18/08	N	1,528	-104.5	0.57	3.7	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-1208	12/11/08	N	2011	-135.6	0.21	0.49	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-0609	06/25/09	N	2373	-105.8	0.21	1.44	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-0310	03/25/10	N	2118	-143.2	0.26	0.39	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-1010	10/22/10	N	2760	-192	0.35	0.04	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-0611	06/29/11	N	2729	12	0.27	0.28	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-1211	12/22/11	N	1769	-156.7	0.32	0.91	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-0612	06/06/12	N	2116	-140.4	0.5	0.66	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-1212	12/19/12	N	1561	-79.1	1.32	0.77	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-0613	06/25/13	N	1852	-119	0.72	2.69	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-1213	12/17/2013	N	2326	-124.4	0.52	0.36	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-0614	6/24/2014	N	564	-87.3	0.45	0.22	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-1114	11/4/2014	N	1638	-133.2	0.49	0.63	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-0615	6/29/2015	N	1837	-174	0.36	0.34	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-0616	6/30/2016	N	1796	-149.5	0.06	2.99	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-0517	05/24/17	N	1,800	-73.1	0.33	1.23	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-0518	05/16/18	N	375	38.4	0.35	4.80	NA	NA	NA	NA	NA	NA	NA	NA	NA
HI-17	HI-17-0609	06/25/09	N	1527	-134.5	0.05	10.04	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-170-0609	06/25/09	FD					NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-17-0909	09/29/09	N	1558	315.4	0.35	0.7	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-170-0909	09/29/09	FD	1558	315.4	0.35	0.7	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-17-1209	12/16/09	N	1706	2.0	0.09	1.8	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-170-1209	12/16/09	FD	1706	2.0	0.09	1.8	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-17-0310	03/26/10	N	1248	34.2	0.14	1.47	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-170-0310	03/26/10	FD	1248	34.2	0.14	1.47	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-17-1010	10/22/10	N	2070	1.0	0.00	1.01	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-170-1010	10/22/10	FD	2070	1.0	0.00	1.01	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-17-0611	06/30/11	N	1902	199.9	0.29	3.3	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-170-0611	06/30/11	FD	1902	199.9	0.29	3.3	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-17-1211	12/21/11	N	3077	-222.8	0.20	16.8	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-170-1211	12/21/11	FD	3077	-222.8	0.20	16.8	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-17-0612	06/07/12	N	1712	0.9	0.15	1.43	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-170-0612	06/07/12	FD	1712	0.9	0.15	1.43	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-17-1212	12/20/12	N	1911	11.1	0.28	2.55	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-170-1212	12/20/12	FD	1911	11.1	0.28	2.55	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-17-0613	06/27/13	N	3059	169	0.23	3.16	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-170-0613	06/27/13	FD	3059	169	0.23	3.16	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-17-1213	12/18/2013	N	12837	118.1	0.65	10.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-170-1213	12/18/2013	FD	12837	118.1	0.65	10.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-17-0614	6/25/2014	N	2335	236	0.85	2.48	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-170-0614	6/25/2014	FD	2335	236	0.85	2.48	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-17-1114	11/6/2014	N	2240	223	1.66	3.79	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-170-1114	11/6/2014	FD	2240	223	1.66	3.79	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-17-0615	7/1/2015	N	2492	350.0	0.21	2.44	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-170-0615	7/1/2015	FD	2492	350.0	0.21	2.44	NA	NA	NA	NA	NA	NA	NA	NA	NA

	Sample ID	Sample Date	Chemical Name Total/Dissolved Unit Action Level (µg/L) Sample Type	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Arsenic D µg/L 36	Cadmium D µg/L 8	Copper D µg/L 2.9	Lead D µg/L 5.8	Mercury D µg/L 0.025	Nickel D µg/L 7.9	Silver D µg/L 1.2	Thallium D µg/L 6.3	Zinc D µg/L 76.6
HI-18	HI-18-0609	06/25/09	N	694	-192.3	0.08	8.48	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-18-0909	09/28/09	N	698	11.5	0.19	0.12	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-18-1209	12/16/09	N	643	-63.0	0.24	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-18-0310	03/26/10	N	538	6.3	0.34	3.41	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-18-1010	10/21/10	N	655	109.9	0.54	0.68	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-18-0611	06/29/11	N	751	-171.6	0.29	1.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-18-1211	12/20/11	N	590	-64.4	0.41	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-18-0612	06/07/12	N	681	-42.4	0.50	0.37	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-18-1212	12/20/12	N	603	-29.7	0.48	0.53	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-18-0613	06/25/13	N	663	-18.1	0.3	0.58	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-18-1213	12/18/2013	N	652	-83.7	0.73	0.39	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-18-0614	6/25/2014	N	646	-239.9	0.34	0.34	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-18-1114	11/6/2014	N	676	-80.1	0.86	0.43	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-18-0615	6/30/2015	N	598	-232.4	1.22	0.29	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-18-0616	6/29/2016	N	544	-6.1	6.93	0.72	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-18-0517	05/25/17	N	517	-65.2	0.76	0.48	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-18-0518	05/15/18	N	457	64.0	0.32	0.72	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-01/MW-01R	MW-01-0905	09/20/05	N	708	-102.8	0.4	2.4	3	< 2	< 2	< 1	0.0003 J	0.8	< 0.2	< 0.2	< 6
	MW-01-1205	12/07/05	N	431	-167	1.12	1.59	2.6	< 0.02	< 0.1	0.03	< 0.00025	0.6	< 0.02 J	< 0.02	5.4
	MW-01-0306	03/29/06	N	238	23.7	0.47	6.7	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-10-0306	03/29/06	FD	238	23.7	0.47	6.7	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01-0606	06/08/06	N	257	-128.8	0.3	1.49	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01-0906	09/20/06	N	409	-72.7	0.34	3.74	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-101-0906	09/20/06	FD	409	-72.7	0.34	3.74	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01-1206	12/20/06	N	622	-181.5	0.77	0.95	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-1-0307	03/06/07	N	453	-53.6	0.28	2.95	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01-0607	06/06/07	N	644	-125.6	0.66	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-1-1207	12/05/07	N	1658	-89.3	0.26	1.17	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01-0608	06/19/08	N	727	-90.3	0.63	5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01-1208	12/10/08	N	454	-57.9	0.12	2.07	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01-0609	06/23/09	N	351	-23.1	0.57	0.7	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01-0310	03/23/10	N	497	-81.6	1.65	4.54	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01-1010	10/21/10	N	605	-121	0.47	0.9	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01-0611	06/28/11	N	868	31	0.49	6.98	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01-1211	21/21/11	N	470	-92	0.36	8.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01-0612	06/07/12	N	598	-86.3	0.98	3.82	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01-1212	12/19/12	N	310	-305.1	1.73	6.71	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01-0613	06/26/13	N	562	-102.6	0.34	1.19	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01-1213	12/17/2013	N	518	-121.3	0.72	3.27	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01R-0814	8/5/2014	N	6390	218	0.94	0.98	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01R-1114	11/5/2014	N	788	-188.5	0.39	1.32	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01R-0615	6/30/2015	N	864	230.1	0.24	4.26	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01R-0616	6/30/2016	N	815	-260.2	0.74	1.76	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01R-0517	05/26/17	N	840	-258.2	0.37	0.62	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01R-0518	05/16/18	N	589	-154.8	0.17	0.72	NA	NA	NA	NA	NA	NA	NA	NA	NA

Sample ID		Sample Date	Chemical Name Total/Dissolved Unit Action Level (µg/L) Sample Type	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Arsenic D µg/L 36	Cadmium D µg/L 8	Copper D µg/L 2.9	Lead D µg/L 5.8	Mercury D µg/L 0.025	Nickel D µg/L 7.9	Silver D µg/L 1.2	Thallium D µg/L 6.3	Zinc D µg/L 76.6
MW-213	MW-213-0905	09/20/05	N	3190	-161.5	0.38	1.2	< 1	< 2	3	< 1	0.00025 J	0.8	< 0.2	< 0.2	< 6
	MW-213-1205	12/06/05	N	2492	-247.6	0.77	1.65	< 0.6	< 0.02	< 0.1	< 0.02	< 0.00025	1.2 J	< 0.02 J	< 0.02	< 0.6
	MW-21-1205	12/06/05	FD	2492	-247.6	0.77	1.65	< 1	< 2	< 2	< 1	< 0.00025	2.8 J	< 0.2 J	< 0.2	< 6
	MW-213-0306	03/29/06	N	2402	-47.9	0.16	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-0606	06/07/06	N	1218	-125.9	0.62	8.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-0906	09/20/06	N	1445	-143.4	0.44	13.9	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-1206	12/20/06	N	607	-0.7	0.5	6.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-0307	03/06/07	N	2804	-96.9	0.56	18.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-0607	06/06/07	N	14980	-201.7	1.4	33	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-1207	12/06/07	N	15960	-224.1	0.14	4.16	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-0608	06/17/08	N	12580	-213.6	0.32	13.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-1208	12/09/08	N	16570	-218.2	0.23	3.21	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-0310	03/23/10	N	17255	-251.3	0.4	2.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-1010	10/21/10	N	830	201.7	3.25	4.21	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-0611	06/28/11	N	602	188.6	1.86	4.99	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-1211	12/21/11	N	48568	-238.5	0.17	2.27	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-0612	06/07/12	N	329	42.2	5.09	49.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-1212	12/19/12	N	414	221	10.9	605	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-0613	06/27/13	N	19028	-229.1	0.36	42.7	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-1213	12/16/2013	N	17582	-118.7	0.51	91.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-0614	6/26/2014	N	14875	-127.6	0.73	2.38	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-1114	11/5/2014	N	12992	-330	0.11	1.79	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-0615	7/2/2015	N	15091	-270.8	0.45	0.81	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-0616	6/29/2016	N	12395	181.9	0.19	5.99	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-0517	05/25/17	N	7,775	106.1	4.02	3.10	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-0518	05/15/18	N	8,487	100.9	1.56	1.35	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes
Bold result indicates detected concentration exceeds cleanup goal
Underlined non-detected value indicates detection limit exceeds cleanup goal
N = Normal Sample
FD = Field Duplicate
D = Dissolved
T = Total
J = Estimated Concentration
J- = Estimated Concentration, biased low
J+ = Estimated Concentration, biased high
R = Result Rejected
Y = Reporting limit raised due to presence of interference
NA = Not Analyzed

			Chemical Name	Arsenic	Cadmium	Copper	Lead	Mercury	Nickel	Silver	Thallium	Zinc	Available Cyanide	Total Cyanide	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242
			Total/Dissolved	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Action Level (µg/L)	36	8	2.9	5.8	0.025	7.9	1.2	6.3	76.6	1	1	0.03	0.03	0.03	0.03
Sample ID		Sample Date	Sample Type															
AC-06	AC-06A-1205	12/07/05	N	< 1	< 2	< 2	< 1	0.00022 J	0.6	< 0.2 J	< 0.2	< 6	NA	< 1 R	< 0.01	< 0.01	< 0.01	< 0.01
	AC-06A-0306	03/29/06	N	1.2 J-	0.052	0.57	< 0.026	< 0.00026	< 0.48	< 0.02	< 0.02	1.24	NA	< 5	< 0.01	< 0.01	< 0.01	< 0.01
	AC-06A-0606	06/08/06	N	2.0 J-	0.03	0.57	0.012 J	< 0.00039	4.56	< 0.02	< 0.02	1.3	NA	< 5	< 0.010	< 0.010	< 0.010	< 0.010
	AC-16-0606	06/08/06	FD	2.1 J-	0.03	0.54	< 0.02	0.00027 J	4.41	< 0.02	< 0.02	0.9	NA	< 5	< 0.010	< 0.010	< 0.010	< 0.010
	AC-06A-0906	09/19/06	N	0.6	0.05	0.46	0.134	< 0.00137	4.13	< 0.02 R	< 0.02	3.8 J-	NA	< 5	NA	NA	NA	NA
	AC-06A-1206	12/20/06	N	0.38 J	0.15	0.29	0.116	< 0.00041	0.9 J	< 0.012	0.009 J	3.1 J	< 2	< 5	NA	NA	NA	NA
	AC06A-0307	03/07/07	N	0.42 J	< 0.02	0.39	0.061	< 0.00041	2.32	< 0.02	< 0.02	1.3	< 2 J	< 5	NA	NA	NA	NA
	AC-06A-0607	06/05/07	N	0.44 J	0.177	0.54	0.18	0.00119	1.49	< 0.020	< 0.020	2.8	< 2 R	< 5 J	NA	NA	NA	NA
	AC-06-1207	12/05/07	N	0.24 J	0.006 J	0.19	0.344	< 0.00015	1.52	< 0.01	< 0.02	< 2.4	2.8	< 5	NA	NA	NA	NA
	AC-06-0608	06/18/08	N	0.46 J	0.015 J	0.43	0.779	< 0.00015	2.54	0.083 J+	0.005 J	3.1	< 2	< 5	NA	NA	NA	NA
	AC-06-1208	12/11/08	N	0.3 J	0.124	0.36	0.049	0.00049 J	1.38	< 0.020	< 0.020	1.9	< 2	< 5	NA	NA	NA	NA
	AC-06A-0609	06/25/09	N	< 0.3	0.025 J+	0.23 J+	0.071 J+	0.00027 J	0.76 J+	< 0.02	< 0.02	1.5 J+	< 2	< 5	NA	NA	NA	NA
	AC-06A-0310	03/25/10	N	< 0.4	0.011 J	0.75 J+	0.250 J	0.00196 J+	0.76	< 0.020	< 0.020	4.28	< 2	< 5	< 0.005 Y	< 0.032 Y	< 0.0078 Y	< 0.005 Y
	AC-06A-1010	10/22/10	N	0.42	0.015	0.26	0.108	0.00048	2.26	< 0.02	< 0.02	1.16	< 2	< 4.7	NA	NA	NA	NA
	AC-06A-0611	06/30/11	N	0.6	< 0.02	0.16	1.170 J	< 0.00031	< 0.17	< 0.020	< 0.0200	< 0.36	NA	NA	NA	NA	NA	NA
	AC-06A-1211	12/21/11	N	0.31	0.241	0.290	0.509	0.00166	0.71	< 0.040	< 0.040	1.53	< 2	NA	NA	NA	NA	NA
	AC-06A-0612	06/06/12	N	0.3 J	0.035 J	0.66 J+	0.259	0.00166	0.56 J+	< 0.02	< 0.02	7.6	< 2	NA	NA	NA	NA	NA
	AC-06A-1212	12/18/12	N	0.23 J	< 0.02	0.17 J+	6.49 J	< 0.001	0.35	< 0.02	< 0.02	1.32 J+	< 2 J	NA	NA	NA	NA	NA
	AC-06A-0613	06/25/13	N	< 0.5	< 0.02	0.6 J+	0.109 J+	< 0.001	0.76	< 0.02	< 0.02	0.8 J+	< 2	NA	NA	NA	NA	NA
	AC-06A-1213	12/17/13	N	0.2 J	< 0.020	0.16 J+	0.044 J+	< 0.0010	0.43 J+	< 0.020	< 0.020	0.9 J	< 2	NA	NA	NA	NA	NA
	AC-06A-0614	06/25/14	N	0.2 J	0.008 J	0.37 J+	1890	0.00051	0.87 J+	< 0.020	< 0.020	2.6 J+	< 2.0	NA	NA	NA	NA	NA
	AC-06A-1114	11/05/14	N	< 0.5 J	< 0.02	< 0.1	0.307	< 0.0005	0.41 J+	< 0.02	< 0.02	< 0.5	< 2	NA	< 0.020 J	< 0.040 J	< 0.020 J	< 0.020 J
	AC-06A-1114	11/05/14	FD	< 0.5 J	< 0.02	0.1 J+	0.341	0.00008	0.39 J+	< 0.02	< 0.02	< 0.5	< 2	NA	< 0.020 J	< 0.040 J	< 0.020 J	< 0.020 J
	AC-06A-0615	06/29/15	N	<0.5	0.048 J+	0.30 J+	2.83	0.00027 J	0.59 J+	<0.020	<0.020	2.7 J+	<2	NA	NA	NA	NA	NA
FW-1	FW-1-0905	09/20/05	N	< 5	< 10	30	< 5	0.0164 J	9	< 1	< 1	60	NA	1.15 J	< 0.01	< 0.01	< 0.01	< 0.01
	FW-1-1205	12/06/05	N	< 5	< 4	13	< 5	0.00271	10	< 1 J	< 1	110	NA	< 1 R	< 0.01	< 0.01	< 0.01	< 0.01
	FW-1-0306	03/29/06	N	0.52 J-	0.099	4.59	1.03 J	0.0239	2.69 J	0.003 J	< 0.02	40.9	NA	6	< 0.01	< 0.01	< 0.02	< 0.01
	FW-01-0606	06/08/06	N	0.43 J-	0.059	2.19	0.616	0.00595	2.7	< 0.02	< 0.02	25.2	NA	< 5	< 0.010	< 0.010	< 0.010	< 0.010
	FW-01-0906	09/20/06	N	1	0.112	19.5	2.72	0.0354	3.54	< 0.022	0.0032 J	208	NA	< 5 R	NA	NA	NA	NA
	FW-01-1206	12/20/06	N	< 0.26	0.045	2.88	2.04	0.0208	1.06 J	< 0.02	< 0.0011	69.5 J	1.7 J	19	NA	NA	NA	NA
	FW-1-0307	03/06/07	N	0.21 J	< 0.02	1.81	0.57	0.00731	1.45 J	< 0.02	< 0.02	9.96	3.8 J	< 5	NA	NA	NA	NA
	FW-01-0607	06/06/07	N	1.7	0.217	70	7.67	0.0903	11.3	< 0.020	< 0.0200	146	29 J-	< 5 J	NA	NA	NA	NA
	FW-1-1207	12/05/07	N	0.33 J	0.051	10.3	1.16	0.00558	1.43	< 0.02	< 0.02	35.9	3.2	< 5	NA	NA	NA	NA
	FW-01-0608	06/17/08	N	< 0.29	0.022	2.72	0.558	0.00427	1.61	< 0.02	< 0.02	24.4	170	< 5	NA	NA	NA	NA
	FW-01-1208	12/15/08	N	0.49 J-	0.013 J	2.2	0.865	0.0135	0.98	< 0.020	< 0.020	12.7 J-	< 2	< 5	NA	NA	NA	NA
	FW-01-0310	03/23/10	N	0.69 J+	0.073	15.4	1.500 J+	0.00615	3.04	< 0.020	< 0.013	73	< 2 J	< 5 J	< 0.005 Y	< 0.037 Y	< 0.0073 Y	< 0.0097 Y
FW-13	FW-13-0615	06/30/15	N	0.08 J	0.611	7.760	1.560 J+	<0.0005	0.76 J+	<0.020	0.018 J	92.7	<2	NA	NA	NA	NA	NA
	FW-13-0616	06/30/16	N	NA	NA	0.730	0.946	NA	NA	NA	NA	8.30	<2	NA	NA	NA	NA	NA

			Chemical Name	Arsenic	Cadmium	Copper	Lead	Mercury	Nickel	Silver	Thallium	Zinc	Available Cyanide	Total Cyanide	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242
			Total/Dissolved	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Action Level (µg/L)	36	8	2.9	5.8	0.025	7.9	1.2	6.3	76.6	1	1	0.03	0.03	0.03	0.03
Sample ID		Sample Date	Sample Type															
TD-06	TD-06A-0609	06/24/09	N	< 0.27	< 0.008	< 0.071	0.135 J+	0.00034 J	0.26 J+	0.008 J	< 0.004	< 0.49	0.85 J	< 5	NA	NA	NA	NA
	TD-06A-0909	09/28/09	N	0.25 J-	< 0.011	1.05	0.289 J+	0.0003 J	0.3	< 0.009	< 0.020	28.5	< 2	< 5	NA	NA	NA	NA
	TD-06A-1209	12/16/09	N	0.21 J	< 0.006	0.8	0.369	0.00109	0.4	0.003 J	< 0.02	19.7	4.4	< 5 J	NA	NA	NA	NA
	TD-06A-0310	03/23/10	N	< 0.1	< 0.003	< 0.07	< 0.014	< 0.00029	0.12 J	< 0.020	< 0.030	0.52 J+	< 2 J	< 5 J	< 0.005	< 0.0099	< 0.005	< 0.005
	TD-06A-1010	10/21/10	N	0.17	0.012	0.556	0.193	0.00035	< 0.2	0.01	0.006	7.8	< 2	< 4.7	NA	NA	NA	NA
	TD-06A-0611	06/28/11	N	0.10 J	< 0.008	0.632	0.211	< 0.00023	0.44	< 0.006	< 0.020	10.3	< 2	NA	NA	NA	NA	NA
	TD-06A-1211	12/21/11	N	0.10	< 0.020	0.401	0.164	< 0.0010	0.24	0.004	< 0.020	11.5	1.0	NA	NA	NA	NA	NA
	TD-06A-0612	06/06/12	N	< 0.5	0.005 J	0.346	0.05	< 0.001 U	0.65	< 0.02	< 0.02	10	6 J+	NA	NA	NA	NA	NA
	TD-06A-1212	12/20/12	N	0.03 J	0.009 J	1.64	1.01 J	< 0.001	0.16 J	0.004 J	< 0.02	17.5	2 J	NA	NA	NA	NA	NA
	TD-06A-0613	06/27/13	N	0.08 J	< 0.02	0.837	0.14 J+	< 0.001	0.29 J+	< 0.02	< 0.02	7.23 J+	< 2	NA	NA	NA	NA	NA
	TD-06A-1213	12/17/13	N	0.05 J	0.472 J+	1.22	0.14 J+	< 0.0010	0.36 J+	< 0.020	< 0.020	2.1	< 2	NA	NA	NA	NA	NA
	TD-06A-0614	06/25/14	N	0.05 J	0.226	0.934	0.286 J+	< 0.0005	0.25 J+	< 0.020	< 0.020	2.7 J+	< 2	NA	NA	NA	NA	NA
	TD-06A-1114	11/05/14	N	0.04	<0.02	1.47	0.334	< 0.0005	< 0.2	< 0.02	< 0.02	8.2	< 2	NA	< 0.020 J	< 0.040 J	< 0.020 J	< 0.020 J
	TD-06A-0517	05/25/17	N	NA	NA	0.50	0.087	NA	NA	NA	NA	4.30	<2	NA	NA	NA	NA	NA
	TD-06A-0518	05/16/18	N	NA	NA	0.11	0.054	NA	NA	NA	NA	0.62	0.56 J	NA	NA	NA	NA	NA
HI-1	HI-1-0905	09/19/05	N	< 1	< 2	< 2	< 1	0.00063 J	0.8	< 0.2	< 0.2	< 6	NA	44.3 J	< 0.01	< 0.01	< 0.01	< 0.01
	HI-1-1205	12/06/05	N	< 1	< 2	< 2	< 1	< 0.00025	1	< 0.2 J	< 0.2	6	NA	34 J-	< 0.01	< 0.01	< 0.01	< 0.01
	HI-1-0306	03/28/06	N	3 J-	0.01 J	0.42	< 0.034	< 0.00025	2.18 J	< 0.02	0.002 J	1.68	NA	40	< 0.01	< 0.01	< 0.01	< 0.01
	HI-1-0606	06/07/06	N	2.4 J-	0.03	0.35	0.036	0.00042 J	1.57	< 0.026	< 0.02	1.9	NA	32	< 0.010	< 0.010	< 0.010	< 0.010
	HI-1-0906	09/19/06	N	2	< 0.02	0.3	0.027 J+	< 0.00021	1.09	< 0.004 R	< 0.02	1.9 J-	NA	37	NA	NA	NA	NA
	HI-1-1206	12/19/06	N	2.8	0.04	0.33	1.14	< 0.0004	2.2 J	< 0.024	0.014 J	2.6 J	< 2	40	NA	NA	NA	NA
	HI-1-0307	03/07/07	N	1.56	< 0.02	0.31	0.246	< 0.00019	0.98	< 0.02	< 0.02	2	< 2 J	39	NA	NA	NA	NA
	HI-01-0607	06/05/07	N	0.86	0.014 J	0.34 J-	0.474	0.00028	0.77	0.006 J	0.005 J	3.7	< 2 R	39 J	NA	NA	NA	NA
	HI-1-1207	12/04/07	N	NA	NA	NA	NA	0.00025 J	NA	NA	NA	NA	< 2	21	NA	NA	NA	NA
	HI-1-1207RE	12/19/07	N	1.52	1.29	1.32	1.63	NA	1.48	< 0.019	< 0.005	16.9	NA	NA	NA	NA	NA	NA
	HI-1-0608	06/18/08	N	1.42	0.056	0.31	0.129	< 0.00015	0.78	< 0.026	< 0.02	1.7	< 2	18	NA	NA	NA	NA
	HI-1-1208	12/11/08	N	1.3	0.046	0.21	0.086	0.00057 J	0.49	< 0.020	< 0.020	5.31 J	< 2	7	NA	NA	NA	NA
	HI-100-1208	12/11/08	FD	1.4	0.043	0.25	0.087	0.00039 J	0.5	< 0.020	< 0.020	1.80 J	< 2	8	NA	NA	NA	NA
	HI-1-0609	06/24/09	N	0.6 J+	< 0.012	0.19 J+	0.036 J+	0.00153 J	0.36 J+	0.021 J+	< 0.006	1.5 J+	< 2	7	NA	NA	NA	NA
	HI-1-0310	03/24/10	N	1.08	0.016 J	0.30 J+	0.045 J+	< 0.00049	0.36	0.006 J	< 0.007	0.75 J+	< 2 J	5.4	< 0.005	< 0.0099	< 0.005	< 0.005
	HI-1-1010	10/21/10	N	0.06	0.021	0.161	0.076	0.00039	0.31	0.01	< 0.03	0.91	< 2	3.2	NA	NA	NA	NA
	HI-1-0611	06/29/11	N	0.10 J	< 0.02	0.16	0.070 J+	< 0.00031	0.28	< 0.020	< 0.0200	0.67 J+	< 2	NA	NA	NA	NA	NA
	HI-1-1211	12/22/11	N	0.9	0.017	0.58	1.340	< 0.0010	0.55	< 0.020	< 0.020	2.6	< 2	NA	NA	NA	NA	NA
	HI-1-0612	06/05/12	N	0.6	0.012 J	0.14 J+	0.053	0.00042 J	0.27 J+	< 0.02 U	0.01 J	0.9	< 2	NA	NA	NA	NA	NA
	HI-1-1212	12/19/12	N	0.93	0.007 J	0.23 J+	0.805 J	< 0.001	0.29	< 0.02	< 0.02	1.87 J+	< 2 J	NA	NA	NA	NA	NA
	HI-1-0613	06/25/13	N	0.3 J	0.017 J	0.48 J+	0.091 J+	< 0.001	0.62	0.029 J+	0.02	2 J+	< 2	NA	NA	NA	NA	NA
	HI-1-1213	12/16/13	N	0.4 J	< 0.020	0.12 J+	24.1	< 0.0010	0.32 J+	0.024 J+	< 0.020	1.0 J	< 2	NA	NA	NA	NA	NA
	HI-1-0614	06/24/14	N	0.8	0.015 J	0.29 J+	1.60 J+	< 0.0005	< 0.41	0.036 J+	0.008 J	2.0 J+	< 2	NA	NA	NA	NA	NA
	HI-1-1114	11/04/14	N	0.4	< 0.020	0.17 J+	0.341	0.00017	0.35 J+	< 0.02	< 0.02	0.9 J+	< 2	NA	< 0.021	< 0.041	< 0.021	< 0.021
	HI-1-0615	06/29/15	N	0.4 J	<0.020	0.20 J+	0.166 J+	0.00069	0.47 J+	<0.020	<0.020	1.1 J+	<2	NA	NA	NA	NA	NA
	HI-1-0616	06/30/16	N	NA	NA	0.48	4.25	NA	NA	NA	NA	2.7	<2	NA	NA	NA	NA	NA
	HI-1-0517	05/25/17	N	NA	NA	0.16	0.077	NA	NA	NA	NA	1.7 J	<2	NA	NA	NA	NA	NA
	HI-1-0518	05/16/18	N	NA	NA	0.15	0.042 J	NA	NA	NA	NA	1.4 J	<2	NA	NA	NA	NA	NA

			Chemical Name	Arsenic	Cadmium	Copper	Lead	Mercury	Nickel	Silver	Thallium	Zinc	Available Cyanide	Total Cyanide	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242
			Total/Dissolved	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Action Level (µg/L)	36	8	2.9	5.8	0.025	7.9	1.2	6.3	76.6	1	1	0.03	0.03	0.03	0.03
Sample ID		Sample Date	Sample Type															
HI-2	HI-2-0905	09/19/05	N	3	< 2	3	< 2	0.00022 J	3	< 0.5	< 0.5	< 6	NA	< 1 J	< 0.015	< 0.01	< 0.01	< 0.01
	HI-2-1205	12/06/05	N	2	< 2	3	< 2	< 0.00025	6	< 0.5 J	< 0.5	14	NA	2 J-	< 0.01	< 0.01	< 0.01	< 0.01
	HI-2-0306	03/28/06	N	0.9 J-	0.058	0.172	0.056 J	< 0.00025	0.47 J	0.003 J	< 0.02	5.55	NA	< 5	< 0.01	< 0.01	< 0.01	< 0.01
	HI-2-0606	06/08/06	N	0.99 J-	0.055	0.098 J	0.055	< 0.0004	0.4	0.034	< 0.02	1.76	NA	< 5	< 0.010	< 0.010	< 0.010	< 0.010
	HI-2-0906	09/18/06	N	1.11	0.059	< 0.095	0.037 J+	< 0.00015	< 0.17	< 0.067	0.001 J	2.38	NA	< 5	NA	NA	NA	NA
	HI-2-1206	12/19/06	N	< 1.52	0.038	< 0.103	0.386	< 0.00041	0.34 J	0.011 J	< 0.0016	1.59 J	< 2	< 5	NA	NA	NA	NA
	HI-2-0307	03/07/07	N	1.88	0.072	0.26	0.45	< 0.00041	< 0.26 R	0.016 J	< 0.0016	3.12	< 2 J	< 5	NA	NA	NA	NA
	HI-02-0607	06/05/07	N	1.3	0.165	0.23	1.32	0.00011 J	4.92	0.002 J	< 0.0200	3.4	< 2 R	< 5 J	NA	NA	NA	NA
	HI-2-1207	12/05/07	N	1.21	0.025	0.079 J	< 0.08	< 0.00015	0.09 J-	< 0.02	< 0.02	< 1.39	< 2	< 5	NA	NA	NA	NA
	HI-2-0608	06/18/08	N	1.31 J+	0.016 J	0.114	0.079 J+	< 0.00015	0.19 J-	< 0.02	< 0.02	3.23	< 2 J	5	NA	NA	NA	NA
	HI-2-1208	12/11/08	N	1.5	0.014 J	0.08 J	0.051	0.00068 J	< 0.60	< 0.020	< 0.020	1.27 J-	< 2	< 5	NA	NA	NA	NA
	HI-2-0609	06/24/09	N	8.5	0.02 J+	0.58 J+	0.081 J+	0.00067 J	1.48 J+	< 0.015	< 0.005	1.8 J+	< 2	< 5	NA	NA	NA	NA
	HI-2-0310	03/24/10	N	1.43	< 0.009	< 0.048	< 0.013	< 0.00022	0.17 J	< 0.020	< 0.030	< 0.34	< 2 J	4.5 J	< 0.005	< 0.01	< 0.005	< 0.005
	HI-2-1010	10/21/10	N	1.36	0.016	0.071	0.057	0.00022	0.84	0.009	< 0.03	0.71	< 2	< 4.7	NA	NA	NA	NA
	HI-2-0611	06/29/11	N	0.85	< 0.019	< 0.086	0.212	< 0.00032	0.25	< 0.005	< 0.020	0.9	< 2	NA	NA	NA	NA	NA
	HI-2-1211	12/22/11	N	1.02	0.028	0.607	11.5	< 0.0010	4.53	0.006	< 0.020	1.78	< 2	NA	NA	NA	NA	NA
	HI-2-0612	06/05/12	N	0.75	0.02	0.118	0.317	0.00023 J	0.21 J+	< 0.02	< 0.02	1.1	< 2	NA	NA	NA	NA	NA
	HI-2-1212	12/19/12	N	0.58	0.008 J	< 0.1	2.06 J	< 0.001	0.09 J	0.003 J	0.007 J	0.6	< 2	NA	NA	NA	NA	NA
	HI-2-0613	06/25/13	N	0.41 J	< 0.02	0.212 J+	0.155 J+	< 0.001	0.82 J+	< 0.02	0.008 J	1.61 J+	< 2	NA	NA	NA	NA	NA
	HI-2-1213	12/17/13	N	0.42 J	< 0.020	0.151 J+	2.68	< 0.0010	< 0.20	< 0.020	0.017 J	1.2 J+	< 2	NA	NA	NA	NA	NA
	HI-2-0614	06/24/14	N	0.17 J	< 0.020	0.521	2.71	<0.0005	0.30 J+	< 0.020	0.020	1.5 J+	< 2	NA	NA	NA	NA	NA
	HI-2-1114	11/04/14	N	0.3	< 0.020	0.24	0.102	0.00018	< 0.2	< 0.02	< 0.02	1.7 J+	< 2	NA	< 0.020	< 0.040	< 0.020	< 0.020
	HI-2-0615	06/29/15	N	0.16 J	0.009 J	0.110 J+	0.082 J+	0.00030 J	<0.20	0.006 J	<0.020	0.92 J+	<2	NA	NA	NA	NA	NA
	HI-2-0616	06/30/16	N	NA	NA	0.108 J+	0.787	NA	NA	NA	NA	1.17 J+	<2	NA	NA	NA	NA	NA
	HI-2-0517	05/24/17	N	NA	NA	0.27	1.72	NA	NA	NA	NA	1.15	<2	NA	NA	NA	NA	NA
	HI-2-0518	05/16/18	N	NA	NA	0.06 J	0.036	NA	NA	NA	NA	0.59	<2	NA	NA	NA	NA	NA
HI-3	HI-3-0905	09/19/05	N	< 1	< 2	2	< 1	0.0006 J	0.8	< 0.2	< 0.2	< 6	NA	< 1 J	< 0.1	< 0.3	< 0.2	< 0.12
	HI-3-1205	12/07/05	N	< 1	< 2	< 2	< 1	0.00083	1.4	< 0.2 J	< 0.2	< 6	NA	1 J-	< 0.01	< 0.01	< 0.01	< 0.01
	HI-3-0306	03/28/06	N	1.1 J-	0.067	1.05	0.26 J	< 0.00262	1.54 J	< 0.02	0.005 J	2.95	NA	< 5	< 0.01	< 0.01	< 0.01	< 0.01
	HI-3-0606	06/08/06	N	0.7 J-	0.09	0.35	0.015 J	< 0.00043	2.26	< 0.02	< 0.02	2.1	NA	< 5	< 0.010	< 0.010	< 0.010	< 0.010
	HI-3-0906	09/18/06	N	0.6	< 0.02	0.34	0.062	< 0.00015	1.04	< 0.004 R	< 0.02	2.3 J-	NA	< 5	NA	NA	NA	NA
	HI-3-1206	12/19/06	N	0.99	0.04	0.2	1	< 0.0004	1.3 J	< 0.02	0.022	20.4 J	< 2	< 5	NA	NA	NA	NA
	HI-3-0307	03/07/07	N	0.77	< 0.02	0.33	2.52	< 0.00041	1.41	< 0.046	< 0.02	1.5	< 2 J	< 5	NA	NA	NA	NA
	HI-03-0607	06/05/07	N	0.65	0.03	0.19 J-	0.919	0.00016 J	0.62	< 0.020	< 0.020	2.5	< 2 R	< 5 J	NA	NA	NA	NA
	HI-3-1207	12/05/07	N	< 0.5	0.199	0.144	0.175	< 0.00015	0.2 J-	< 0.02	< 0.02	3.06	1.5 J	< 5	NA	NA	NA	NA
	HI-3-0608	06/18/08	N	< 0.03	0.03	< 0.056	1.3	< 0.00015	0.14 J-	< 0.02	< 0.02	0.96 J+	< 2 J	< 5	NA	NA	NA	NA
	HI-3-1208	12/11/08	N	< 0.50	0.166	0.23	0.135	0.00058 J	< 0.60	< 0.020	< 0.020	1.04 J	< 2	< 5	NA	NA	NA	NA
	HI-3-0609	06/24/09	N	1.4 J+	0.021 J+	0.24 J+	0.064 J+	0.00095 J	0.66 J+	< 0.02	< 0.02	0.9 J+	< 2	< 5	NA	NA	NA	NA
	HI-3-0310	03/24/10	N	< 0.05	0.178	0.101 J+	0.046 J+	< 0.00035	0.12 J	< 0.020	< 0.004	0.81 J+	< 2 J	< 5	< 0.005 Y	< 0.0099 Y	< 0.014 Y	< 0.0061 Y
	HI-3-1010	10/22/10	N	0.1	0.92	0.152	0.212	0.00028	< 0.4	0.004	< 0.03	2.58	< 2	< 4.7	NA	NA	NA	NA
	HI-3-0611	06/29/11	N	0.05 J	0.874	0.206	0.159	< 0.00033	0.29	< 0.005	< 0.020	3.71	< 2	NA	NA	NA	NA	NA
	HI-3-1211	12/22/11	N	1.3	0.959	0.47	0.710	< 0.0010	0.56	< 0.020	< 0.020	5.7	< 2	NA	NA	NA	NA	NA
	HI-3-0612	06/05/12	N	0.7	0.852 J	0.4 J+	0.208	0.00044 J	0.33 J+	< 0.02 U	< 0.02	5.4	< 2	NA	NA	NA	NA	NA
	HI-3-1212	12/19/12	N	1.14	0.408	0.54	0.309 J	< 0.001	0.35	< 0.02	< 0.02	6.71	2 J	NA	NA	NA	NA	NA
	HI-3-0613	06/25/13	N	0.6	1.53	1.13	0.736 J+	0.0011 J+	1.11	< 0.02	0.074 J+	25.3	< 2	NA	NA	NA	NA	NA
	HI-3-1213	12/16/13	N	< 0.50	1.00	0.532 J+	0.56	< 0.0010	0.35 J+	< 0.020	< 0.020	12.9	< 2	NA	NA	NA	NA	NA
	HI-3-0614	06/25/14	N	< 0.50	0.416	0.281 J+	0.223 J+	< 0.0005	< 0.20	< 0.020	< 0.020	3.4	< 2	NA	NA	NA	NA	NA
	HI-3-1114	11/05/14	N	0.1	0.44	0.34	0.565	0.00024	< 0.2	< 0.02	< 0.02	4.9	< 2	NA	< 0.021 J	< 0.041 J	< 0.021 J	< 0.021 J
	HI-3-0615	07/01/15	N	0.04 J	0.438	0.301 J+	0.249 J+	0.00041 J	0.23 J+	0.003 J	<0.020	7.44	<2	NA	NA	NA	NA	NA
	HI-3-0616	07/01/16	N	NA	NA	1.93	1.570	NA	NA	NA	NA	26.1	<2	NA	NA	NA	NA	NA
	HI-30-0616	07/01/16	N	NA	NA	1.52	1.190	NA	NA	NA	NA	20.8	<2	NA	NA	NA	NA	NA
	HI-3-0517	05/24/17	N	NA	NA	0.15	0.141	NA	NA	NA	NA	9.6	<2	NA	NA	NA	NA	NA
	HI-3-0518	05/17/18	N	NA	NA	0.23	0.221	NA	NA	NA	NA	5.4	<2	NA	NA	NA	NA	NA

			Chemical Name	Arsenic	Cadmium	Copper	Lead	Mercury	Nickel	Silver	Thallium	Zinc	Available Cyanide	Total Cyanide	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242
			Total/Dissolved	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Action Level (µg/L)	36	8	2.9	5.8	0.025	7.9	1.2	6.3	76.6	1	1	0.03	0.03	0.03	0.03
Sample ID		Sample Date	Sample Type															
HI-4	HI-4-0905	09/20/05	N	< 1	< 2	< 2	< 1	0.00033 J	0.7	< 0.2	< 0.2	< 6	NA	< 1 J	< 0.02	< 0.2	< 0.1	< 0.075
	HI-4-1205	12/06/05	N	< 1	< 2	< 2	< 1	0.00053	1.2	< 0.2 J	< 0.2	< 6	NA	1 J-	< 0.01	< 0.01	< 0.01	< 0.01
	HI-4-0306	03/28/06	N	0.6 J-	0.008 J	0.42	< 0.02	< 0.00025	< 0.73	< 0.02	< 0.02	1.23	NA	< 5	< 0.01	< 0.01	< 0.01	< 0.01
	HI-4-0606	06/07/06	N	0.5 J-	0.14	0.49	0.031	< 0.00042	2.44	< 0.02	< 0.02	1.5	NA	< 5	< 0.010	< 0.010	< 0.010	< 0.010
	HI-4-0906	09/20/06	N	0.4 J	0.06	0.47	0.021 J+	< 0.00015	1.01	< 0.02 R	< 0.02	1.7 J-	NA	< 5	NA	NA	NA	NA
	HI-4-1206	12/19/06	N	0.51	0.05	0.28	0.185	< 0.0004	1.1 J	< 0.02	0.014 J	1.8 J	0.96 J	< 5	NA	NA	NA	NA
	HI-4-0307	03/07/07	N	0.32 J	0.09	0.31	3.11	< 0.00041	1.13	< 0.02	< 0.02	4.2	< 2 J	< 5	NA	NA	NA	NA
	HI-04-0607	06/05/07	N	0.27 J	0.106	0.32 J-	1.06	0.00025 J	1	< 0.020	< 0.020	3.3	< 2 R	< 5 J	NA	NA	NA	NA
	HI-4-1207	12/05/07	N	0.28 J	0.018 J	0.16	0.071	< 0.00015	0.67	< 0.02	< 0.008	< 1.4	< 2	< 5	NA	NA	NA	NA
	HI-4-0608	06/18/08	N	0.34 J	0.007 J	0.31	0.978	< 0.00015	1.14	0.033 J+	< 0.02	3	< 2	< 5	NA	NA	NA	NA
	HI-4-1208	12/11/08	N	0.3 J	0.036	0.47	0.095	0.00035 J	0.65	< 0.020	< 0.020	3.07	< 2	< 5	NA	NA	NA	NA
	HI-4-0609	06/24/09	N	< 0.1	0.023 J+	0.19 J+	0.063 J+	0.00028 J	0.45 J+	< 0.02	< 0.02	1.4 J+	< 2	< 5	NA	NA	NA	NA
	HI-4-0310	04/05/10	N	< 0.27	0.023 J+	0.39 J+	0.032 J+	< 0.00017	0.61	< 0.004	< 0.040	1.44 J+	< 2	< 10	< 0.0049	< 0.023 Y	< 0.0049 Y	< 0.0049
	HI-4-1010	10/22/10	N	0.44	0.026	0.23	0.02	0.00017	1.88	0.004	< 0.02	0.76	< 2	< 4.7	NA	NA	NA	NA
	HI-4-0611	06/29/11	N	0.08 J	0.03	0.18	0.245 J+	< 0.00029	< 0.07	< 0.020	< 0.0200	1.97 J+	< 2	NA	NA	NA	NA	NA
	HI-4-1211	12/11/11	N	0.3	0.090	0.16	0.044	< 0.0010	0.38	< 0.020	< 0.020	1.1	< 2	NA	NA	NA	NA	NA
	HI-4-0612	06/06/12	N	0.2 J	0.289 J	0.24 J+	0.148	0.00078 J	0.42 J+	< 0.02	< 0.02	3.2	< 2	NA	NA	NA	NA	NA
	HI-4-1212	12/19/12	N	0.25 J	0.142	0.26 J+	1.09 J	< 0.001	0.28	< 0.02	< 0.02	2.08 J+	< 2 J	NA	NA	NA	NA	NA
	HI-4-0613	06/25/13	N	0.2 J	0.103	0.53 J+	1.22 J+	< 0.001	0.68	< 0.02	< 0.02	2.2 J+	< 2	NA	NA	NA	NA	NA
	HI-4-1213	12/17/13	N	0.2 J	0.198	0.15 J+	0.402	< 0.0010	0.3 J+	< 0.020	< 0.020	2.0 J	< 2	NA	NA	NA	NA	NA
	HI-4-0614	06/25/14	N	0.3 J	0.033	0.17 J+	0.054 J+	< 0.0005	0.47 J+	< 0.020	< 0.020	0.9 J+	< 2	NA	NA	NA	NA	NA
	HI-4-1114	11/05/14	N	0.2	0.056	0.2	0.523	0.00044	0.44 J+	< 0.020	< 0.020	1.1 J+	< 2	NA	< 0.021 J	< 0.041 J	< 0.021 J	< 0.021 J
	HI-4-0615	07/01/15	N	<0.5	0.111 J	0.19 J+	0.135 J	0.00043 J	0.47 J+	<0.020	<0.020	1.8 J+	7.6	NA	NA	NA	NA	NA
	HI-400-0615	07/01/15	FD	<0.5	0.275 J	0.37 J+	0.294 J	0.00028 J	0.64 J+	<0.020	<0.020	3.8 J+	12	NA	NA	NA	NA	NA
	HI-4-0616	07/01/16	N	NA	NA	0.56	0.292	NA	NA	NA	NA	3.8	<2	NA	NA	NA	NA	NA
	HI-4-0517	05/26/17	N	NA	NA	0.29	0.210	NA	NA	NA	NA	5.5	<2	NA	NA	NA	NA	NA
	HI-4-0518	05/17/18	N	NA	NA	0.12	0.071 J	NA	NA	NA	NA	1.9 J	<2	NA	NA	NA	NA	NA

			Chemical Name	Arsenic	Cadmium	Copper	Lead	Mercury	Nickel	Silver	Thallium	Zinc	Available Cyanide	Total Cyanide	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242
			Total/Dissolved	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Action Level (µg/L)	36	8	2.9	5.8	0.025	7.9	1.2	6.3	76.6	1	1	0.03	0.03	0.03	0.03
Sample ID		Sample Date	Sample Type															
HI-5	HI-5-0905	09/20/05	N	1	< 2	6	< 1	0.00244 J	1.3	< 0.2	< 0.2	12	NA	< 1 J	< 0.01	< 0.01	< 0.01	< 0.01
	HI-5-1205	12/06/05	N	< 1	< 2	3	< 1	0.00201	1.2	< 0.2 J	< 0.2	9	NA	1 J-	< 0.01	< 0.01	< 0.01	< 0.01
	HI-5-0306	03/28/06	N	< 0.5	0.009 J	0.125	0.021 J	< 0.00026	2.88 J	< 0.02	< 0.02	0.6	NA	< 5	< 0.01	< 0.01	< 0.01	< 0.01
	HI-5-0606	06/08/06	N	0.03 J-	< 0.02	0.075 J	0.008 J	0.00025 J	3.56	< 0.02	< 0.02	0.24 J	NA	< 5	< 0.010	< 0.010	< 0.010	< 0.010
	HI-5-0906	09/18/06	N	< 0.5	< 0.02	< 0.208	0.049 J+	< 0.00148	< 0.3	< 0.02	< 0.02	0.62	NA	< 5	NA	NA	NA	NA
	HI-5-1206	12/19/06	N	< 0.5	< 0.02	0.181	< 0.01	0.00055 J	< 0.8	< 0.02	< 0.02	0.28 J	1.3 J	< 5	NA	NA	NA	NA
	HI-5-0307	03/07/07	N	< 0.5	< 0.02	< 0.08	< 0.024	0.00026 J	< 0.02 R	< 0.02	< 0.02	< 0.23	< 2 J	< 5	NA	NA	NA	NA
	HI-05-0607	06/05/07	N	< 0.50	< 0.020	0.03 J	0.04	0.00095	< 0.20	< 0.020	< 0.0200	0.13 J	< 2 R	< 5 J	NA	NA	NA	NA
	HI-5-1207	12/05/07	N	0.03 J-	< 0.02	0.504	0.116	0.00039 J	0.76	< 0.02	< 0.02	< 0.91	7.1	< 5	NA	NA	NA	NA
	HI-5-0608	06/18/08	N	< 0.5	< 0.02	< 0.083	< 0.014	0.00035 J	< 0.2	< 0.02	< 0.02	< 0.24	3.4 J-	< 5	NA	NA	NA	NA
	HI-5-1208	12/10/08	N	< 0.50	< 0.020	0.07 J	0.012 J	0.00046 J	< 0.60	< 0.020	< 0.020	< 0.24	< 2	< 5	NA	NA	NA	NA
	HI-5-0609	06/25/09	N	< 0.8	0.044 J+	1.46	0.198 J+	0.00051 J	0.79 J+	< 0.019	< 0.04	3.2 J+	1.7 J	< 5	NA	NA	NA	NA
	HI-5-0310	03/25/10	N	< 0.50	< 0.020	0.134 J+	< 0.018	0.00172	< 0.6	< 0.020	< 0.030	< 0.29	< 2 J	13.8	< 0.005 J	< 0.01 J	< 0.005 J	< 0.005 J
	HI-5-1010	10/22/10	N	0.06	< 0.02	0.099	0.018	0.00153	< 0.6	< 0.02	< 0.03	0.25	0.85	< 4.7	NA	NA	NA	NA
	HI-5-0611	06/30/11	N	< 5.00	< 0.034	< 0.646	< 0.151	0.00116	< 0.55	< 0.200	< 0.08	< 1.22	< 2	NA	NA	NA	NA	NA
	HI-5-1211	12/21/11	N	< 0.5	< 0.020	< 0.10	< 0.020	< 0.0010	< 0.20	< 0.020	< 0.020	< 0.5	< 2	NA	NA	NA	NA	NA
	HI-5-0612	06/07/12	N	< 1	< 0.04	0.039 J	< 0.04	0.00065 J	< 0.4	< 0.04	< 0.04	0.13 J	2 J+	NA	NA	NA	NA	NA
	HI-5-1212	12/18/12	N	0.03 J	< 0.02	< 0.1	0.02 J	0.00117 J+	1.03	< 0.02	< 0.02	0.1 J	< 2 J	NA	NA	NA	NA	NA
	HI-5-0613	06/25/13	N	< 0.5 J	< 0.02 J	< 0.1 J	< 0.02 J	0.0011 J+	< 1 J	< 0.02 J	< 0.02 J	< 0.5 J	< 2	NA	NA	NA	NA	NA
	HI-5-1213	12/18/13	N	< 0.50	< 0.020	< 0.100	< 0.02	< 0.0010	1.12 J+	< 0.020	< 0.020	< 0.5	< 2	NA	NA	NA	NA	NA
	HI-5-0614	06/24/14	N	< 0.50	< 0.020	< 0.100	< 0.020	0.00052 J+	< 0.8	< 0.020	< 0.020	< 0.5	< 2	NA	NA	NA	NA	NA
	HI-5-1114	11/04/14	N	< 0.50	< 0.020	< 0.100	< 0.020	0.0005	< 0.8	< 0.020	< 0.020	< 0.5	< 2	NA	< 0.020	< 0.040	< 0.020	< 0.020
	HI-5-0615	06/29/15	N	<0.50	<0.020	<0.100	<0.020	0.00096	<0.20	<0.020	<0.020	0.33 J	<2	NA	NA	NA	NA	NA
	HI-5-0616	06/29/16	N	NA	NA	<0.1	0.544	NA	NA	NA	NA	< 0.5	<2	NA	NA	NA	NA	NA
	HI-5-0517	05/25/17	N	NA	NA	0.27	0.021	NA	NA	NA	NA	0.24 J	<2	NA	NA	NA	NA	NA
	HI-5-0518	05/17/18	N	NA	NA	0.04 J	0.120	NA	NA	NA	NA	0.10 J	1.3 J	NA	NA	NA	NA	NA
HI-6	HI-6-0905	09/20/05	N	< 5	< 10	20	< 5	0.00255 J	13	< 1	< 1	< 30	NA	< 1 J	< 0.01	< 0.025	< 0.01	< 0.02
	HI-6-1205	12/07/05	N	< 5	< 4	4	< 10	0.00307	13	< 2 J	< 2	< 10	NA	< 1 R	< 0.01	< 0.01	< 0.01	< 0.01
	HI-6-0306	03/29/06	N	0.48 J-	0.078	0.796	< 0.02	< 0.00377	2.45 J	< 0.02	< 0.02	0.76	NA	< 5	< 0.01	< 0.01	< 0.01	< 0.01
	HI-6-0606	06/07/06	N	0.47 J-	0.023	0.961	0.064	0.00995	0.81	0.024	< 0.02	0.83	NA	< 5	< 0.010	< 0.010	< 0.010	< 0.010
	HI-6-0906	09/19/06	N	0.68	0.079	1.77	0.135 J+	0.032	< 1.19	0.157	0.0035 J	1.55	NA	< 5	NA	NA	NA	NA
	HI-6-1206	12/20/06	N	< 0.62	0.069	1.11	1.67	0.0128	1.34 J	0.014 J	< 0.0024	1.05 J	< 2	< 5	NA	NA	NA	NA
	HI-6-0307	03/07/07	N	0.4 J	0.044	1.1	5.4	0.01119	0.88 J	< 0.02	< 0.0014	1.88	< 2 J	< 5	NA	NA	NA	NA
	HI-06-0607	06/06/07	N	0.41 J	0.054	1.33	0.681	0.01062	1.13	< 0.020	< 0.0200	1.2	< 2 R	< 5 J	NA	NA	NA	NA
	HI-6-1207	12/05/07	N	0.2 J-	0.044	0.69	< 0.033	0.00789	1.1	< 0.02	< 0.02	< 0.8	< 2	< 5	NA	NA	NA	NA
	HI-6-0608	06/19/08	N	< 0.42	0.044	1.28	0.158 J+	0.00415	0.83	< 0.02	< 0.002	1.36 J+	< 2 J	< 5	NA	NA	NA	NA
	HI-6-1208	12/10/08	N	0.43 J	0.067	1.1	0.054	0.0103	0.79	< 0.020	0.0023 J	2.05 J-	< 2	< 5	NA	NA	NA	NA
	HI-6-0310	03/23/10	N	< 0.47	< 0.012	0.478 J+	0.093 J+	0.0265	0.63	< 0.020	< 0.030	0.67 J+	< 2 J	1.4 J	< 0.005	< 0.0099	< 0.005	< 0.005
	HI-6-1114	11/05/14	N	0.2	< 0.020 U	0.64	0.129	0.00504	< 0.20	< 0.020	< 0.020	1.8 J+	< 2 J	NA	< 0.020	< 0.040	< 0.020	< 0.020

			Chemical Name	Arsenic	Cadmium	Copper	Lead	Mercury	Nickel	Silver	Thallium	Zinc	Available Cyanide	Total Cyanide	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242
			Total/Dissolved	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Action Level (µg/L)	36	8	2.9	5.8	0.025	7.9	1.2	6.3	76.6	1	1	0.03	0.03	0.03	0.03
Sample ID		Sample Date	Sample Type															
HI-6A	HI-6A-0609	06/24/09	N	7.7	0.024 J+	0.73 J+	0.185 J+	0.00027 J	4.27	< 0.01	< 0.005	2.2 J+	< 2	< 5	NA	NA	NA	NA
	HI-6A-0909	09/28/09	N	0.28 J-	0.042 J+	0.408	0.084 J+	0.00084 J	0.38	< 0.005	< 0.020	0.68 J+	< 2	< 5	NA	NA	NA	NA
	HI-6A-1209	12/15/09	N	0.18 J	< 0.007	0.289	0.045	0.00023 J	0.23	< 0.02	< 0.02	0.2 J	< 2	< 5 J	NA	NA	NA	NA
	HI-6A-0310	03/23/10	N	< 0.48	< 0.021	1.47	0.270 J+	0.0029	0.81	< 0.050	< 0.075	2.31 J+	< 2 J	< 5 J	< 0.005	< 0.01 Y	< 0.019 Y	< 0.005 Y
	HI-6A-1010	10/20/10	N	0.22	0.022	0.2	0.12	0.00077	0.18	0.005	< 0.03	0.72	0.84	4.1	NA	NA	NA	NA
	HI-6A-0611	06/28/11	N	0.19 J	< 0.031	0.495	0.139	< 0.00074	< 0.38	< 0.011	< 0.040	6.75	3	NA	NA	NA	NA	NA
	HI-6A-1211	12/21/11	N	0.07	< 0.020	0.102	< 0.020	< 0.0010	< 0.20	< 0.020	< 0.020	< 0.5	< 2 U	NA	NA	NA	NA	NA
	HI-6A-0612	06/06/12	N	0.2 J	0.012 J	0.235	0.024 J	0.00072 J	< 0.4 U	< 0.04	< 0.04	0.52 J	< 2	NA	NA	NA	NA	NA
	HI-6A-1212	12/19/12	N	0.08 J	0.007 J	0.112	0.13 J	0.0027 J+	0.1 J	0.002 J	< 0.02	0.3 J	3 J	NA	NA	NA	NA	NA
	HI-6A-0613	06/27/13	N	0.18 J	< 0.02	0.207 J+	0.118 J+	0.0032 J+	0.42 J+	< 0.02	< 0.02	0.59 J+	< 2	NA	NA	NA	NA	NA
	HI-6A-1213	12/16/13	N	0.15 J	< 0.020	< 0.100	0.08 J+	< 0.0010	< 0.20	< 0.020	< 0.020	< 0.5	< 2	NA	NA	NA	NA	NA
	HI-6A-0614	06/24/14	N	0.12 J	< 0.020	0.108 J+	0.226 J+	< 0.0005	< 0.20	< 0.020	< 0.020	0.6 J+	2.8 J+	NA	NA	NA	NA	NA
	HI-6A-1114	11/05/14	N	0.1	< 0.020	< 0.1	0.028 J+	0.00007	< 0.20	< 0.020	< 0.020	< 0.5	< 2	NA	< 0.020	< 0.040	< 0.020	< 0.020
	HI-6A-0615	06/30/15	N	0.16 J	0.008 J	<0.100	0.089 J+	0.00031 J	<0.20	<0.020	<0.020	0.67 J+	<2	NA	NA	NA	NA	NA
	HI-6A-0616	07/01/16	N	NA	NA	< 0.1	0.046	NA	NA	NA	NA	0.59 J+	2.0	NA	NA	NA	NA	NA
	HI-6A-0517	05/26/17	N	NA	NA	0.11	0.041	NA	NA	NA	NA	0.42 J	<2	NA	NA	NA	NA	NA
	HI-60-0517	05/26/17	FD	NA	NA	0.16	0.072	NA	NA	NA	NA	0.77	<2	NA	NA	NA	NA	NA
	HI-6A-0518	05/17/18	N	NA	NA	0.39	0.060	NA	NA	NA	NA	1.03	<2	NA	NA	NA	NA	NA
HI-7	HI-7-0905	09/21/05	N	2	< 2	< 2	< 1	0.00063 J	1.4	< 0.2	< 0.2	< 6	NA	94.6 J	< 0.01	< 0.02	< 0.01	< 0.015
	HI-17A-0905	09/21/05	FD	2	< 2	< 2	< 1	0.00076 J	2.3	< 0.2	< 0.2	< 6	NA	< 1 J	< 0.01	< 0.025	< 0.02	< 0.02
	HI-7-1205	12/05/05	N	1	< 2	< 2	< 1	0.00014 J	2.5	< 0.2 J	< 0.2	< 6	NA	32 J-	< 0.01	< 0.01	< 0.01	< 0.01
	HI-7-0306	03/29/06	N	0.6 J-	0.101	1.77	< 0.02	< 0.00025	2.18 J	< 0.02	0.003 J	3.39	NA	20	< 0.01	< 0.01	< 0.01	< 0.01
	HI-7-0606	06/08/06	N	0.6 J-	0.37	1.64	0.016 J	0.00067	8.83	< 0.02	< 0.02	2.7	NA	51	< 0.010	< 0.010	< 0.010	< 0.010
	HI-7-0906	09/19/06	N	0.8	0.03	0.59	0.009 J+	< 0.00037	4.12	< 0.02 R	< 0.02	2.4 J-	NA	25	NA	NA	NA	NA
	HI-7-1206	12/20/06	N	0.63	0.33	2.43	1.26	0.00085	2.7 J	< 0.02	0.016 J	3.2 J	< 2	12	NA	NA	NA	NA
	HI-7-0307	03/06/07	N	0.67	0.19	1.64	0.039	0.00081	5.54	< 0.02	0.007 J	5.3	< 2 J	27	NA	NA	NA	NA
	HI-07-0607	06/06/07	N	0.40 J	0.155	0.88	0.201	0.00048	2.51	< 0.020	0.010 J	1.6	< 2 R	11 J	NA	NA	NA	NA
	HI-7-1207	12/07/07	N	0.6	0.035	1.98	0.82	0.00202	4.08	< 0.02	< 0.028	< 1.5	< 2	12	NA	NA	NA	NA
	HI-7-0608	06/18/08	N	0.93	0.032	1.89	0.104	0.00088	5.52	< 0.014	0.01 J	1.7	< 2 J	11	NA	NA	NA	NA
	HI-7-1208	12/10/08	N	0.7	0.523	2.13	0.022	0.002	3.24	< 0.020	< 0.008	13.2	< 2	7	NA	NA	NA	NA
	HI-7-0609	06/23/09	N	1.2 J+	0.128	1.43	0.139 J+	0.00143 J	1.95	< 0.02	< 0.015	1.8 J+	< 2	7	NA	NA	NA	NA
	HI-7-0310	03/25/10	N	0.87	0.023	1.01 J+	0.033 J+	< 0.00093	2.01	< 0.020	< 0.012	0.93 J+	< 2	< 5	< 0.005	< 0.01	< 0.005	< 0.005
	HI-7-1010	10/20/10	N	1.08	0.099	1.16	0.041	0.00154	3.25	< 0.02	0.008	2.59	< 2	28.8	NA	NA	NA	NA
	HI-7-0611	06/29/11	N	0.57	0.04	2.23	0.061 J+	0.00149	1.45	< 0.020	0.0080 J	< 0.39	< 2	NA	NA	NA	NA	NA
	HI-7-1211	12/19/11	N	0.9	0.047	2.29	0.060	0.00151	2.40	< 0.020	< 0.020	1.9	< 2	NA	NA	NA	NA	NA
	HI-7-0612	06/05/12	N	0.37 J	0.176	1.7	0.055	0.00159	3.2	< 0.02	0.043	1.58	< 2	NA	NA	NA	NA	NA
	HI-7-1212	12/20/12	N	0.57	13.97	3.87	1.44 J	0.00449 J+	4.03	0.007 J	0.029	55.9	< 2 J	NA	NA	NA	NA	NA
	HI-7-0613	06/28/13	N	0.59	0.311	1.83	0.178 J+	0.0022 J+	1.68 J+	0.006 J	0.042	5.84 J+	< 2	NA	NA	NA	NA	NA
	HI-7 1213	12/18/13	N	0.52	0.026 J+	1.14	0.81	0.00151	1.05 J+	< 0.020	0.009 J	1.0 J+	< 2	NA	NA	NA	NA	NA
	HI-7-0614	06/24/14	N	0.93	0.038 J+	2.03	0.123 J+	0.00384	0.90 J+	< 0.020	0.008 J	1.1 J+	< 2	NA	NA	NA	NA	NA
	HI-7-1114	11/05/14	N	3.0	0.171	2.45	0.426	0.00629	1.21 J+	< 0.020	< 0.020	1.5 J+	< 2	NA	< 0.020	< 0.040	< 0.020	< 0.020
	HI-7-0615	06/29/15	N	3.8	0.048 J+	2.43	0.667 J+	0.00874	1.44 J+	<0.020	<0.020	2.4 J+	<2	NA	NA	NA	NA	NA

			Chemical Name	Arsenic	Cadmium	Copper	Lead	Mercury	Nickel	Silver	Thallium	Zinc	Available Cyanide	Total Cyanide	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242
			Total/Dissolved	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Action Level (µg/L)	36	8	2.9	5.8	0.025	7.9	1.2	6.3	76.6	1	1	0.03	0.03	0.03	0.03
Sample ID		Sample Date	Sample Type															
HI-8	HI-8-0905	09/21/05	N	< 1	< 2	< 2	< 1	0.00021 J	1.2	< 0.2	< 0.2	< 6	NA	4.19 J	< 0.01	< 0.01	< 0.01	< 0.01
	HI-8-1205	12/05/05	N	< 1	< 2	< 2	< 1	0.00011 J	1.4	< 0.2 J	< 0.2	< 6	NA	9 J-	< 0.01	< 0.01	< 0.01	< 0.01
	HI-8-0306	03/29/06	N	0.3 J-	0.261	0.92	< 0.02	< 0.00025	1.14 J	< 0.02	0.004 J	1.56	NA	5	< 0.01	< 0.01	< 0.01	< 0.01
	HI-8-0606	06/08/06	N	0.4 J-	0.03	0.81	0.039	< 0.00041	5.23	< 0.02	< 0.02	3.6	NA	9	< 0.010	< 0.010	< 0.010	< 0.010
	HI-8-0906	09/19/06	N	0.4 J	0.05	0.53	< 0.02	< 0.00015	2.19	< 0.02 R	< 0.02	1.2 J-	NA	7	NA	NA	NA	NA
	HI-8-1206	12/20/06	N	1.25	1.01	0.73	0.584	0.00032 J	1.4 J	< 0.02	0.028	1.8 J	< 2	< 5	NA	NA	NA	NA
	HI-8-0307	03/06/07	N	0.42 J	0.2	1.41	2.53	< 0.00011	2.08	< 0.02	0.006 J	7.6	< 2 J	< 5	NA	NA	NA	NA
	HI-8-0207-B	03/12/07	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2	NA	NA	NA	NA	NA
	HI-08-0607	06/06/07	N	0.31 J	0.124	0.5	0.551	< 0.00025	1.2	< 0.020	0.010 J	1.6	< 2 R	< 5 J	NA	NA	NA	NA
	HI-8-1207	12/06/07	N	0.35 J	0.088	0.77	0.741	0.00044	1.39	< 0.02	< 0.009	< 1.8	< 2	< 5	NA	NA	NA	NA
	HI-8-0608	06/19/08	N	0.29 J	0.105	0.81	0.072	0.00018 J	2.5	< 0.03	< 0.01	9.6	< 2	5	NA	NA	NA	NA
	HI-8-1208	12/10/08	N	0.5	0.097	0.56	0.018 J	0.00029	2.33	< 0.020	< 0.020	3.19	< 2	< 5	NA	NA	NA	NA
	HI-8-0609	06/23/09	N	< 0.4	0.025 J+	0.56 J+	< 0.012	0.0003 J	1.05 J+	< 0.01	< 0.015	2.3 J+	< 2	< 5	NA	NA	NA	NA
	HI-80-0609	06/23/09	FD	< 0.3	0.033 J+	0.58 J+	< 0.016	0.00097 J	2.27 J	< 0.006	< 0.009	1.8 J+	< 2	< 5	NA	NA	NA	NA
	HI-8-0310	03/25/10	N	0.61 J+	0.04	0.47 J+	< 0.011	< 0.0005	0.96	< 0.020	< 0.012	2.54 J+	< 2	12.6	< 0.005	< 0.01	< 0.005	< 0.005
	HI-8-1010	10/21/10	N	0.61	0.029	0.52	0.036	0.00043	2.06	< 0.02	0.014	1	< 2	< 4.7	NA	NA	NA	NA
	HI-8-0611	06/28/11	N	0.25 J	0.04	0.4	0.283 J+	< 0.0006	0.43	< 0.020	0.0011 J-	0.78 J+	< 2	NA	NA	NA	NA	NA
	HI-8-1211	12/20/11	N	0.4	0.054	0.47	< 0.020	< 0.0010	0.69	< 0.020	< 0.020	0.8	< 2	NA	NA	NA	NA	NA
	HI-8-0612	06/05/12	N	0.3 J	0.088 J	0.49 J+	4.42	0.00038 J	0.56 J+	0.03 J+	0.014 J	0.8	< 2	NA	NA	NA	NA	NA
	HI-8-1212	12/18/12	N	0.51	0.075	0.59	0.088 J	< 0.001	0.48	< 0.02	< 0.02	2.17 J+	< 2 J	NA	NA	NA	NA	NA
	HI-8-0613	06/26/13	N	< 0.5	0.032 J+	0.59 J+	0.103 J+	< 0.001	1.03	< 0.02	0.025 J+	0.9 J+	< 2	NA	NA	NA	NA	NA
	HI-8-1213	12/16/13	N	0.4 J	0.061 J+	0.46 J+	0.785	< 0.0010	0.81 J+	< 0.020	< 0.020	1.1 J+	< 2	NA	NA	NA	NA	NA
	HI-8-0614	06/25/14	N	0.2 J	0.014 J	0.32 J+	2.23	< 0.0005	0.37 J+	< 0.020	< 0.020	0.7 J+	< 2	NA	NA	NA	NA	NA
	HI-8-1114	11/05/14	N	0.2	0.038	0.35	< 0.020	0.0001	0.99 J+	< 0.020	< 0.020	1.1 J+	< 2	NA	< 0.022	< 0.043	< 0.022	< 0.022
	HI-8-0615	06/30/15	N	0.6	0.065 J+	1.00 J+	0.091 J+	0.00056	0.80 J+	<0.020	<0.020	<0.5	<2	NA	NA	NA	NA	NA
HI-9	HI-9-0905	09/21/05	N	< 5	< 4	5	< 5	0.00042 J	6	< 1	< 1	< 10	NA	2.03 J	< 0.02	< 0.015	< 0.025	< 0.015
	HI-9-1205	12/05/05	N	< 5	< 4	< 4	< 5	0.00034	7	< 1 J	< 1	< 10	NA	3 J-	< 0.01	< 0.01	< 0.01	< 0.01
	HI-9-0306	03/29/06	N	0.38 J-	0.162	0.665	< 0.02	< 0.00051	1.95 J	0.009 J	< 0.02	0.99	NA	< 5	< 0.01	< 0.01	< 0.01	< 0.01
	HI-9-0606	06/08/06	N	0.42 J-	0.098	0.955	0.042	0.00047	1.8	0.046	< 0.02	1.31	NA	< 5	< 0.010	< 0.010	< 0.010	< 0.010
	HI-9-0906	09/19/06	N	0.54	0.065	1.43	0.023 J+	< 0.0008	< 1.16	< 0.1	0.0194 J	1.21	NA	< 5	NA	NA	NA	NA
	HI-9-1206	12/20/06	N	< 0.66	0.036	1.57	< 0.051	0.0006	1.09 J	0.033	< 0.0123	0.62 J	< 2	< 5	NA	NA	NA	NA
	HI-9-0307	03/07/07	N	0.71	0.014 J	1.71	0.75	0.00074	0.87 J	< 0.02	< 0.0071	< 0.84	< 2 J	< 5	NA	NA	NA	NA
	HI-09-0607	06/06/07	N	0.42 J	0.039	1.31	0.115	0.00047	1.47	< 0.020	< 0.0200	0.65	< 2 R	< 5 J	NA	NA	NA	NA
	HI-9-1207	12/05/07	N	0.75	0.026	1.41	0.387 J	0.00105	1.13	< 0.02	0.009 J	< 0.64	< 2	< 5	NA	NA	NA	NA
	DUP01-120507	12/05/07	FD	1.21	0.03	1.53	1.74 J	0.00094	0.95	< 0.02	0.008 J	< 0.55	< 2	< 5	NA	NA	NA	NA
	HI-9-0608	06/19/08	N	0.98 J+	0.059	1.54	0.067 J+	0.00074	1.27	< 0.006	< 0.008	0.88 J+	< 2	< 5	NA	NA	NA	NA
	HI-9-1208	12/10/08	N	1.4	0.022	1.3	< 0.020	0.00079	0.85	0.003 J	0.0100 J	0.50 J	< 2	< 5	NA	NA	NA	NA
	HI-9-0310	03/22/10	N	0.75	0.087	1.39	0.051 J+	0.00149	2.49	0.009 J	< 0.022	1.07 J+	< 2 J	< 5	< 0.020 Y	< 0.040 Y	< 0.020	< 0.020
	HI-9-1114	11/04/14	N	0.9	0.029	1.65	< 0.020	0.00075	1.15 J+	< 0.020	0.011	< 0.5	< 2	NA	< 0.021 J	< 0.041	< 0.021 J	< 0.021 J

			Chemical Name	Arsenic	Cadmium	Copper	Lead	Mercury	Nickel	Silver	Thallium	Zinc	Available Cyanide	Total Cyanide	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242
			Total/Dissolved	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Action Level (µg/L)	36	8	2.9	5.8	0.025	7.9	1.2	6.3	76.6	1	1	0.03	0.03	0.03	0.03
Sample ID		Sample Date	Sample Type															
HI-9A	HI-9A-0609	06/23/09	N	1.8 J+	< 0.019	0.38 J+	0.866 J+	0.00067 J	0.66 J+	< 0.012	< 0.02	2.1 J+	< 2	< 5	NA	NA	NA	NA
	HI-9A-0909	09/29/09	N	0.37 J-	< 0.020	0.321	0.089 J+	0.00138	< 0.40	< 0.020	< 0.020	0.59 J+	< 2	< 5	NA	NA	NA	NA
	HI-9A-1209	12/15/09	N	0.31 J	< 0.02	0.104	0.086	0.00073 J	0.42	< 0.02	< 0.02	1.2	< 2	< 5 J	NA	NA	NA	NA
	HI-9A-0310	03/22/10	N	< 0.15	< 0.006	0.147 J+	0.163 J	0.00087 J	0.59	0.010 J	< 0.033	0.60 J+	< 2 J	< 5	< 0.020	< 0.071 Y	< 0.020 Y	< 0.020 Y
	HI-90A-0310	03/22/10	FD	< 0.17	< 0.013	< 0.247	< 0.034	0.00045 J	0.40 J	0.021 J	< 0.075	< 0.46	< 2 J	< 5	< 0.020 Y	< 0.052 Y	< 0.020 Y	< 0.020 Y
	HI-9A-1010	10/20/10	N	4.04	< 0.04	0.44	< 0.04	0.00048	1.26	< 0.04	< 0.04	1	< 2	< 4.7	NA	NA	NA	NA
	HI-90A-1010	10/20/10	FD	3.77	0.014	0.46	0.01	0.00045	1.3	0.01	< 0.04	1.64	< 2	< 4.7	NA	NA	NA	NA
	HI-9A-0611	06/28/11	N	0.15 J	< 0.008	< 0.086	0.794 J+	< 0.00036	0.59 J	< 0.006	< 0.020	0.86 J+	< 2	NA	NA	NA	NA	NA
	HI-90A-0611	06/28/11	FD	0.14 J	< 0.007	< 0.066	0.091 J+	< 0.00037	0.36 J	< 0.005	< 0.020	< 0.26	< 2	NA	NA	NA	NA	NA
	HI-9A-1211	21/21/11	N	0.23	0.019	0.232	0.143	< 0.0010	< 0.20	0.007	< 0.020	0.91	< 2	NA	NA	NA	NA	NA
	HI-90A-1211	21/21/11	FD	0.31	0.186	0.236	0.175	< 0.0010	< 0.20	0.007	< 0.020	0.97	< 2	NA	NA	NA	NA	NA
	HI-9A-0612	06/07/12	N	0.7 J	< 0.1 UJ	< 0.5 U	0.025 J+	0.00026 J	< 1 U	< 0.1	< 0.02 U	< 2.5	< 2 U	NA	NA	NA	NA	NA
	HI-90A-0612	06/07/12	FD	0.8 J	< 0.1 UJ	< 0.5 U	0.022 J+	0.0003 J	< 1 U	< 0.1	< 0.02	< 2.5	< 2 U	NA	NA	NA	NA	NA
	HI-9A-1212	12/18/12	N	0.06 J	0.017 J	< 0.1	0.29 J	< 0.001	0.21	0.003 J	< 0.02	0.1 J	17 J	NA	NA	NA	NA	NA
	HI-90A-1212	12/18/12	FD	0.08 J	0.004 J	< 0.1	< 0.02 J	< 0.001	0.17 J	0.002 J	< 0.02	0.1 J	7 J	NA	NA	NA	NA	NA
	HI-9A-0613	06/28/13	N	0.6 J+	< 0.02	0.53 J+	< 0.02	< 0.001	1.39	0.026 J+	0.027 J+	0.9 J+	< 2	NA	NA	NA	NA	NA
	HI-90A-0613	06/28/13	FD	0.6 J+	< 0.02	0.46 J+	0.033 J+	< 0.001	1.31	< 0.02	< 0.02	0.6 J+	< 2	NA	NA	NA	NA	NA
	HI-9A-1213	12/17/13	N	0.06 J	< 0.020 J	< 0.100 J	0.28 J	< 0.0010	0.23 J+	< 0.020	< 0.020	< 0.5	< 2	NA	NA	NA	NA	NA
	HI-90A-1213	12/17/13	FD	0.06 J	0.448 J	1.12 J	0.10 J	< 0.0010	0.43 J+	< 0.020	< 0.020	0.9	< 2	NA	NA	NA	NA	NA
	HI-9A-0614	06/24/14	N	0.6	< 0.020	0.18 J+	0.029 J+	< 0.0005	0.56 J+	< 0.020	< 0.020	< 0.5	< 2	NA	NA	NA	NA	NA
	HI-90A-0614	06/24/14	FD	0.5	< 0.020	0.20 J+	0.127 J+	< 0.0005	0.77 J+	< 0.020	< 0.020	0.6 J+	< 2	NA	NA	NA	NA	NA
	HI-9A-1114	11/04/14	N	0.4	0.005	0.27	0.172 J	0.00023	0.73 J+	< 0.020	< 0.020	0.8 J	26	NA	< 0.021	< 0.041	< 0.021	< 0.021
	HI-90A-1114	11/04/14	FD	0.3	< 0.020	0.15 J+	0.056 J	0.00007	0.67 J+	< 0.020	< 0.020	2.8 J	33	NA	< 0.020	< 0.040	< 0.020	< 0.020
	HI-9A-0615	06/29/15	N	0.03 J	<0.020	<0.100	0.092 J+	0.00019 J	<0.20	<0.020	<0.020	<0.50	12	NA	NA	NA	NA	NA
	HI-9A-0616	06/29/16	N	NA	NA	< 0.1	0.058	NA	NA	NA	NA	0.64 J+	<2	NA	NA	NA	NA	NA
	HI-9A-0517	05/25/17	N	NA	NA	0.07 J	0.087	NA	NA	NA	NA	0.55	<2	NA	NA	NA	NA	NA
	HI-9A-0518	05/15/18	N	NA	NA	0.06 J	0.030	NA	NA	NA	NA	0.28 J	<2	NA	NA	NA	NA	NA
	HI-90-0518	05/15/18	FD	NA	NA	0.07 J	0.031	NA	NA	NA	NA	0.21 J	<2	NA	NA	NA	NA	NA
HI-10	HI-10-0905	09/21/05	N	< 5	< 4	7	< 5	0.00064 J	17	< 1	< 1	< 10	NA	23.6 J	< 0.015	< 0.01	< 0.01	< 0.01
	HI-10-1205	12/05/05	N	< 5	< 2	3	< 5	0.00039	10	< 1 J	< 1	< 6	NA	14 J-	< 0.01	< 0.01	< 0.01	< 0.01
	HI-10-0306	03/29/06	N	0.53 J-	0.047	2.8	0.016 J	< 0.00157	1.68 J	< 0.02	< 0.02	1.29	NA	345	< 0.01	< 0.01	< 0.01	< 0.01
	HI-10-0606	06/08/06	N	0.50 J-	0.089	2.12	0.017 J	0.00062	2.25	0.014 J	< 0.0252	2.61	NA	276	< 0.010	< 0.010	< 0.010	< 0.010
	HI-10-0906	09/19/06	N	0.4 J	0.443	2.09	0.029 J+	< 0.0011	4.43	0.146	0.0864	10.2	NA	63	NA	NA	NA	NA
	HI-100-1206	12/20/06	FD	< 0.51	0.079	2.54	0.255 J	0.00118	2.34 J	0.009 J	< 0.0319	3.22 J	< 2	141	NA	NA	NA	NA
	HI-10-1206	12/20/06	N	< 0.5	0.081	2.54	0.09 J	0.00097	2.33 J	0.015 J	< 0.0337	3.66 J	< 2	138	NA	NA	NA	NA
	HI-10-0307	03/07/07	N	0.6 J	0.017 J	4.72 J	0.218 J	0.00167 J	1.08 J	< 0.02	< 0.0143	1.47 J	< 2 J	280 J	NA	NA	NA	NA
	HI-101-0307	03/07/07	FD	1.58 J	0.02	0.35 J	0.428 J	< 0.00025	0.98	< 0.02	< 0.02	2.7 J	< 2 J	37 J	NA	NA	NA	NA
	HI-10-0607	06/06/07	N	0.30 J	0.071	1.55	0.425	0.00074	1.86	< 0.020	< 0.0255	3.1	< 2 R	17 J	NA	NA	NA	NA
	HI-10-1207	12/05/07	N	0.3 J-	0.205	1.66	0.731	0.00078	3.59	0.028	0.058	5.95	< 2	24	NA	NA	NA	NA
	HI-10-0608	06/17/08	N	< 0.33	0.111	1.66	< 0.019	0.00073	1.55	< 0.014	0.03 J+	4.34	< 2	11	NA	NA	NA	NA
	HI-10-1208	12/10/08	N	0.24 J	0.294	1.3	0.194 J	0.00121	2.7	0.039	0.0667	7.53 J-	< 2	41	NA	NA	NA	NA
	HI-10-0310	03/22/10	N	0.73	0.022 J+	3.61	< 0.020	0.0027	0.94	< 0.020	< 0.012	1.28 J+	< 2 J	104 J	< 0.020	< 0.039 Y	< 0.020	< 0.020 Y
	HI-10-1010	10/20/10	N	0.52	0.24	1.62	< 0.02	0.00114	2.87	0.031	0.055	4.65	< 2	45.6	NA	NA	NA	NA
	HI-10-0611	06/28/11	N	0.5	0.022 J+	2.14	0.032	0.00139	0.79	< 0.004	< 0.011	1.15	< 2	NA	NA	NA	NA	NA
	HI-10-1211	12/21/11	N	0.44	0.124	1.660	0.112	0.00104	2.86	0.013	0.036	4.25	< 2	NA	NA	NA	NA	NA
	HI-10-0612	06/07/12	N	0.59	0.021	2.64	< 0.02	0.00155	0.89	< 0.02	< 0.02 U	1.17	< 2	NA	NA	NA	NA	NA
	HI-10-1212	12/18/12	N	0.53	0.059	2.14	0.15 J	0.00131 J+	1.53	0.005 J	0.024	2	< 2 J	NA	NA	NA	NA	NA
	HI-10-0613	06/27/13	N	0.35 J	0.142	1.5	0.588 J+	< 0.001	2.82	0.008 J	0.032	4.5 J+	< 2	NA	NA	NA	NA	NA
	HI-10-1213	12/16/2013	N	0.36	0.166 J+	1.42	< 0.02	< 0.001	2.64	0.015	0.044	5.4 J+	< 2	NA	NA	NA	NA	NA
	HI-10-0814	8/5/2014	N	0.38	0.084	1.49	0.713	0.00088	1.85	< 0.02	0.034 J+	4.5	< 2	NA	NA	NA	NA	NA
	HI-10-1114	11/4/2014	N	0.4	0.221	1.54	< 0.02	0.00084	2.48 J+	0.033 J+	0.048	5.8	< 2	NA	< 0.021	< 0.041	< 0.021	< 0.021
	HI-10-0615	6/30/2015	N	0.32 J	0.207	1.180 J+	<0.020	0.00067	2.83	0.019 J	0.041	5.30 J+	1.9 J	NA	NA	NA	NA	NA
	HI-10-0616	6/29/2016	N	NA	NA	1.24	0.549	NA	NA	NA	NA	4.57	<2	NA	NA	NA	NA	NA
	HI-10-0517	05/24/17	N	NA	NA	1.51	0.005 J	NA	NA	NA	NA	0.5 J	<2	NA	NA	NA	NA	NA
	HI-10-0518	05/15/18	N	NA	NA	1.45	0.031	NA	NA	NA	NA	1.22	2	NA	NA	NA	NA	NA

			Chemical Name	Arsenic	Cadmium	Copper	Lead	Mercury	Nickel	Silver	Thallium	Zinc	Available Cyanide	Total Cyanide	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242
			Total/Dissolved	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Action Level (µg/L)	36	8	2.9	5.8	0.025	7.9	1.2	6.3	76.6	1	1	0.03	0.03	0.03	0.03
Sample ID		Sample Date	Sample Type															
HI-10A	HI-10A-0609	06/23/09	N	4.6	< 0.016	0.39 J+	0.102 J+	0.00042 J	1.26 J+	< 0.02	< 0.02	0.9 J+	< 2	18	NA	NA	NA	NA
	HI-10A-0909	09/28/09	N	0.11 J-	< 0.009	< 0.036	0.021 J+	0.0002 J	0.29	< 0.008	< 0.006	< 0.31	< 2	24	NA	NA	NA	NA
	HI-10A-1209	12/15/09	N	0.13 J	< 0.002	0.026 J	< 0.02	0.00037 J	0.24	< 0.02	< 0.02	0.2 J	< 2	29 J-	NA	NA	NA	NA
	HI-10A-0310	03/22/10	N	< 0.1	< 0.007	< 0.069	0.026 J+	0.00028 J	0.48	< 0.020	< 0.030	2.03 J+	< 2 J	38 J	< 0.020 Y	< 0.11 Y	< 0.020 Y	< 0.020 Y
	HI-10A-1114	11/4/2014	N	0.1	< 0.020	< 0.100	0.751	< 0.0005	0.56 J+	< 0.020	< 0.020	2.3 J+	< 2	NA	< 0.021	< 0.041	< 0.021	< 0.021
HI-11	HI-11-0905	09/21/05	N	< 1	< 2	< 2	< 1	0.00017 J	1.2	< 0.2	< 0.2	< 6	NA	2.75 J	< 0.01	< 0.035	< 0.015	< 0.01
	HI-11-1205	12/05/05	N	< 1	< 2	< 2	< 1	< 0.00025	0.6	< 0.2 J	< 0.2	< 6	NA	2 J-	< 0.01	< 0.01	< 0.01	< 0.01
	HI-11-0306	03/29/06	N	0.5 J-	0.054	0.62	< 0.02	< 0.00025	< 0.46	< 0.02	0.004 J	0.86	NA	< 5	< 0.01	< 0.01	< 0.01	< 0.01
	HI-11-0606	06/08/06	N	0.3 J-	< 0.02	0.38	0.017 J	0.00025 J	1.38	< 0.02	< 0.02	0.9	NA	< 5	< 0.010	< 0.010	< 0.010	< 0.010
	HI-11-0906	09/19/06	N	0.2 J	< 0.02	0.26	< 0.02	< 0.00026	0.55	< 0.02 R	< 0.02	0.8 J-	NA	< 5	NA	NA	NA	NA
	HI-11-1206	12/20/06	N	0.34 J	< 0.02	0.61	0.126	< 0.0004	0.3 J+	< 0.02	0.014 J	1.6 J	< 2	< 5	NA	NA	NA	NA
	HI-11-0307	03/07/07	N	0.21 J	0.4	0.46	0.644	< 0.00041	0.85	< 0.02	< 0.02	2.6	< 2 J	< 5	NA	NA	NA	NA
	HI-11-0607	06/07/07	N	0.16 J	0.014 J	0.30 J-	0.254	0.00022 J	0.43	< 0.020	0.004 J	0.4 J	< 2 R	< 5 J	NA	NA	NA	NA
	HI-11-1207	12/04/07	N	NA	NA	NA	NA	0.00033 J	NA	NA	NA	NA	< 2	< 5	NA	NA	NA	NA
	HI-11-1207	12/04/07	N	0.15 J	0.01 J	0.33	0.02	NA	0.33	< 0.02	< 0.02	< 0.9	NA	NA	NA	NA	NA	NA
	HI-11-0608	06/19/08	N	0.23 J	< 0.02	0.26	0.149	0.00018 J	0.4 J+	< 0.03	< 0.02	0.5 J+	< 2	< 5	NA	NA	NA	NA
	HI-11-1208	12/10/08	N	0.2 J	0.037	0.36	0.025	0.00027	0.7	0.009 J	0.010 J	0.90 J+	< 2	< 5	NA	NA	NA	NA
	HI-11-0609	06/23/09	N	< 0.2	< 0.02	0.36 J+	0.257 J+	0.00016 J	0.46 J+	< 0.02	< 0.02	0.5 J+	< 2	< 5	NA	NA	NA	NA
	HI-11-0310	03/25/10	N	< 0.22	0.006 J	0.20 J+	0.059 J+	< 0.0002	0.4	< 0.020	< 0.007	< 0.44	< 2 J	2.6 J	< 0.005	< 0.01	< 0.005	< 0.005
	HI-11-1010	10/21/10	N	0.26	0.004	0.22	< 0.02	0.00035	0.68	< 0.02	0.003	< 0.5	< 2	< 4.7	NA	NA	NA	NA
	HI-11-0611	06/30/11	N	0.12 J	< 0.02	0.15	4.710 J	< 0.0003	< 0.13	< 0.020	< 0.0200	< 0.19	< 2	NA	NA	NA	NA	NA
	HI-11-1211	12/22/11	N	0.2	< 0.020	0.16	1.660	< 0.0010	< 0.20	< 0.020	< 0.020	< 0.5	< 2	NA	NA	NA	NA	NA
	HI-11-0612	06/06/12	N	< 0.5	< 0.02 UJ	0.16 J+	0.05	0.0004 J	< 0.2 U	< 0.02	< 0.02 U	0.2 J	< 2	NA	NA	NA	NA	NA
	HI-11-1212	12/18/12	N	0.18 J	< 0.02	0.28 J+	0.077 J	0.00121 J+	< 0.2	< 0.02	< 0.02	0.52 J+	< 2 J	NA	NA	NA	NA	NA
	HI-11-0613	06/26/13	N	< 0.5	< 0.02	0.39 J+	< 0.02	< 0.001	0.55	< 0.02	< 0.02	< 0.5	< 2	NA	NA	NA	NA	NA
	HI-11-1213	12/16/2013	N	0.2	< 0.020	0.43 J+	1.21	< 0.001	0.53 J+	< 0.02	< 0.02	< 0.8	< 2	NA	NA	NA	NA	NA
	HI-11-0614	6/24/2014	N	0.2	0.025	0.76	0.632 J+	< 0.0005	1.67 J+	< 0.02	< 0.02	1.6 J+	< 2	NA	NA	NA	NA	NA
	HI-11-1114	11/5/2014	N	< 0.5 J	0.018	0.86	0.105	0.00077	1.51 J+	< 0.02	< 0.02	0.6 J+	< 2	NA	< 0.022	< 0.043	< 0.022	< 0.022
	HI-11-0615	7/1/2015	N	0.4 J	0.024 J+	0.70 J+	0.382 J+	<0.0005	2.08	<0.020	<0.020	1.5 J+	<2	NA	NA	NA	NA	NA
	HI-11-0616	6/30/2016	N	NA	NA	0.293	0.066	NA	NA	NA	NA	1.61	<2	NA	NA	NA	NA	NA
	HI-11-0517	05/25/17	N	NA	NA	0.43	0.010 J	NA	NA	NA	NA	0.63	<2	NA	NA	NA	NA	NA
	HI-11-0518	05/15/18	N	NA	NA	0.51	0.124	NA	NA	NA	NA	1.10	<2	NA	NA	NA	NA	NA

			Chemical Name	Arsenic	Cadmium	Copper	Lead	Mercury	Nickel	Silver	Thallium	Zinc	Available Cyanide	Total Cyanide	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242
			Total/Dissolved	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Action Level (µg/L)	36	8	2.9	5.8	0.025	7.9	1.2	6.3	76.6	1	1	0.03	0.03	0.03	0.03
Sample ID		Sample Date	Sample Type															
HI-12	HI-12-0905	09/19/05	N	< 5	< 10	20	< 5	0.00158 J	11	< 1	< 1	60	NA	< 1 J	< 0.015	< 0.01	< 0.035	< 0.02
	HI-12-1205	12/06/05	N	< 5	< 4	6	< 5	0.00093	9	< 1 J	< 1	< 10	NA	< 1 R	< 0.01	< 0.01	< 0.01	< 0.01
	HI-12-0306	03/28/06	N	0.37 J-	0.206	1.65	0.018 J	< 0.00078	2.23 J	0.048	< 0.02	15.5	NA	< 5	< 0.01	< 0.01	< 0.01	< 0.01
	HI-12-0606	06/07/06	N	0.35 J-	0.535	3.42	0.414	0.00179	3.68	0.116	< 0.0263	111	NA	< 5	< 0.010	< 0.010	< 0.010	< 0.010
	HI-12-0906	09/18/06	N	0.42 J	0.335	4.78	0.341 J+	< 0.00165	4.53	0.183	0.0422	127	NA	< 5	NA	NA	NA	NA
	HI-12-1206	12/19/06	N	< 0.85	0.071	3.09	0.219	0.00541	1.16 J	0.01 J	< 0.0077	4.65 J	< 2	< 5	NA	NA	NA	NA
	HI-12-0307	03/07/07	N	0.56	0.264	2.04	0.219	0.00106	2.38 J	0.03	< 0.0209	26.9	< 2 J	< 5	NA	NA	NA	NA
	HI-12-0607	06/05/07	N	0.29 J	0.257	2.98	0.407	0.00082	3.46	< 0.073	< 0.0233	108	< 2 R	< 5 J	NA	NA	NA	NA
	HI-12-1207	12/04/07	N	0.51	0.124	1.63	1.63	0.00131	1.64	0.017 J	0.014 J	26.2	< 2	< 5	NA	NA	NA	NA
	HI-12-0608	06/17/08	N	< 0.38	0.159	2.9	0.266	0.00085	2.42	0.035 J+	0.021 J+	78.4	2.4	< 5	NA	NA	NA	NA
	HI-112-0608	06/17/08	FD	< 0.35	0.166	2.86	0.228	0.0007	2.42	0.035 J+	0.022 J+	77.6	3.2	< 5	NA	NA	NA	NA
	HI-12-1208	12/10/08	N	0.43 J	0.086	1.9	2.56	0.00095	1	0.025	0.0224	17.3 J-	< 2	< 5	NA	NA	NA	NA
	HI-12-0310	03/24/10	N	< 0.24	0.409	2.54	0.284 J+	< 0.00094	3.12	0.029	< 0.025	69	< 2 J	5.1	< 0.005	< 0.01	< 0.005	< 0.005
	HI-12-1010	10/21/10	N	0.72	0.251	4.32	0.455	0.0013	2.15	0.046	0.025	51.1	< 2	< 4.7	NA	NA	NA	NA
	HI-12-0611	06/29/11	N	0.21 J	0.334	3.6	0.251	0.0013	4.25	0.022	< 0.012	86.1	< 2	NA	NA	NA	NA	NA
	HI-12-1211	12/22/11	N	2.07	0.172	5.72	6.47	0.00294	2.02	0.017	0.015	22.7	< 2	NA	NA	NA	NA	NA
	HI-12-0612	06/05/12	N	0.4 J	0.052	2.04	0.408	0.00167	1.06	0.006 J	< 0.02 U	18.6	< 2	NA	NA	NA	NA	NA
	HI-12-1212	12/19/12	N	6.32	0.049 J+	5.4	2.28 J	0.00789	1.57	< 0.02	< 0.02	5	< 2 J	NA	NA	NA	NA	NA
	HI-12-0613	06/26/13	N	3.2	0.04 J+	3.66	4.55 J+	0.0123	0.92	< 0.02	< 0.02	2.8 J+	< 2	NA	NA	NA	NA	NA
	HI-12-1213	12/18/2013	N	0.61	0.235 J+	6.95	4.34	0.00275	5.77	0.037	0.024	189	< 2	NA	NA	NA	NA	NA
	HI-12-0614	6/24/2014	N	0.25 J	0.041 J+	1.94	0.230 J+	0.00264	1.23 J+	< 0.02	0.012 J	22.4	< 2	NA	NA	NA	NA	NA
	HI-12-1114	11/4/2014	N	0.3	0.097	3.71	0.598	0.00324	2.21 J+	0.028 J+	0.024	42.5	< 2	NA	< 0.021	< 0.041	< 0.021	< 0.021
	HI-12-0615	6/29/2015	N	0.30 J	0.281	4.680	0.690 J+	0.00274	6.21	0.049	0.035	104	<2	NA	NA	NA	NA	NA
	HI-12-0616	7/1/2016	N	NA	NA	3.74	0.446	NA	NA	NA	NA	59.0	2.7	NA	NA	NA	NA	NA
	HI-12-0517	05/26/17	N	NA	NA	2.70	0.290	NA	NA	NA	NA	2.75	<2	NA	NA	NA	NA	NA
	HI-12-0518	05/17/18	N	NA	NA	2.22	0.101	NA	NA	NA	NA	9.14	<2	NA	NA	NA	NA	NA
HI-12A	HI-12A-0609	06/24/09	N	6.9	< 0.005	0.63 J+	0.042 J+	0.00037 J	1.31 J+	< 0.006	< 0.02	1.1 J+	< 2	< 5	NA	NA	NA	NA
	HI-12A-0909	09/29/09	N	0.49 J-	0.009 J+	0.172	0.085 J+	0.00034 J	0.17 J	< 0.020	< 0.020	< 0.38	< 2	4 J	NA	NA	NA	NA
	HI-12A-1209	12/16/09	N	0.39 J	< 0.002	0.084 J	0.056	0.00283	0.15 J	< 0.02	< 0.02	0.4 J	1.6 J	< 5 J	NA	NA	NA	NA
	HI-12A-0310	03/24/10	N	< 0.18	< 0.004	< 0.035	0.032 J+	< 0.00018	0.08 J	< 0.020	< 0.030	1.23 J+	< 2 J	4.1 J	< 0.005	< 0.01	< 0.005	< 0.005
	HI-12A-1114	11/4/2014	N	0.2	< 0.020	< 0.1	< 0.020	0.00021	< 0.20	< 0.020	< 0.020	3.2 J+	< 2		< 0.021	< 0.041	< 0.021	< 0.021

			Chemical Name	Arsenic	Cadmium	Copper	Lead	Mercury	Nickel	Silver	Thallium	Zinc	Available Cyanide	Total Cyanide	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242
			Total/Dissolved	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Action Level (µg/L)	36	8	2.9	5.8	0.025	7.9	1.2	6.3	76.6	1	1	0.03	0.03	0.03	0.03
Sample ID		Sample Date	Sample Type															
HI-13	HI-13-0905	09/20/05	N	< 1	< 2	< 2	< 1	0.00155 J	0.8	< 0.2	< 0.2	< 6	NA	2.59 J	< 0.05	< 0.01	< 0.12	< 0.1
	HI-13-1205	12/07/05	N	< 1	< 2	< 2	< 1	0.00039	0.8	< 0.2 J	< 0.2	< 6	NA	5 J-	< 0.01	< 0.01	< 0.025	< 0.025
	HI-13-0306	03/28/06	N	1.4 J-	0.055	0.66	< 0.032	< 0.00055	< 0.49	< 0.02	< 0.02	1.31	NA	< 5	< 0.01	< 0.01	< 0.01	< 0.01
	HI-13-0606	06/08/06	N	1.0 J-	< 0.02	0.44	0.034	0.00078	1.56	< 0.02	< 0.02	0.9	NA	5	< 0.015	< 0.1	< 0.05	< 0.025
	HI-13-0906	09/19/06	N	0.8	0.12	0.44	0.062	< 0.00114	1.15	< 0.011 R	< 0.02	1.5 J-	NA	< 5	NA	NA	NA	NA
	HI-13-1206	12/19/06	N	1.54	0.06	0.31	0.237	< 0.00041	0.7 J	< 0.02	0.019 J	3.1 J	< 2	< 5	NA	NA	NA	NA
	HI-13-0307	03/07/07	N	0.97	< 0.02	0.58	0.872	0.00113	2.24	< 0.02	< 0.02	1.1	< 2 J	< 5	NA	NA	NA	NA
	HI-13-0607	06/05/07	N	0.55	< 0.020	0.23 J-	0.894 J	0.00036	0.63	< 0.020	< 0.020	1.6	< 2 R	< 5 J	NA	NA	NA	NA
	HI-113-0607	06/05/07	FD	0.61	< 0.020	0.24 J-	1.410 J	0.00056	0.71	< 0.020	< 0.020	1.8	< 2 R	< 5 J	NA	NA	NA	NA
	HI-13-1207	12/06/07	N	0.54	0.015 J	0.15	0.161	0.0002 J	0.7	< 0.02	< 0.02	< 1.2	< 2	6	NA	NA	NA	NA
	HI-13-0608	06/18/08	N	0.68	< 0.02	0.39	0.039 J+	0.00062	0.76	0.032 J+	< 0.02	2.3	< 2 J	5	NA	NA	NA	NA
	HI-13-1208	12/11/08	N	0.5	0.008 J	0.36	0.043	0.00121	1.06	< 0.017	< 0.020	0.56 J+	< 2	11	NA	NA	NA	NA
	HI-113-1208	12/11/08	FD	0.6	0.013 J	0.33	0.06	0.00104	1.22	0.016 J	< 0.020	0.85 J+	< 2	7	NA	NA	NA	NA
	HI-13-0609	06/24/09	N	< 0.4	< 0.018	0.4 J+	0.498 J+	0.00105 J	0.6 J+	< 0.008	< 0.02	1.1 J+	< 2	10	NA	NA	NA	NA
	HI-13-0310	03/24/10	N	2.12	< 0.020	1.21	0.104 J	0.00308	0.63	0.006 J	< 0.01	< 0.4	< 2 J	22	< 0.026 Y	< 0.15 Y	< 0.081 Y	< 0.03 Y
	HI-13-1010	10/21/10	N	0.57	0.016	0.38	0.062	0.00125	0.59	< 0.02	< 0.02	0.5	< 2	12.1	NA	NA	NA	NA
	HI-13-0611	06/29/11	N	0.46 J	0.04	1.16	0.284 J+	0.00123	0.59	< 0.020	< 0.0200	3.44 J	< 2	NA	NA	NA	NA	NA
	HI-13-1211	12/20/11	N	0.5	< 0.020	0.31	0.083	< 0.0010	0.28	< 0.020	< 0.020	0.5	< 2	NA	NA	NA	NA	NA
	HI-13-0612	06/06/12	N	0.4 J	< 0.02 UJ	0.32 J+	0.066	0.0008 J	0.26 J+	< 0.02 U	< 0.02	0.7	< 2	NA	NA	NA	NA	NA
	HI-13-1212	12/19/12	N	0.58	0.789	1.15	1.26 J	0.00108 J+	0.67	< 0.02	< 0.02	11.6	< 2 J	NA	NA	NA	NA	NA
	HI-13-0613	06/26/13	N	< 0.5	0.043 J+	0.47 J+	2.13 J+	< 0.001	0.5	< 0.02	< 0.02	2.1 J+	< 2	NA	NA	NA	NA	NA
	HI-13-1213	12/17/2013	N	0.4 J	< 0.020	0.25 J+	3.18	< 0.001	0.33 J+	0.023 J+	< 0.02	0.9 J	< 2	NA	NA	NA	NA	NA
	HI-13-0614	6/24/2014	N	0.4 J	0.023	0.28 J+	0.233 J+	< 0.0005	0.66 J+	< 0.02	< 0.02	1 J+	2.4 J+	NA	NA	NA	NA	NA
	HI-13-1114	11/4/2014	N	0.2 J-	0.017	0.16 J+	0.244	0.0008	0.33 J+	< 0.02	< 0.02	1 J+	7.4	NA	< 0.02 J	< 0.04 J	< 0.02 J	< 0.02 J
	HI-13-0615	6/29/2015	N	0.5 J	<0.020	0.27 J+	0.644 J+	0.00038 J	0.73 J+	<0.020	<0.020	1.0 J+	3.6	NA	NA	NA	NA	NA

			Chemical Name	Arsenic	Cadmium	Copper	Lead	Mercury	Nickel	Silver	Thallium	Zinc	Available Cyanide	Total Cyanide	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242
			Total/Dissolved	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Action Level (µg/L)	36	8	2.9	5.8	0.025	7.9	1.2	6.3	76.6	1	1	0.03	0.03	0.03	0.03
Sample ID		Sample Date	Sample Type															
HI-14	HI-14-0905	09/20/05	N	1	< 2	3	< 1	0.00098 J	3.5	< 0.2	< 0.2	< 6	NA	10.3 J	< 0.01	< 0.025	< 0.02	< 0.015
	HI-14-1205	12/06/05	N	< 2	< 2	< 2	< 2	0.00078	8	< 0.5 J	< 0.5	< 6	NA	10 J-	< 0.01	< 0.01	< 0.01	< 0.01
	HI-14-0306	03/28/06	N	0.25 J-	0.05	0.405	0.351 J	0.00838	1.49 J	0.008 J	< 0.04	1.03	NA	10	< 0.01	< 0.01	< 0.01	< 0.01
	HI-14-0606	06/07/06	N	0.05 J-	0.339	0.812	0.057 J	0.0032	4.81	< 0.1	< 0.1	0.90 J	NA	16	< 0.010	< 0.010	< 0.010	< 0.010
	HI-14-0906	09/20/06	N	0.33 J	0.058	0.606	0.266 J+	0.00222	< 1.56	< 0.016	0.002 J	1.57	NA	13	NA	NA	NA	NA
	HI-14-1206	12/19/06	N	< 0.27	0.011 J	0.271	< 0.017	0.00021 J	1.75 J	< 0.02	< 0.02	0.35 J	< 2	13	NA	NA	NA	NA
	HI-14-0307	03/07/07	N	< 2.5	0.034 J	0.56	1.01	0.00036 J	< 1.84 R	< 0.1	< 0.1	< 0.91	< 2 J	16	NA	NA	NA	NA
	HI-14-0607	06/05/07	N	0.24 J	0.008 J	0.43	1.29	0.00162	1.43	< 0.020	< 0.020	1.4	< 2 R	16 J	NA	NA	NA	NA
	HI-14-1207	12/06/07	N	< 0.5	0.014 J	0.341	1.16	0.00086	1.57	< 0.02	< 0.02	< 1.07	< 2	18	NA	NA	NA	NA
	HI-14-0608	06/18/08	N	< 0.03	0.007 J	0.458	0.364	0.00066	3.38	< 0.01	< 0.02	0.62 J+	< 2 J	18	NA	NA	NA	NA
	HI-14-1208	12/11/08	N	0.15 J	0.007 J	0.05 J	0.024	0.00106 J	< 0.60	< 0.020	< 0.020	1.48 J-	< 2	14	NA	NA	NA	NA
	HI-14-0609	06/25/09	N	5.3	0.043 J+	0.98	0.085 J+	0.00174 J	2.82	< 0.012	< 0.02	1.1 J+	< 2	21	NA	NA	NA	NA
	HI-14-0310	03/24/10	N	< 0.31	< 0.011	0.101 J+	< 0.017	0.00205	0.71	< 0.020	< 0.030	< 0.44	< 2 J	27.5	< 0.0049	< 0.0098	< 0.0049	< 0.0049
	HI-14-1010	10/21/10	N	0.17	0.018	0.156	0.04	0.00129	2.85	0.01	< 0.03	0.41	< 2	28.6	NA	NA	NA	NA
	HI-14-0611	06/29/11	N	< 2.50	< 0.024	< 0.115	< 0.100	< 0.00095	< 0.7	< 0.100	< 0.100	< 0.75	< 2	NA	NA	NA	NA	NA
	HI-14-1211	12/20/11	N	< 2.50	< 0.100	< 0.500	0.102	0.00290	< 1.00	< 0.100	< 0.100	< 2.50	< 2	NA	NA	NA	NA	NA
	HI-14-0612	06/05/12	N	< 2.6	< 0.104	0.215 J	< 0.104	0.00099 J	< 1.04 U	< 0.104	< 0.104	0.96 J	< 2	NA	NA	NA	NA	NA
	HI-14-1212	12/19/12	N	0.1 J	0.039	0.179	0.16 J	0.00119 J+	0.23	0.003 J	< 0.02	1.1	< 2 J	NA	NA	NA	NA	NA
	HI-14-0613	06/27/13	N	0.14 J	< 0.02	0.115 J+	1.03 J+	0.0012 J+	0.54 J+	< 0.02	< 0.02	< 0.5	< 2	NA	NA	NA	NA	NA
	HI-14-1213	12/17/2013	N	0.16 J	< 0.02	0.167 J+	0.11 J+	0.00135	0.33 J+	< 0.02	< 0.02	1.2	< 2	NA	NA	NA	NA	NA
	HI-14-0614	6/24/2014	N	0.26 J	0.935	0.208 J+	0.643 J+	0.00121 J+	1.57 J+	< 0.02	< 0.02	1.3 J+	< 2	NA	NA	NA	NA	NA
	HI-14-1114	11/4/2014	N	0.2	< 0.02	0.10 J+	0.057 J+	0.00048	0.20 J+	< 0.02	< 0.02	< 0.5	< 2	NA	0.0060 J	< 0.040 J	< 0.020 J	< 0.020 J
	HI-14-0615	6/29/2015	N	0.06 J	0.008 J	<0.100	0.021 J+	0.00104	0.25 J+	0.004 J	<0.020	<0.5	<2	NA	NA	NA	NA	NA
HI-15	HI-15-0905	09/20/05	N	5	< 2	< 2	< 1	0.00056 J	1.1	< 0.2	< 0.2	< 6	NA	87.3 J	< 0.01	< 0.01	< 0.01	< 0.01
	HI-15-1205	12/06/05	N	3	< 2	< 2	< 1	< 0.00025	0.8	< 0.2 J	< 0.2	< 6	NA	1 J-	< 0.01	< 0.01	< 0.01	< 0.01
	HI-15-0306	03/29/06	N	2.3 J-	0.027	0.6	< 0.02	< 0.00026	< 0.4	< 0.02	< 0.02	1.52	NA	< 5	< 0.01	< 0.01	< 0.01	< 0.01
	HI-15-0606	06/08/06	N	1.9 J-	< 0.02	0.45	0.010 J	< 0.00042	3.87	< 0.02	< 0.02	0.5	NA	< 5	< 0.010	< 0.010	< 0.010	< 0.010
	HI-15-0906	09/19/06	N	2.8	0.04	0.44	0.1	< 0.00022	2.52	< 0.02 R	< 0.02	2 J-	NA	< 5	NA	NA	NA	NA
	HI-15-1206	12/19/06	N	1.07	< 0.02	0.31	0.052	< 0.00041	0.5 J	< 0.011	< 0.02	3.2 J	< 2	< 5	NA	NA	NA	NA
	HI-15-0307	03/07/07	N	1.55	0.45	0.28	0.056	0.00037 J	1.66	< 0.02	< 0.02	0.7	< 2 J	< 5	NA	NA	NA	NA
	HI-15-0607	06/05/07	N	1.76	0.608	0.29 J-	1.29	0.00016 J	0.81	< 0.020	< 0.020	1.6	< 2 R	< 5 J	NA	NA	NA	NA
	HI-15-1207	12/06/07	N	0.45 J	0.021	0.18	0.144	0.00018 J	0.94	< 0.02	< 0.02	< 1	< 2	< 5	NA	NA	NA	NA
	HI-15-0608	06/18/08	N	1.62	0.026	0.3	0.044 J+	< 0.00016	1.33	0.038 J+	< 0.02	1.7	< 2 J	< 5	NA	NA	NA	NA
	HI-15-1208	12/11/08	N	1.3	0.101	0.22	0.084	0.00042 J	1.7	< 0.020	< 0.020	1.07	< 2	< 5	NA	NA	NA	NA
	HI-15-0609	06/25/09	N	1.2 J+	0.05 J+	0.23 J+	0.133 J+	0.00016 J	0.71 J+	0.021 J+	< 0.008	0.8 J+	< 2	< 5	NA	NA	NA	NA
	HI-15-0310	03/24/10	N	0.98	0.031	< 0.07	< 0.007	< 0.00016	0.43	0.004 J	< 0.003	< 0.29	< 2	< 5	< 0.005 Y	< 0.041 Y	< 0.0058 Y	< 0.0054 Y
	HI-15-1010	10/22/10	N	0.73	0.143	0.21	0.153	0.00024	1.42	< 0.02	< 0.02	0.94	< 2	< 4.7	NA	NA	NA	NA
	HI-15-0611	06/29/11	N	0.56	< 0.02	0.19	0.058 J+	< 0.0005	0.23	< 0.020	< 0.0200	0.64 J+	< 2	NA	NA	NA	NA	NA
	HI-15-1211	12/21/11	N	0.4	0.070	0.14	0.038	< 0.0010	0.39	< 0.020	< 0.020	0.5	2.0	NA	NA	NA	NA	NA
	HI-15-0612	06/07/12	N	0.5	< 0.02 UJ	0.46 J+	0.127	0.00022 J	0.34 J+	< 0.02 U	< 0.02	0.9	< 2	NA	NA	NA	NA	NA
	HI-15-1212	12/18/12	N	0.26 J	0.104	0.33	1.67 J	< 0.001	0.23	< 0.02	< 0.02	1.08 J+	< 2 J	NA	NA	NA	NA	NA
	HI-15-0613	06/25/13	N	0.5 J+	< 0.02	1.66	0.52 J+	< 0.001	1.22	< 0.02	< 0.02	19.3	< 2	NA	NA	NA	NA	NA
	HI-15-1213	12/18/2013	N	0.2 J	< 0.020	0.97	0.267 J+	< 0.001	0.72 J+	0.043 J+	< 0.020	16.8 J	< 2	NA	NA	NA	NA	NA
	HI-150-0814	8/4/2014	FD	3.2	0.016 J	0.59	13.2 J	0.00035 J	3.76	< 0.020	< 0.020	15.5	< 2	NA	NA	NA	NA	NA
	HI-15-0814	8/4/2014	N	3.1	0.017 J	0.48	0.980 J	0.00042 J	3.14	< 0.020	< 0.020	14.2	< 2	NA	NA	NA	NA	NA
	HI-15-1114	11/4/2014	N	1.8	0.009	0.38	0.064 J+	0.00012	1.10 J+	< 0.020	< 0.020	86.1	54	NA	< 0.021 J	< 0.041 J	< 0.021 J	< 0.021 J
	HI-15-0615	6/30/2015	N	0.4 J	<0.020	0.37 J+	0.208 J+	0.00030 J	0.90 J+	<0.020	<0.020	1.9 J+	<2	NA	NA	NA	NA	NA

			Chemical Name	Arsenic	Cadmium	Copper	Lead	Mercury	Nickel	Silver	Thallium	Zinc	Available Cyanide	Total Cyanide	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242
			Total/Dissolved	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Action Level (µg/L)	36	8	2.9	5.8	0.025	7.9	1.2	6.3	76.6	1	1	0.03	0.03	0.03	0.03
Sample ID		Sample Date	Sample Type															
HI-16	HI-16-0905	09/19/05	N	< 1	< 2	< 2	< 1	0.00023 J	1.9	< 0.2	< 0.2	< 6	NA	1.63 J	< 0.1	< 0.075	< 0.2	< 0.12
	HI-16-1205	12/06/05	N	< 1	< 2	< 2	< 1	< 0.00025	0.6	< 0.2 J	< 0.2	< 6	NA	< 1 R	< 0.01	< 0.01	< 0.025	< 0.015
	HI-16-0306	03/28/06	N	< 0.5	< 0.02	0.058 J	< 0.02	< 0.00025	0.57 J	0.003 J	< 0.02	0.29 J	NA	< 5	< 0.01	< 0.01	< 0.01	< 0.01
	HI-16-0606	06/07/06	N	0.05 J-	0.053	0.098 J	0.023	< 0.0004	0.6	0.004 J	< 0.02	0.9	NA	< 5	< 0.010	< 0.010	< 0.010	< 0.010
	HI-16-0906	09/20/06	N	1.1	0.03	0.7	0.016 J+	< 0.00015	6.7	< 0.003 R	< 0.02	1.3 J-	NA	< 5	NA	NA	NA	NA
	HI-16-1206	12/19/06	N	< 0.11	0.052	< 0.104	3.68	< 0.00041	0.26 J	< 0.02	< 0.02	2.87 J	< 2	< 5	NA	NA	NA	NA
	HI-16-0307	03/06/07	N	0.04 J	0.017 J	0.21	0.105	< 0.0004	< 0.15 R	< 0.02	< 0.02	1.47	1.2 J	< 5	NA	NA	NA	NA
	HI-16-0607	06/06/07	N	0.08 J	0.039	0.18	0.394	< 0.00025	0.2	< 0.020	< 0.020	0.9	< 2 R	< 5 J	NA	NA	NA	NA
	HI-16-1207	12/05/07	N	0.13 J-	0.087	0.504	0.237	0.00104	0.47	< 0.02	< 0.02	3.08	2.3	< 5	NA	NA	NA	NA
	HI-16-0608	06/18/08	N	< 0.5	0.093	0.538	0.333	< 0.00016	3.59	< 0.007	< 0.02	1.56 J+	< 2 J	< 5	NA	NA	NA	NA
	HI-16-1208	12/11/08	N	< 0.50	0.198	0.25	0.239	0.00049 J	< 0.60	< 0.020	< 0.020	3.03 J-	< 2	< 5	NA	NA	NA	NA
	HI-16-0609	06/25/09	N	0.7 J+	< 0.018	0.45 J+	0.214 J+	0.00033 J	1.42 J+	0.022 J+	< 0.02	0.9 J+	< 2	< 5	NA	NA	NA	NA
	HI-16-0310	03/25/10	N	< 0.06	< 0.008	< 0.018	0.030 J+	< 0.00023	0.14 J	< 0.020	< 0.030	< 0.1	< 2	< 5	< 0.005 Y	< 0.015 Y	< 0.012 Y	< 0.0082 Y
	HI-16-1010	10/22/10	N	0.08	0.13	0.113	0.091	0.00034	0.42	0.006	< 0.03	1.4	< 2	< 4.7	NA	NA	NA	NA
	HI-16-0611	06/29/11	N	< 1.00	0.07	< 0.164	6.49	< 0.00031	< 0.3	< 0.040	< 0.040	< 0.79	< 2	NA	NA	NA	NA	NA
	HI-16-1211	12/22/11	N	1.0	0.283	0.45	0.224	< 0.0010	0.92	< 0.020	< 0.020	3.4	< 2	NA	NA	NA	NA	NA
	HI-16-0612	06/06/12	N	< 1	0.008 J	0.042 J	< 0.04	0.00022 J	< 0.4 U	< 0.04	< 0.04	0.18 J	< 2	NA	NA	NA	NA	NA
	HI-16-1212	12/19/12	N	1.4	0.046 J+	0.28 J+	1.37 J	< 0.001	0.73	< 0.02	< 0.02	1.77 J+	< 2 J	NA	NA	NA	NA	NA
	HI-16-0613	06/25/13	N	< 0.5	0.031 J+	0.59 J+	4.27 J+	< 0.001	1.57	0.022 J+	< 0.02	2.7 J+	< 2	NA	NA	NA	NA	NA
	HI-16-1213	12/17/2013	N	0.05 J	< 0.020	0.236 J+	1.20	< 0.001	0.42 J+	< 0.020	< 0.020	2.3	< 2	NA	NA	NA	NA	NA
	HI-16-0614	6/24/2014	N	0.2 J	0.112	0.81	0.987 J+	< 0.005	0.93 J+	< 0.020	< 0.020	3.9	< 2	NA	NA	NA	NA	NA
	HI-16-1114	11/4/2014	N	0.4 J-	0.006	0.19 J+	0.501	0.0001	0.87 J+	< 0.020	< 0.020	< 0.5	< 2	NA	< 0.021 J	< 0.041	< 0.021 J	< 0.021 J
	HI-16-0615	6/29/2015	N	0.4 J	<0.020	0.20 J+	0.836 J+	0.00013 J	2.26	<0.020	<0.020	0.6 J+	3.3	NA	NA	NA	NA	NA
	HI-16-0616	6/30/2016	N	NA	NA	0.46	0.899	NA	NA	NA	NA	4.2	<2	NA	NA	NA	NA	NA
	HI-16-0517	05/24/17	N	NA	NA	0.25	0.158	NA	NA	NA	NA	2.6	<2	NA	NA	NA	NA	NA
	HI-16-0518	05/16/18	N	NA	NA	0.17	0.078 J	NA	NA	NA	NA	2.1	<2	NA	NA	NA	NA	NA
HI-17	HI-17-0609	06/25/09	N	435	19.9	1.09	54.5	0.00139 J	88.9	< 0.006	< 0.007	93.2	< 2	< 5	NA	NA	NA	NA
	HI-170-0609	06/25/09	FD	434	19.7	1.12	56.9	0.00162 J	89.6	< 0.007	< 0.007	93.1	< 2	< 5	NA	NA	NA	NA
	HI-17-0909	09/29/09	N	349	117	4.01	41.7	0.00104	198	< 0.012	0.067 J+	449	< 2	< 5	NA	NA	NA	NA
	HI-170-0909	09/29/09	FD	380	113	4.09	40.9	0.0017	196	< 0.004	0.046 J+	433	< 2	< 5	NA	NA	NA	NA
	HI-17-1209	12/16/09	N	323	44.2	2.99	13.5	0.00125	140	0.012 J	0.013 J	164	0.8 J	< 5 J	NA	NA	NA	NA
	HI-170-1209	12/16/09	FD	338	40.5	2.59	11.3	0.00123	129	0.031 J	0.014 J	154	2	< 5 J	NA	NA	NA	NA
	HI-17-0310	03/26/10	N	139	85.9	2.56	5.950 J	0.00308 J	138	0.007 J	0.021	314	< 2	5.3	< 0.005 Y	< 0.029 Y	< 0.0098 Y	< 0.0053 Y
	HI-170-0310	03/26/10	FD	144	85.5	2.53	5.9 J	0.00584 J	140	0.004 J	0.024	316	< 2	< 5	< 0.005	< 0.01	< 0.005	< 0.005
	HI-17-1010	10/22/10	N	426	205	35.2	20.7	0.00255	281	< 0.02	0.096	638	< 2	< 4.7	NA	NA	NA	NA
	HI-170-1010	10/22/10	FD	420	205	32.5	21.8	0.00252	279	< 0.02	0.1	634	< 2	< 4.7	NA	NA	NA	NA
	HI-17-0611	06/30/11	N	222	493	488	69.1 J	0.0024	508	< 0.020	0.0995	1480 J	< 2	NA	NA	NA	NA	NA
	HI-170-0611	06/30/11	FD	225	491	483	67.8 J	0.0023	514	< 0.020	0.0994	1420 J	< 2	NA	NA	NA	NA	NA
	HI-17-1211	12/21/11	N	433	346	110	593	0.00741	322	0.013	0.109	1210	< 2	NA	NA	NA	NA	NA
	HI-170-1211	12/21/11	FD	242	349	93.3	194	0.00824	308	0.015	0.097	1230	< 2	NA	NA	NA	NA	NA
	HI-17-0612	06/07/12	N	392	434 J	328	82	0.00252	518	< 0.1	0.11	1430	< 2	NA	NA	NA	NA	NA
	HI-170-0612	06/07/12	FD	387	423 J	332	88.2	0.00239	505	< 0.1	0.103	1410	< 2	NA	NA	NA	NA	NA
	HI-17-1212	12/20/12	N	489	18.7	5.43	27.1	0.00276 J+	338	< 0.1	< 0.02	269	< 2	NA	NA	NA	NA	NA
	HI-170-1212	12/20/12	FD	465	18.4	5.58	30	0.00265 J+	326	< 0.1	< 0.02	227	< 2	NA	NA	NA	NA	NA
	HI-17-0613	06/27/13	N	618	100	151	202	0.0022 J+	608	< 0.02	0.241	368	< 2	NA	NA	NA	NA	NA
	HI-170-0613	06/27/13	FD	615	99.7	153	210	0.0023 J+	606	< 0.02	0.248	368	< 2	NA	NA	NA	NA	NA
	HI-17-1213	12/18/2013	N	116	881	550	191	0.0049	446	0.004 J	0.269	3420	< 2	NA	NA	NA	NA	NA
	HI-170-1213	12/18/2013	FD	139	896	551	197	0.00541	461	0.003 J	0.283	3490	< 2	NA	NA	NA	NA	NA
	HI-17-0614	6/25/2014	N	148	727	598	212	0.00339	511	< 0.020	0.232	3370	< 2	NA	NA	NA	NA	NA
	HI-170-0614	6/25/2014	FD	134	731	609	221	0.00333	549	< 0.020	0.228	3390	< 2	NA	NA	NA	NA	NA
	HI-17-1114	11/6/2014	N	637	52.4	20	66.4	0.00111	464	< 0.020	0.082 J+	810	< 2	NA	< 0.020	< 0.040	< 0.020	< 0.020
	HI-170-1114	11/6/2014	FD	636	51.6	19.2	66	0.00104	453	< 0.020	0.084 J+	799	< 2	NA	< 0.021	< 0.041	< 0.021	< 0.021
	HI-17-0615	7/1/2015	N	100	1,090	1,110	178	0.00260	782	<0.020	0.255	4,270	<2	NA	NA	NA	NA	NA
	HI-170-0615	7/1/2015	FD	130	994	1,030	172	0.00277	745	<0.020	0.249	3,940	<2	NA	NA	NA	NA	NA

			Chemical Name	Arsenic	Cadmium	Copper	Lead	Mercury	Nickel	Silver	Thallium	Zinc	Available Cyanide	Total Cyanide	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242
			Total/Dissolved	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Action Level (µg/L)	36	8	2.9	5.8	0.025	7.9	1.2	6.3	76.6	1	1	0.03	0.03	0.03	0.03
Sample ID		Sample Date	Sample Type															
HI-18	HI-18-0609	06/25/09	N	6.3	0.021 J+	0.47 J+	0.084 J+	0.00212 J	4.04	< 0.02	< 0.02	1.7 J+	< 2	< 5	NA	NA	NA	NA
	HI-18-0909	09/28/09	N	4.6	< 0.020	0.44	0.109 J+	0.00009 J	2.5	< 0.020	< 0.014	1.0 J+	< 2	< 5	NA	NA	NA	NA
	HI-18-1209	12/16/09	N	5.07	0.011 J	0.94	0.01 J	0.00051 J	9.39	< 0.04	< 0.02	1.42	0.85 J	< 5 J	NA	NA	NA	NA
	HI-18-0310	03/26/10	N	3.59	0.007 J	0.40 J+	< 0.01	< 0.00068	2	< 0.020	< 0.020	1.03 J+	< 2	1.3 J	< 0.005 Y	< 0.036 Y	< 0.013 Y	< 0.0057 Y
	HI-18-1010	10/21/10	N	4.26	0.007	0.75	0.199	0.00055	3.75	< 0.02	< 0.02	1.21	< 2	< 4.7	NA	NA	NA	NA
	HI-18-0611	06/29/11	N	2.65	< 0.01	0.24	0.124 J+	< 0.00061	1.41	< 0.020	< 0.0200	2.28 J+	< 2	NA	NA	NA	NA	NA
	HI-18-1211	12/20/11	N	3.3	< 0.020	0.45	< 0.020	< 0.0010	1.96	< 0.020	< 0.020	0.9	7.0	NA	NA	NA	NA	NA
	HI-18-0612	06/07/12	N	3.5	0.176 J	0.78 J+	0.053	0.00067 J	2.46	< 0.1	< 0.02 U	2.2 J	< 2	NA	NA	NA	NA	NA
	HI-18-1212	12/20/12	N	4.41	< 0.02	0.53	0.069 J	0.00105 J+	1.94	< 0.02	< 0.02	2.05 J+	< 2 J	NA	NA	NA	NA	NA
	HI-18-0613	06/25/13	N	2.8	< 0.02	0.78 J+	0.026 J+	< 0.001	1.99	< 0.02	< 0.02	1.3 J+	< 2	NA	NA	NA	NA	NA
	HI-18-1213	12/18/2013	N	3.2	< 0.020	0.43 J+	< 0.033	< 0.001	1.62 J+	< 0.020	< 0.020	0.8 J	2.1	NA	NA	NA	NA	NA
	HI-18-0614	6/25/2014	N	3.1	0.010 J	0.43	12.4	< 0.0005	1.59 J+	< 0.020	< 0.020	2.6 J+	< 2	NA	NA	NA	NA	NA
	HI-18-1114	11/6/2014	N	3.5	0.009	0.23	0.052 J+	0.00031	1.38 J+	< 0.020	< 0.020	0.6 J+	< 2	NA	< 0.021	< 0.041	< 0.021	< 0.021
	HI-18-0615	6/30/2015	N	2.8	0.109 J+	0.41 J+	0.912 J+	0.00034 J	34.6	<0.020	<0.020	1.6 J+	13	NA	NA	NA	NA	NA
	HI-18-0616	6/29/2016	N	NA	NA	0.65	0.276	NA	NA	NA	NA	2.5	<2	NA	NA	NA	NA	NA
	HI-18-0517	05/25/17	N	NA	NA	0.22	0.049	NA	NA	NA	NA	1.1 J	<2	NA	NA	NA	NA	NA
	HI-18-0518	05/15/18	N	NA	NA	0.21	0.093	NA	NA	NA	NA	0.6 J	<2	NA	NA	NA	NA	NA
MW-01/MW-01R	MW-01-0905	09/20/05	N	3	< 2	4	< 1	0.00097 J	0.9	< 0.2	< 0.2	< 6	NA	< 1 J	< 0.035	< 0.02	< 0.03	< 0.035
	MW-01-1205	12/07/05	N	4	< 2	< 2	< 1	0.00031	0.9	< 0.2 J	< 0.2	15	NA	< 1 R	< 0.01	< 0.01	< 0.01	< 0.01
	MW-01-0306	03/29/06	N	4 J-	0.456	27.4	1.55 J	< 0.00138	4.13 J	< 0.02	0.047	819	NA	< 5	< 0.01	< 0.03	< 0.015	< 0.01
	MW-10-0306	03/29/06	FD	4.2 J-	0.465	25.6	1.42 J	< 0.0014	4.11 J	< 0.02	0.047	796	NA	< 5	< 0.01	< 0.01	< 0.01	< 0.01
	MW-01-0606	06/08/06	N	3.5 J-	0.51	5.13	1.22	0.00249	8.66	< 0.02	0.02	1010	NA	< 5	< 0.010	< 0.010	< 0.010	< 0.010
	MW-01-0906	09/20/06	N	7.1	0.24	1.26	0.385	< 0.00073	2.59	< 0.02 R	< 0.02	8.9 J-	NA	< 5	NA	NA	NA	NA
	MW-101-0906	09/20/06	FD	6.7	0.25	1.32	0.372	< 0.00067	2.73	< 0.02 R	< 0.02	10.1 J-	NA	< 5	NA	NA	NA	NA
	MW-01-1206	12/20/06	N	5.09	0.04	4.08	1.2	0.0008	1.7 J	< 0.02	0.015 J	36.4 J	< 2	< 5	NA	NA	NA	NA
	MW-1-0307	03/06/07	N	3.81	0.14	3.77	1.26	0.00039 J	3.82	< 0.004	< 0.02	20.7	< 2 J	< 5	NA	NA	NA	NA
	MW-01-0607	06/06/07	N	3.4	0.008 J	1.73	0.99	0.00112	0.8	< 0.020	< 0.020	10.2	< 2 R	< 5 J	NA	NA	NA	NA
	MW-1-1207	12/05/07	N	5.54	0.076	6.45	0.247	0.00069	2.74	< 0.01	< 0.014	60.2	< 2	< 5	NA	NA	NA	NA
	MW-01-0608	06/19/08	N	5.45	0.005 J	0.92	0.207	0.00022 J	3.58	0.046 J+	< 0.02	2.6	< 2 J	< 5	NA	NA	NA	NA
	MW-01-1208	12/10/08	N	4.2	0.02	2.1	0.405	0.0008	1.92	< 0.020	< 0.020	12	< 2	< 5	NA	NA	NA	NA
	MW-01-0609	06/23/09	N	5.6	< 0.013	2.29	0.512 J+	0.00084 J	1.49 J+	0.022 J+	< 0.007	78	< 2	< 5	NA	NA	NA	NA
	MW-01-0310	03/23/10	N	5.38	0.009 J	1.7	0.272 J	0.00227	1.83	< 0.020	< 0.020	42.6	< 2 J	69 J	< 0.005	< 0.01	< 0.005	< 0.005
	MW-01-1010	10/21/10	N	5.76	0.029	14.3	1.18	0.00446	2.59	0.012	0.003	46.7	< 2	< 4.7	NA	NA	NA	NA
	MW-01-0611	06/28/11	N	2.55	< 0.02	8.44	1.480 J	0.00445	0.4	< 0.008	< 0.0200	5.80 J	< 2	NA	NA	NA	NA	NA
	MW-01-1211	21/21/11	N	3.6	0.024	29.2	4.740	0.00809	0.96	0.027	< 0.020	21.2	2.0	NA	NA	NA	NA	NA
	MW-01-0612	06/07/12	N	1.9	0.021 J	3.27	0.659	0.00156	0.75 J+	< 0.02	< 0.02 U	11.3	< 2	NA	NA	NA	NA	NA
	MW-01-1212	12/19/12	N	2.63	0.049 J+	13.4	10.1 J	0.00524 J+	1.38	< 0.02	< 0.02	52.5	< 2 J	NA	NA	NA	NA	NA
	MW-01-0613	06/26/13	N	0.9 J+	< 0.02	2.23	0.142 J+	< 0.001	1.24	< 0.02	< 0.02	9.5	< 2	NA	NA	NA	NA	NA
	MW-01-1213	12/17/2013	N	1.3	< 0.020	3.59	0.513	< 0.001	0.97 J+	< 0.020	< 0.020	6.2 J	< 2	NA	NA	NA	NA	NA
	MW-01R-0814	8/5/2014	N	3.2	< 0.020	0.61	0.428	0.00041 J	1.65	< 0.020	< 0.020	0.7	< 2	NA	NA	NA	NA	NA
	MW-01R-1114	11/5/2014	N	4.1	< 0.020	0.32	0.227	0.00044	1.04 J+	< 0.020	< 0.020	0.5 J+	< 2	NA	< 0.021 J	< 0.041 J	< 0.021 J	< 0.021 J
	MW-01R-0615	6/30/2015	N	4.0	0.021 J+	0.63 J+	1.11 J+	0.00064 J+	0.98 J+	<0.020	<0.020	2.1 J+	1.3 J	NA	NA	NA	NA	NA
	MW-01R-0616	6/30/2016	N	NA	NA	0.63	1.65	NA	NA	NA	NA	5.2	<2	NA	NA	NA	NA	NA
	MW-01R-0517	05/26/17	N	NA	NA	0.09 J	0.036	NA	NA	NA	NA	0.3 J	<2	NA	NA	NA	NA	NA
	MW-01R-0518	05/16/18	N	NA	NA	0.14	0.059 J	NA	NA	NA	NA	0.5 J	<2	NA	NA	NA	NA	NA

			Chemical Name	Arsenic	Cadmium	Copper	Lead	Mercury	Nickel	Silver	Thallium	Zinc	Available Cyanide	Total Cyanide	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242
			Total/Dissolved	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Action Level (µg/L)	36	8	2.9	5.8	0.025	7.9	1.2	6.3	76.6	1	1	0.03	0.03	0.03	0.03
Sample ID		Sample Date	Sample Type															
MW-213	MW-213-0905	09/20/05	N	< 1	< 2	3	< 1	0.00155 J	0.9	< 0.2	< 0.2	< 6	NA	< 1 J	< 0.02	< 0.025	< 0.045	< 0.025
	MW-213-1205	12/06/05	N	< 1	< 2	< 2	< 1	< 0.00025	2.8	< 0.2 J	< 0.2	< 6	NA	< 1 R	< 0.01	< 0.01	< 0.01	< 0.01
	MW-21-1205	12/06/05	FD	< 1	< 2	< 2	< 1	< 0.00025	2.4	< 0.2 J	< 0.2	< 6	NA	< 1 R	< 0.01	< 0.01	< 0.01	< 0.01
	MW-213-0306	03/29/06	N	1.62 J-	0.466	1.11	0.405 J	< 0.00122	3.68 J	0.007 J	< 0.02	16	NA	< 5	< 0.01	< 0.01	< 0.01	< 0.01
	MW-213-0606	06/07/06	N	1.04 J-	0.391	4.35	1.41	0.00248	1.26	0.009 J	< 0.02	23	NA	< 5	< 0.010	< 0.05	< 0.010	< 0.010
	MW-213-0906	09/20/06	N	3.3	0.3	4.25	1.11	0.00444	2.39	< 0.007 R	< 0.02	26.6 J-	NA	< 5	NA	NA	NA	NA
	MW-213-1206	12/20/06	N	2.68	1.47	3.65	2.24	0.00304	2.3 J	< 0.02	0.032	80 J	< 2	< 5	NA	NA	NA	NA
	MW-213-0307	03/06/07	N	4.45	0.907	8.93	6.07	0.01009	5.13 J	0.013 J	< 0.0099	85.6	< 2 J	< 5	NA	NA	NA	NA
	MW-213-0607	06/06/07	N	1.8	0.264	5.6	4.88	0.00915	3.89	< 0.020	< 0.020	74.7	< 2 R	< 5 J	NA	NA	NA	NA
	MW-213-1207	12/06/07	N	0.19 J-	0.476	0.768	0.641	0.00104	0.28 J-	< 0.02	< 0.02	6.26	< 2	< 5	NA	NA	NA	NA
	MW-213-0608	06/17/08	N	< 0.32	1.17	2.04	0.583	0.00161	0.33 J-	< 0.02	< 0.02	6.62	< 2	< 5	NA	NA	NA	NA
	MW-213-1208	12/09/08	N	0.13 J	1.6	2.4	0.685	0.00154 J	< 0.60	< 0.020	< 0.020	6.28 J-	< 2	< 5	NA	NA	NA	NA
	MW-213-0310	03/23/10	N	< 0.31	0.086	0.641 J+	0.113 J+	0.004	0.29	< 0.020	< 0.030	4.50 J+	< 2 J	< 5 J	< 0.005 Y	< 0.0099 Y	< 0.005 Y	< 0.005 Y
	MW-213-1010	10/21/10	N	0.89	0.125	5.14	0.381	0.00327	0.37	0.008	0.008	5.14	< 2	< 4.7	NA	NA	NA	NA
	MW-213-0611	06/28/11	N	0.64 J	0.111	6.22	4.37	0.00435	0.72	< 0.017	< 0.007	11.8	< 2	NA	NA	NA	NA	NA
	MW-213-1211	12/21/11	N	0.28	0.027	0.484	0.183	0.00251	0.22	< 0.020	< 0.020	2.39	< 2	NA	NA	NA	NA	NA
	MW-213-0612	06/07/12	N	1.6	0.23 J	17	2.9	0.0166	1.69	0.032 J+	0.024 J+	37.9	< 2	NA	NA	NA	NA	NA
	MW-213-1212	12/19/12	N	8.84	0.315	63.2	15.1 J	0.0485	6.86	0.126 J+	0.064 J+	135	< 2 J	NA	NA	NA	NA	NA
	MW-213-0613	06/27/13	N	1.59	0.04	5.54	1.42 J+	0.0073 J+	0.59 J+	< 0.02	< 0.02	9.42	< 2	NA	NA	NA	NA	NA
	MW-213-1213	12/16/2013	N	1.2	0.123 J+	16.8	5.32	0.0209	1.92 J+	0.028	0.012	32.3	< 2	NA	NA	NA	NA	NA
	MW-213-0614	6/26/2014	N	0.23	< 0.020	0.747	0.249 J+	0.00138 J+	< 0.20	< 0.020	< 0.020	1.8 J+	< 2	NA	NA	NA	NA	NA
	MW-213-1114	11/5/2014	N	0.05	< 0.020	0.56	0.157	0.00057	< 0.20	< 0.020	< 0.020	1.5 J+	< 2	NA	< 0.021 J	< 0.041 J	< 0.021 J	< 0.021 J
	MW-213-0615	7/2/2015	N	0.03 J	0.018 J	0.570 J+	0.205 J+	0.00077 J+	<0.20	<0.020	<0.020	1.78 J+	1.9 J	NA	NA	NA	NA	NA
	MW-213-0616	6/29/2016	N	NA	NA	3.64	0.747	NA	NA	NA	NA	5.79	<2	NA	NA	NA	NA	NA
	MW-213-0517	05/25/17	N	NA	NA	1.31	0.172	NA	NA	NA	NA	6.24	<2	NA	NA	NA	NA	NA
	MW-213-0518	05/15/18	N	NA	NA	1.12	0.483	NA	NA	NA	NA	12.4	<2	NA	NA	NA	NA	NA

Notes
Bold result indicates detected concentration exceeds cleanup goal
Underlined non-detected value indicates detection limit exceeds cleanup goal
N = Normal Sample
FD = Field Duplicate
D = Dissolved
T = Total
J = Estimated Concentration
J- = Estimated Concentration, biased low
J+ = Estimated Concentration, biased high
R = Result Rejected
Y = Reporting limit raised due to presence of interference
NA = Not Analyzed

			Chemical Name	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	1,1,1-Trichloro-ethane	1,1,2-Trichloro-ethane	Benzene	Carbon Tetra-chloride	Tetra-chloro-ethene	bis(2-Ethylhexyl) phthalate	Butylbenzyl-phthalate	Diethyl-phthalate	Dimethyl-phthalate	Di-n-Butyl-phthalate	Di-n-Octyl phthalate
			Total/Dissolved	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Action Level (µg/L)	0.03	0.03	0.03	0.03	0.03	42	42	71	4.4	8.8	2.2	1900	44000	1100000	4500	
Sample ID		Sample Date	Sample Type																
AC-06	AC-06A-1205	12/07/05	N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	AC-06A-0306	03/29/06	N	< 0.01	< 0.01	< 0.01	NA	NA	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	AC-06A-0606	06/08/06	N	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	AC-16-0606	06/08/06	FD	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	AC-06A-0906	09/19/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06A-1206	12/20/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	AC06A-0307	03/07/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06A-0607	06/05/07	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06-1207	12/05/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06-0608	06/18/08	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06-1208	12/11/08	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06A-0609	06/25/09	N	NA	NA	NA	NA	NA	NA	NA	< 1 J	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06A-0310	03/25/10	N	< 0.005 Y	< 0.005 Y	< 0.005 Y	< 0.005	< 0.005	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA
	AC-06A-1010	10/22/10	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06A-0611	06/30/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06A-1211	12/21/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06A-0612	06/06/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06A-1212	12/18/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06A-0613	06/25/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06A-1213	12/17/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06A-0614	06/25/14	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AC-06A-1114	11/05/14	N	< 0.020 J	< 0.020 J	< 0.020 J	< 0.020 J	< 0.020 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA
	AC-06A-1114	11/05/14	FD	< 0.020 J	< 0.020 J	< 0.020 J	< 0.020 J	< 0.020 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA
	AC-06A-0615	06/29/15	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FW-1	FW-1-0905	09/20/05	N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	FW-1-1205	12/06/05	N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	FW-1-0306	03/29/06	N	< 0.01	< 0.01	< 0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	FW-01-0606	06/08/06	N	< 0.02	< 0.010	< 0.010	< 0.010	< 0.010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	FW-01-0906	09/20/06	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	FW-01-1206	12/20/06	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	FW-1-0307	03/06/07	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	FW-01-0607	06/06/07	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	FW-1-1207	12/05/07	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	FW-01-0608	06/17/08	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	FW-01-1208	12/15/08	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	FW-01-0310	03/23/10	N	< 0.0082 Y	< 0.005	< 0.005	< 0.005	< 0.005	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA
FW-13	FW-13-0615	06/30/15	N	NA	NA	NA	NA	NA	NA	NA	< 0.50	NA	NA	NA	NA	NA	NA	NA	NA
	FW-13-0616	06/30/16	N	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA

			Chemical Name	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	1,1,1-Trichloro-ethane	1,1,2-Trichloro-ethane	Benzene	Carbon Tetra-chloride	Tetra-chloro-ethene	bis(2-Ethylhexyl) phthalate	Butylbenzyl-phthalate	Diethyl-phthalate	Dimethyl-phthalate	Di-n-Butyl-phthalate	Di-n-Octyl phthalate
			Total/Dissolved	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Action Level (µg/L)	0.03	0.03	0.03	0.03	0.03	42	42	71	4.4	8.8	2.2	1900	44000	1100000	4500	
Sample ID		Sample Date	Sample Type																
TD-06	TD-06A-0609	06/24/09	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TD-06A-0909	09/28/09	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TD-06A-1209	12/16/09	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TD-06A-0310	03/23/10	N	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.50	< 0.50	0.050 J	< 0.50	< 0.50	< 0.97	< 0.20	< 0.20	< 0.20	< 0.063	< 0.20
	TD-06A-1010	10/21/10	N	NA	NA	NA	NA	NA	NA	NA	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA
	TD-06A-0611	06/28/11	N	NA	NA	NA	NA	NA	NA	NA	< 0.50	NA	NA	NA	NA	NA	NA	NA	NA
	TD-06A-1211	12/21/11	N	NA	NA	NA	NA	NA	NA	NA	< 0.50	NA	NA	NA	NA	NA	NA	NA	NA
	TD-06A-0612	06/06/12	N	NA	NA	NA	NA	NA	NA	NA	< 0.50	NA	NA	NA	NA	NA	NA	NA	NA
	TD-06A-1212	12/20/12	N	NA	NA	NA	NA	NA	NA	NA	< 0.50	NA	NA	NA	NA	NA	NA	NA	NA
	TD-06A-0613	06/27/13	N	NA	NA	NA	NA	NA	NA	NA	< 0.50	NA	NA	NA	NA	NA	NA	NA	NA
	TD-06A-1213	12/17/13	N	NA	NA	NA	NA	NA	NA	NA	< 0.50	NA	NA	NA	NA	NA	NA	NA	NA
	TD-06A-0614	06/25/14	N	NA	NA	NA	NA	NA	NA	NA	< 0.50	NA	NA	NA	NA	NA	NA	NA	NA
	TD-06A-1114	11/05/14	N	< 0.020 J	< 0.020 J	< 0.020 J	< 0.020 J	< 0.020 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.95	< 0.19	< 0.19	< 0.19	< 0.19 J	< 0.19
	TD-06A-0517	05/25/17	N	NA	NA	NA	NA	NA	NA	NA	< 0.50	NA	NA	NA	NA	NA	NA	NA	NA
	TD-06A-0518	05/16/18	N	NA	NA	NA	NA	NA	NA	NA	< 0.2	NA	NA	NA	NA	NA	NA	NA	NA
HI-1	HI-1-0905	09/19/05	N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-1-1205	12/06/05	N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-1-0306	03/28/06	N	< 0.01	< 0.01	< 0.01	NA	NA	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-1-0606	06/07/06	N	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-1-0906	09/19/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-1206	12/19/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-0307	03/07/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-01-0607	06/05/07	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-1207	12/04/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-1207RE	12/19/07	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-0608	06/18/08	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-1208	12/11/08	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-100-1208	12/11/08	FD	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-0609	06/24/09	N	NA	NA	NA	NA	NA	NA	NA	< 1 J	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-0310	03/24/10	N	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.15 J	< 0.20	0.029 J	< 0.056	< 0.076	< 0.20
	HI-1-1010	10/21/10	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-0611	06/29/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-1211	12/22/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-0612	06/05/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-1212	12/19/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-0613	06/25/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-1213	12/16/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-0614	06/24/14	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-1114	11/04/14	N	< 0.021	< 0.021	< 0.021	< 0.021	< 0.021	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.95	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
	HI-1-0615	06/29/15	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-0616	06/30/16	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-0517	05/25/17	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-1-0518	05/16/18	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

			Chemical Name	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	1,1,1-Trichloro-ethane	1,1,2-Trichloro-ethane	Benzene	Carbon Tetra-chloride	Tetra-chloro-ethene	bis(2-Ethylhexyl) phthalate	Butylbenzyl-phthalate	Diethyl-phthalate	Dimethyl-phthalate	Di-n-Butyl-phthalate	Di-n-Octyl phthalate
			Total/Dissolved	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Action Level (µg/L)	0.03	0.03	0.03	0.03	0.03	42	42	71	4.4	8.8	2.2	1900	44000	1100000	4500	
Sample ID		Sample Date	Sample Type																
HI-2	HI-2-0905	09/19/05	N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-2-1205	12/06/05	N	< 0.01	< 0.01	< 0.01	< 0.01	NA	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-2-0306	03/28/06	N	< 0.01	< 0.01	< 0.01	NA	NA	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-2-0606	06/08/06	N	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-2-0906	09/18/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-1206	12/19/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-0307	03/07/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-02-0607	06/05/07	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-1207	12/05/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-0608	06/18/08	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-1208	12/11/08	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-0609	06/24/09	N	NA	NA	NA	NA	NA	NA	NA	< 1 J	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-0310	03/24/10	N	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.97	< 0.20	< 0.20	< 0.046	< 0.063	< 0.20
	HI-2-1010	10/21/10	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-0611	06/29/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-1211	12/22/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-0612	06/05/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-1212	12/19/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-0613	06/25/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-1213	12/17/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-0614	06/24/14	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-1114	11/04/14	N	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.95	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
	HI-2-0615	06/29/15	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-0616	06/30/16	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-0517	05/24/17	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-2-0518	05/16/18	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HI-3	HI-3-0905	09/19/05	N	< 0.075	< 0.1	< 0.02	< 0.015	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-3-1205	12/07/05	N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-3-0306	03/28/06	N	< 0.01	< 0.01	< 0.01	NA	NA	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-3-0606	06/08/06	N	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-3-0906	09/18/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-1206	12/19/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-0307	03/07/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-03-0607	06/05/07	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-1207	12/05/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-0608	06/18/08	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-1208	12/11/08	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-0609	06/24/09	N	NA	NA	NA	NA	NA	NA	NA	< 1 J	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-0310	03/24/10	N	< 0.005 Y	< 0.005 Y	< 0.005 Y	< 0.005 Y	< 0.005	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.96	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
	HI-3-1010	10/22/10	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-0611	06/29/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-1211	12/22/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-0612	06/05/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-1212	12/19/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-0613	06/25/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-1213	12/16/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-0614	06/25/14	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-1114	11/05/14	N	< 0.021 J	< 0.021	< 0.021	< 0.021	< 0.021	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.95	< 0.19	< 0.19	0.36	< 0.19	< 0.19
	HI-3-0615	07/01/15	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-0616	07/01/16	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-30-0616	07/01/16	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-0517	05/24/17	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-3-0518	05/17/18	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

			Chemical Name	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	1,1,1-Trichloro-ethane	1,1,2-Trichloro-ethane	Benzene	Carbon Tetra-chloride	Tetra-chloro-ethene	bis(2-Ethylhexyl) phthalate	Butylbenzyl-phthalate	Diethyl-phthalate	Dimethyl-phthalate	Di-n-Butyl-phthalate	Di-n-Octyl phthalate
			Total/Dissolved	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Action Level (µg/L)	0.03	0.03	0.03	0.03	0.03	42	42	71	4.4	8.8	2.2	1900	44000	1100000	4500	
Sample ID		Sample Date	Sample Type																
HI-4	HI-4-0905	09/20/05	N	< 0.075	< 0.05	< 0.015	< 0.015	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-4-1205	12/06/05	N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-4-0306	03/28/06	N	< 0.01	< 0.01	< 0.01	NA	NA	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-4-0606	06/07/06	N	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-4-0906	09/20/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-1206	12/19/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-0307	03/07/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-04-0607	06/05/07	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-1207	12/05/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-0608	06/18/08	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-1208	12/11/08	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-0609	06/24/09	N	NA	NA	NA	NA	NA	NA	NA	< 1 J	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-0310	04/05/10	N	< 0.0049 Y	< 0.0049	< 0.0049 Y	< 0.0049	< 0.0049	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.96	< 0.20	< 0.20	< 0.20	0.17 J	< 0.20
	HI-4-1010	10/22/10	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-0611	06/29/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-1211	12/11/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-0612	06/06/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-1212	12/19/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-0613	06/25/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-1213	12/17/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-0614	06/25/14	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-1114	11/05/14	N	< 0.021 J	< 0.021	< 0.021	< 0.021	< 0.021	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.95	< 0.19	< 0.19 J	0.30	< 0.19 J	< 0.19
	HI-4-0615	07/01/15	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-400-0615	07/01/15	FD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-0616	07/01/16	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-0517	05/26/17	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-4-0518	05/17/18	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

			Chemical Name	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	1,1,1-Trichloro-ethane	1,1,2-Trichloro-ethane	Benzene	Carbon Tetra-chloride	Tetra-chloro-ethene	bis(2-Ethylhexyl) phthalate	Butylbenzyl-phthalate	Diethyl-phthalate	Dimethyl-phthalate	Di-n-Butyl-phthalate	Di-n-Octyl phthalate
			Total/Dissolved	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Action Level (µg/L)	0.03	0.03	0.03	0.03	0.03	42	42	71	4.4	8.8	2.2	1900	44000	1100000	4500	
Sample ID		Sample Date	Sample Type																
HI-5	HI-5-0905	09/20/05	N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-5-1205	12/06/05	N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-5-0306	03/28/06	N	< 0.01	< 0.01	< 0.01	NA	NA	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-5-0606	06/08/06	N	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-5-0906	09/18/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-1206	12/19/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-0307	03/07/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-05-0607	06/05/07	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-1207	12/05/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-0608	06/18/08	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-1208	12/10/08	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-0609	06/25/09	N	NA	NA	NA	NA	NA	NA	NA	< 1 J	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-0310	03/25/10	N	< 0.005 J	< 0.005 J	< 0.005 J	< 0.005 J	< 0.005 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	7.3	< 0.20	0.033 J	< 0.058	< 0.061	< 0.20
	HI-5-1010	10/22/10	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.96	< 0.2	< 0.2	< 0.2	0.043	< 0.2
	HI-5-0611	06/30/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.98	< 0.20	0.029 J	< 0.20	0.035 J	< 0.20
	HI-5-1211	12/21/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.99	< 0.2	0.040	0.033	0.053	< 0.2
	HI-5-0612	06/07/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2	< 0.2 U	< 0.2 U	0.025 J	0.056 J	< 0.2
	HI-5-1212	12/18/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.15 J	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
	HI-5-0613	06/25/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.19	< 0.95	< 0.19	< 0.19	< 0.19	< 0.19
	HI-5-1213	12/18/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 5.0	< 0.20	0.26	< 0.20	< 0.20	< 0.20
	HI-5-0614	06/24/14	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.99	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
	HI-5-1114	11/04/14	N	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.95	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
	HI-5-0615	06/29/15	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-0616	06/29/16	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-0517	05/25/17	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-5-0518	05/17/18	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HI-6	HI-6-0905	09/20/05	N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-6-1205	12/07/05	N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-6-0306	03/29/06	N	< 0.01	< 0.01	< 0.01	NA	NA	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-6-0606	06/07/06	N	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-6-0906	09/19/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6-1206	12/20/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6-0307	03/07/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-06-0607	06/06/07	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6-1207	12/05/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6-0608	06/19/08	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6-1208	12/10/08	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6-0310	03/23/10	N	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA
	HI-6-1114	11/05/14	N	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA

			Chemical Name	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	1,1,1-Trichloro-ethane	1,1,2-Trichloro-ethane	Benzene	Carbon Tetra-chloride	Tetra-chloro-ethene	bis(2-Ethylhexyl) phthalate	Butylbenzyl-phthalate	Diethyl-phthalate	Dimethyl-phthalate	Di-n-Butyl-phthalate	Di-n-Octyl phthalate
			Total/Dissolved	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Action Level (µg/L)	0.03	0.03	0.03	0.03	0.03	42	42	71	4.4	8.8	2.2	1900	44000	1100000	4500	
Sample ID		Sample Date	Sample Type																
HI-6A	HI-6A-0609	06/24/09	N	NA	NA	NA	NA	NA	< 1 J	< 1 J	< 1 J	< 1 J	< 1 J	NA	NA	NA	NA	NA	NA
	HI-6A-0909	09/28/09	N	NA	NA	NA	NA	NA	< 0.50	< 0.50	0.040 J	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA
	HI-6A-1209	12/15/09	N	NA	NA	NA	NA	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA
	HI-6A-0310	03/23/10	N	< 0.005 Y	< 0.005 Y	< 0.005 Y	< 0.005	< 0.005	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.41 J	< 0.14	< 0.037	< 0.022	< 0.1	< 0.20
	HI-6A-1010	10/20/10	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6A-0611	06/28/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6A-1211	12/21/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6A-0612	06/06/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6A-1212	12/19/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6A-0613	06/27/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6A-1213	12/16/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6A-0614	06/24/14	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6A-1114	11/05/14	N	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.99	< 0.20	0.023	< 0.20	< 0.20	< 0.20
	HI-6A-0615	06/30/15	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6A-0616	07/01/16	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6A-0517	05/26/17	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-60-0517	05/26/17	FD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-6A-0518	05/17/18	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HI-7	HI-7-0905	09/21/05	N	< 0.02	< 0.015	< 0.02	< 0.02	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-17A-0905	09/21/05	FD	< 0.05	< 0.025	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-7-1205	12/05/05	N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-7-0306	03/29/06	N	< 0.01	< 0.01	< 0.01	NA	NA	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-7-0606	06/08/06	N	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-7-0906	09/19/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-7-1206	12/20/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-7-0307	03/06/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-07-0607	06/06/07	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-7-1207	12/07/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-7-0608	06/18/08	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-7-1208	12/10/08	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-7-0609	06/23/09	N	NA	NA	NA	NA	NA	NA	NA	< 1 J	NA	NA	NA	NA	NA	NA	NA	NA
	HI-7-0310	03/25/10	N	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.50	< 0.50	< 0.50	< 0.50	1.2	NA	NA	NA	NA	NA	NA
	HI-7-1010	10/20/10	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-7-0611	06/29/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.9	NA	NA	NA	NA	NA	NA
	HI-7-1211	12/19/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	NA	NA
	HI-7-0612	06/05/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.1	NA	NA	NA	NA	NA	NA
	HI-7-1212	12/20/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.12 J	NA	NA	NA	NA	NA	NA
	HI-7-0613	06/28/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.2 J	NA	NA	NA	NA	NA	NA
	HI-7 1213	12/18/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.17	NA	NA	NA	NA	NA	NA
	HI-7-0614	06/24/14	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.38 J	NA	NA	NA	NA	NA	NA
	HI-7-1114	11/05/14	N	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.50	< 0.50	< 0.50	< 0.50	0.59	NA	NA	NA	NA	NA	NA
	HI-7-0615	06/29/15	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

			Chemical Name	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	1,1,1-Trichloro-ethane	1,1,2-Trichloro-ethane	Benzene	Carbon Tetra-chloride	Tetra-chloro-ethene	bis(2-Ethylhexyl) phthalate	Butylbenzyl-phthalate	Diethyl-phthalate	Dimethyl-phthalate	Di-n-Butyl-phthalate	Di-n-Octyl phthalate
			Total/Dissolved	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Action Level (µg/L)	0.03	0.03	0.03	0.03	0.03	42	42	71	4.4	8.8	2.2	1900	44000	1100000	4500	
Sample ID		Sample Date	Sample Type																
HI-8	HI-8-0905	09/21/05	N	< 0.025	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-8-1205	12/05/05	N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-8-0306	03/29/06	N	< 0.01	< 0.01	< 0.01	NA	NA	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-8-0606	06/08/06	N	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-8-0906	09/19/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-1206	12/20/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-0307	03/06/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-0207-B	03/12/07	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-08-0607	06/06/07	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-1207	12/06/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-0608	06/19/08	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-1208	12/10/08	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-0609	06/23/09	N	NA	NA	NA	NA	NA	NA	NA	< 1 J	NA	NA	NA	NA	NA	NA	NA	NA
	HI-80-0609	06/23/09	FD	NA	NA	NA	NA	NA	NA	NA	< 1 J	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-0310	03/25/10	N	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA
	HI-8-1010	10/21/10	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-0611	06/28/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-1211	12/20/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-0612	06/05/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-1212	12/18/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-0613	06/26/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-1213	12/16/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-0614	06/25/14	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-8-1114	11/05/14	N	< 0.022	< 0.022	< 0.022	< 0.022	< 0.022	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA
	HI-8-0615	06/30/15	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HI-9	HI-9-0905	09/21/05	N	< 0.025	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-9-1205	12/05/05	N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-9-0306	03/29/06	N	< 0.01	< 0.01	< 0.01	NA	NA	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-9-0606	06/08/06	N	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-9-0906	09/19/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9-1206	12/20/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9-0307	03/07/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-09-0607	06/06/07	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9-1207	12/05/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	DUP01-120507	12/05/07	FD	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9-0608	06/19/08	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9-1208	12/10/08	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9-0310	03/22/10	N	< 0.020 Y	< 0.020 Y	< 0.020	< 0.020	< 0.020	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA
	HI-9-1114	11/04/14	N	< 0.021 J	< 0.038 J	< 0.021	< 0.021	< 0.021	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA

			Chemical Name	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	1,1,1-Trichloro-ethane	1,1,2-Trichloro-ethane	Benzene	Carbon Tetra-chloride	Tetra-chloro-ethene	bis(2-Ethylhexyl) phthalate	Butylbenzyl-phthalate	Diethyl-phthalate	Dimethyl-phthalate	Di-n-Butyl-phthalate	Di-n-Octyl phthalate
			Total/Dissolved	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Action Level (µg/L)	0.03	0.03	0.03	0.03	0.03	42	42	71	4.4	8.8	2.2	1900	44000	1100000	4500	
Sample ID		Sample Date	Sample Type																
HI-9A	HI-9A-0609	06/23/09	N	NA	NA	NA	NA	NA	< 1 J	< 1 J	< 1 J	< 1 J	< 1 J	NA	NA	NA	NA	NA	NA
	HI-9A-0909	09/29/09	N	NA	NA	NA	NA	NA	< 0.50	< 0.50	0.040 J	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA
	HI-9A-1209	12/15/09	N	NA	NA	NA	NA	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA
	HI-9A-0310	03/22/10	N	< 0.020	< 0.020 Y	< 0.020	< 0.020	< 0.020	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.95	< 0.19	< 0.022	< 0.029	< 0.048	< 0.19
	HI-90A-0310	03/22/10	FD	< 0.020 Y	< 0.020	< 0.020	< 0.020	< 0.020	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.95	< 0.024	< 0.026	< 0.025	< 0.036	< 0.19
	HI-9A-1010	10/20/10	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-90A-1010	10/20/10	FD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9A-0611	06/28/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-90A-0611	06/28/11	FD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9A-1211	21/21/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-90A-1211	21/21/11	FD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9A-0612	06/07/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-90A-0612	06/07/12	FD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9A-1212	12/18/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-90A-1212	12/18/12	FD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9A-0613	06/28/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-90A-0613	06/28/13	FD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9A-1213	12/17/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-90A-1213	12/17/13	FD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9A-0614	06/24/14	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-90A-0614	06/24/14	FD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9A-1114	11/04/14	N	< 0.021	< 0.021	< 0.021	< 0.021	< 0.021	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
	HI-90A-1114	11/04/14	FD	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
	HI-9A-0615	06/29/15	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9A-0616	06/29/16	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9A-0517	05/25/17	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-9A-0518	05/15/18	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-90-0518	05/15/18	FD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HI-10	HI-10-0905	09/21/05	N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-10-1205	12/05/05	N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-10-0306	03/29/06	N	< 0.01	< 0.01	< 0.01	NA	NA	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-10-0606	06/08/06	N	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-10-0906	09/19/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-100-1206	12/20/06	FD	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-1206	12/20/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-0307	03/07/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-101-0307	03/07/07	FD	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-0607	06/06/07	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-1207	12/05/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-0608	06/17/08	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-1208	12/10/08	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-0310	03/22/10	N	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA
	HI-10-1010	10/20/10	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-0611	06/28/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-1211	12/21/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-0612	06/07/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-1212	12/18/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-0613	06/27/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-1213	12/16/2013	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-0814	8/5/2014	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-1114	11/4/2014	N	< 0.021	< 0.021	< 0.021	< 0.021	< 0.021	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA
	HI-10-0615	6/30/2015	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-0616	6/29/2016	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-0517	05/24/17	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-10-0518	05/15/18	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

			Chemical Name	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	1,1,1-Trichloro-ethane	1,1,2-Trichloro-ethane	Benzene	Carbon Tetra-chloride	Tetra-chloro-ethene	bis(2-Ethylhexyl) phthalate	Butylbenzyl-phthalate	Diethyl-phthalate	Dimethyl-phthalate	Di-n-Butyl-phthalate	Di-n-Octyl phthalate
			Total/Dissolved	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Action Level (µg/L)	0.03	0.03	0.03	0.03	0.03	42	42	71	4.4	8.8	2.2	1900	44000	1100000	4500	
Sample ID		Sample Date	Sample Type																
HI-10A	HI-10A-0609	06/23/09	N	NA	NA	NA	NA	NA	< 1 J	< 1 J	< 1 J	< 1 J	< 1 J	NA	NA	NA	NA	NA	NA
	HI-10A-0909	09/28/09	N	NA	NA	NA	NA	NA	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA
	HI-10A-1209	12/15/09	N	NA	NA	NA	NA	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA
	HI-10A-0310	03/22/10	N	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.95	< 0.19	< 0.024	< 0.023	< 0.05	< 0.19
	HI-10A-1114	11/4/2014	N	< 0.021	< 0.021	< 0.021	< 0.021	< 0.021	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.95 U	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
HI-11	HI-11-0905	09/21/05	N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-11-1205	12/05/05	N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-11-0306	03/29/06	N	< 0.01	< 0.01	< 0.01	NA	NA	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-11-0606	06/08/06	N	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-11-0906	09/19/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-1206	12/20/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-0307	03/07/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-0607	06/07/07	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-1207	12/04/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-1207	12/04/07	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-0608	06/19/08	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-1208	12/10/08	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-0609	06/23/09	N	NA	NA	NA	NA	NA	NA	NA	< 1 J	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-0310	03/25/10	N	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.96	< 0.20	0.017 J	< 0.057	< 0.043	< 0.20
	HI-11-1010	10/21/10	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-0611	06/30/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-1211	12/22/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-0612	06/06/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-1212	12/18/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-0613	06/26/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-1213	12/16/2013	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-0614	6/24/2014	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-1114	11/5/2014	N	< 0.022	< 0.022	< 0.022	< 0.022	< 0.022	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.1	< 0.21	< 0.21	< 0.21	< 0.21	< 0.21
	HI-11-0615	7/1/2015	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-0616	6/30/2016	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-0517	05/25/17	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-11-0518	05/15/18	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

			Chemical Name	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	1,1,1-Trichloro-ethane	1,1,2-Trichloro-ethane	Benzene	Carbon Tetra-chloride	Tetra-chloro-ethene	bis(2-Ethylhexyl) phthalate	Butylbenzyl-phthalate	Diethyl-phthalate	Dimethyl-phthalate	Di-n-Butyl-phthalate	Di-n-Octyl phthalate
			Total/Dissolved	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Action Level (µg/L)	0.03	0.03	0.03	0.03	0.03	42	42	71	4.4	8.8	2.2	1900	44000	1100000	4500	
Sample ID		Sample Date	Sample Type																
HI-12	HI-12-0905	09/19/05	N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-12-1205	12/06/05	N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-12-0306	03/28/06	N	< 0.01	< 0.01	< 0.01	NA	NA	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-12-0606	06/07/06	N	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-12-0906	09/18/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-1206	12/19/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-0307	03/07/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-0607	06/05/07	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-1207	12/04/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-0608	06/17/08	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-112-0608	06/17/08	FD	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-1208	12/10/08	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-0310	03/24/10	N	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA
	HI-12-1010	10/21/10	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-0611	06/29/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-1211	12/22/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-0612	06/05/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-1212	12/19/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-0613	06/26/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-1213	12/18/2013	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-0614	6/24/2014	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-1114	11/4/2014	N	< 0.021	< 0.021	< 0.021	< 0.021	< 0.021	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA
	HI-12-0615	6/29/2015	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-0616	7/1/2016	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-0517	05/26/17	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-12-0518	05/17/18	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HI-12A	HI-12A-0609	06/24/09	N	NA	NA	NA	NA	NA	< 1 J	< 1 J	< 1 J	< 1 J	< 1 J	NA	NA	NA	NA	NA	NA
	HI-12A-0909	09/29/09	N	NA	NA	NA	NA	NA	< 0.50	< 0.50	0.040 J	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA
	HI-12A-1209	12/16/09	N	NA	NA	NA	NA	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA
	HI-12A-0310	03/24/10	N	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	1.6	< 0.20	< 0.20	< 0.047	< 0.042	< 0.20
	HI-12A-1114	11/4/2014	N	< 0.021	< 0.021	< 0.021	< 0.021	< 0.021	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.95	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19

			Chemical Name	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	1,1,1-Trichloro-ethane	1,1,2-Trichloro-ethane	Benzene	Carbon Tetra-chloride	Tetra-chloro-ethene	bis(2-Ethylhexyl) phthalate	Butylbenzyl-phthalate	Diethyl-phthalate	Dimethyl-phthalate	Di-n-Butyl-phthalate	Di-n-Octyl phthalate
			Total/Dissolved	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Action Level (µg/L)	0.03	0.03	0.03	0.03	0.03	42	42	71	4.4	8.8	2.2	1900	44000	1100000	4500	
Sample ID		Sample Date	Sample Type																
HI-13	HI-13-0905	09/20/05	N	< 0.1	< 0.05	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-13-1205	12/07/05	N	< 0.015	< 0.02	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-13-0306	03/28/06	N	< 0.01	< 0.01	< 0.01	NA	NA	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-13-0606	06/08/06	N	< 0.025	< 0.010	< 0.010	< 0.010	< 0.010	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-13-0906	09/19/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-1206	12/19/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-0307	03/07/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-0607	06/05/07	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-113-0607	06/05/07	FD	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-1207	12/06/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-0608	06/18/08	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-1208	12/11/08	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-113-1208	12/11/08	FD	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-0609	06/24/09	N	NA	NA	NA	NA	NA	NA	NA	< 1 J	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-0310	03/24/10	N	< 0.039 Y	< 0.017 Y	< 0.005	< 0.005 Y	< 0.005	< 1.3	< 1.3	0.13 J	< 1.3	< 1.3	NA	NA	NA	NA	NA	NA
	HI-13-1010	10/21/10	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-0611	06/29/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-1211	12/20/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-0612	06/06/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-1212	12/19/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-0613	06/26/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-1213	12/17/2013	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-0614	6/24/2014	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-13-1114	11/4/2014	N	< 0.02 J	< 0.02	< 0.02	< 0.02	< 0.02	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA
	HI-13-0615	6/29/2015	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

			Chemical Name	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	1,1,1-Trichloro-ethane	1,1,2-Trichloro-ethane	Benzene	Carbon Tetra-chloride	Tetra-chloro-ethene	bis(2-Ethylhexyl) phthalate	Butylbenzyl-phthalate	Diethyl-phthalate	Dimethyl-phthalate	Di-n-Butyl-phthalate	Di-n-Octyl phthalate
			Total/Dissolved	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Action Level (µg/L)	0.03	0.03	0.03	0.03	0.03	42	42	71	4.4	8.8	2.2	1900	44000	1100000	4500	
Sample ID		Sample Date	Sample Type																
HI-14	HI-14-0905	09/20/05	N	< 0.025	< 0.03	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-14-1205	12/06/05	N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-14-0306	03/28/06	N	< 0.01	< 0.01	< 0.01	NA	NA	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-14-0606	06/07/06	N	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-14-0906	09/20/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-1206	12/19/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-0307	03/07/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-0607	06/05/07	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-1207	12/06/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-0608	06/18/08	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-1208	12/11/08	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-0609	06/25/09	N	NA	NA	NA	NA	NA	NA	NA	< 1 J	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-0310	03/24/10	N	< 0.0049	< 0.0049	< 0.0049	< 0.0049	< 0.0049	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA
	HI-14-1010	10/21/10	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-0611	06/29/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-1211	12/20/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-0612	06/05/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-1212	12/19/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-0613	06/27/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-1213	12/17/2013	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-0614	6/24/2014	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-14-1114	11/4/2014	N	< 0.020 J	< 0.020 J	0.0074 J	< 0.020 J	< 0.020 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA
	HI-14-0615	6/29/2015	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HI-15	HI-15-0905	09/20/05	N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-15-1205	12/06/05	N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-15-0306	03/29/06	N	< 0.01	< 0.01	< 0.01	NA	NA	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-15-0606	06/08/06	N	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-15-0906	09/19/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-1206	12/19/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-0307	03/07/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-0607	06/05/07	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-1207	12/06/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-0608	06/18/08	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-1208	12/11/08	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-0609	06/25/09	N	NA	NA	NA	NA	NA	NA	NA	< 1 J	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-0310	03/24/10	N	< 0.005 Y	< 0.005 Y	< 0.005 Y	< 0.005 Y	< 0.005	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA
	HI-15-1010	10/22/10	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-0611	06/29/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-1211	12/21/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-0612	06/07/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-1212	12/18/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-0613	06/25/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-1213	12/18/2013	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-150-0814	8/4/2014	FD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-0814	8/4/2014	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-15-1114	11/4/2014	N	< 0.021 J	< 0.021 J	< 0.021 J	< 0.021 J	< 0.021 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA
	HI-15-0615	6/30/2015	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

			Chemical Name	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	1,1,1-Trichloro-ethane	1,1,2-Trichloro-ethane	Benzene	Carbon Tetra-chloride	Tetra-chloro-ethene	bis(2-Ethylhexyl) phthalate	Butylbenzyl-phthalate	Diethyl-phthalate	Dimethyl-phthalate	Di-n-Butyl-phthalate	Di-n-Octyl phthalate
			Total/Dissolved	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Action Level (µg/L)	0.03	0.03	0.03	0.03	0.03	42	42	71	4.4	8.8	2.2	1900	44000	1100000	4500	
Sample ID		Sample Date	Sample Type																
HI-16	HI-16-0905	09/19/05	N	< 0.1	< 0.2	< 0.03	< 0.02	< 0.01	< 1	< 1	1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-16-1205	12/06/05	N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 1	1.4	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-16-0306	03/28/06	N	< 0.01	< 0.01	< 0.01	NA	NA	< 1	< 1	1.2	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-16-0606	06/07/06	N	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	HI-16-0906	09/20/06	N	NA	NA	NA	NA	NA	NA	NA	1.3	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-1206	12/19/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-0307	03/06/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-0607	06/06/07	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-1207	12/05/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-0608	06/18/08	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-1208	12/11/08	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-0609	06/25/09	N	NA	NA	NA	NA	NA	NA	NA	< 1 J	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-0310	03/25/10	N	< 0.0077 Y	< 0.005 Y	< 0.005 Y	< 0.005	< 0.005	< 0.50	< 0.50	0.070 J	< 0.50	< 0.50	< 0.98	< 0.20	< 0.20	< 0.20	< 0.051	< 0.20
	HI-16-1010	10/22/10	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-0611	06/29/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-1211	12/22/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-0612	06/06/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-1212	12/19/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-0613	06/25/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-1213	12/17/2013	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-0614	6/24/2014	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-1114	11/4/2014	N	< 0.021 J	< 0.021	< 0.021	< 0.021	< 0.021	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	1.4	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
	HI-16-0615	6/29/2015	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-0616	6/30/2016	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-0517	05/24/17	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-16-0518	05/16/18	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HI-17	HI-17-0609	06/25/09	N	NA	NA	NA	NA	NA	< 1 J	< 1 J	< 1 J	< 1 J	< 1 J	NA	NA	NA	NA	NA	NA
	HI-170-0609	06/25/09	FD	NA	NA	NA	NA	NA	< 1 J	< 1 J	< 1 J	< 1 J	< 1 J	NA	NA	NA	NA	NA	NA
	HI-17-0909	09/29/09	N	NA	NA	NA	NA	NA	< 0.50	< 0.50	0.10 J	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA
	HI-170-0909	09/29/09	FD	NA	NA	NA	NA	NA	< 0.50	< 0.50	0.10 J	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA
	HI-17-1209	12/16/09	N	NA	NA	NA	NA	NA	< 0.5	< 0.5	0.04 J	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA
	HI-170-1209	12/16/09	FD	NA	NA	NA	NA	NA	< 0.5	< 0.5	0.05 J	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA
	HI-17-0310	03/26/10	N	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.50	< 0.50	0.15 J	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA
	HI-170-0310	03/26/10	FD	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.50	< 0.50	0.15 J	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA
	HI-17-1010	10/22/10	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-170-1010	10/22/10	FD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-17-0611	06/30/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-170-0611	06/30/11	FD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-17-1211	12/21/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-170-1211	12/21/11	FD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-17-0612	06/07/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-170-0612	06/07/12	FD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-17-1212	12/20/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-170-1212	12/20/12	FD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-17-0613	06/27/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-170-0613	06/27/13	FD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-17-1213	12/18/2013	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-170-1213	12/18/2013	FD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-17-0614	6/25/2014	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-170-0614	6/25/2014	FD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-17-1114	11/6/2014	N	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA
	HI-170-1114	11/6/2014	FD	< 0.021	< 0.021	< 0.021	< 0.021	< 0.021	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA
	HI-17-0615	7/1/2015	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-170-0615	7/1/2015	FD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

			Chemical Name	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	1,1,1-Trichloro-ethane	1,1,2-Trichloro-ethane	Benzene	Carbon Tetra-chloride	Tetra-chloro-ethene	bis(2-Ethylhexyl) phthalate	Butylbenzyl-phthalate	Diethyl-phthalate	Dimethyl-phthalate	Di-n-Butyl-phthalate	Di-n-Octyl phthalate
			Total/Dissolved	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Action Level (µg/L)	0.03	0.03	0.03	0.03	0.03	42	42	71	4.4	8.8	2.2	1900	44000	1100000	4500	
Sample ID		Sample Date	Sample Type																
HI-18	HI-18-0609	06/25/09	N	NA	NA	NA	NA	NA	< 1 J	< 1 J	< 1 J	< 1 J	< 1 J	NA	NA	NA	NA	NA	NA
	HI-18-0909	09/28/09	N	NA	NA	NA	NA	NA	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA
	HI-18-1209	12/16/09	N	NA	NA	NA	NA	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA
	HI-18-0310	03/26/10	N	< 0.005 Y	< 0.005	< 0.005	< 0.005	< 0.005	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA
	HI-18-1010	10/21/10	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-18-0611	06/29/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-18-1211	12/20/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-18-0612	06/07/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-18-1212	12/20/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-18-0613	06/25/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-18-1213	12/18/2013	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-18-0614	6/25/2014	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-18-1114	11/6/2014	N	< 0.021	< 0.021	< 0.021	< 0.021	< 0.021	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA	NA	NA	NA	NA	NA
	HI-18-0615	6/30/2015	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-18-0616	6/29/2016	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-18-0517	05/25/17	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HI-18-0518	05/15/18	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-01/MW-01R	MW-01-0905	09/20/05	N	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	MW-01-1205	12/07/05	N	< 0.01	< 0.01	< 0.01 J	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	MW-01-0306	03/29/06	N	< 0.01	< 0.01	< 0.01	NA	NA	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	MW-10-0306	03/29/06	FD	< 0.01	< 0.01	< 0.01	NA	NA	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	MW-01-0606	06/08/06	N	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	MW-01-0906	09/20/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	MW-101-0906	09/20/06	FD	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01-1206	12/20/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	MW-1-0307	03/06/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01-0607	06/06/07	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	MW-1-1207	12/05/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01-0608	06/19/08	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01-1208	12/10/08	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01-0609	06/23/09	N	NA	NA	NA	NA	NA	NA	NA	< 1 J	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01-0310	03/23/10	N	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.14 J	< 0.082	< 0.015	< 0.025	< 0.067	< 0.20
	MW-01-1010	10/21/10	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01-0611	06/28/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01-1211	21/21/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01-0612	06/07/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01-1212	12/19/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01-0613	06/26/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01-1213	12/17/2013	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01R-0814	8/5/2014	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01R-1114	11/5/2014	N	< 0.021 J	< 0.021 J	< 0.021 J	< 0.021 J	< 0.021 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	3.1	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
	MW-01R-0615	6/30/2015	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01R-0616	6/30/2016	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01R-0517	05/26/17	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-01R-0518	05/16/18	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

			Chemical Name	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	1,1,1-Trichloro-ethane	1,1,2-Trichloro-ethane	Benzene	Carbon Tetra-chloride	Tetra-chloro-ethene	bis(2-Ethylhexyl) phthalate	Butylbenzyl-phthalate	Diethyl-phthalate	Dimethyl-phthalate	Di-n-Butyl-phthalate	Di-n-Octyl phthalate
			Total/Dissolved	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Action Level (µg/L)	0.03	0.03	0.03	0.03	0.03	42	42	71	4.4	8.8	2.2	1900	44000	1100000	4500	
Sample ID		Sample Date	Sample Type																
MW-213	MW-213-0905	09/20/05	N	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	MW-213-1205	12/06/05	N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	MW-21-1205	12/06/05	FD	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	MW-213-0306	03/29/06	N	< 0.01	< 0.01	< 0.01	NA	NA	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	MW-213-0606	06/07/06	N	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 1	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA
	MW-213-0906	09/20/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-1206	12/20/06	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-0307	03/06/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-0607	06/06/07	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-1207	12/06/07	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-0608	06/17/08	N	NA	NA	NA	NA	NA	NA	NA	< 1	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-1208	12/09/08	N	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-0310	03/23/10	N	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.95	< 0.19	< 0.19	< 0.038	< 0.06	< 0.19
	MW-213-1010	10/21/10	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-0611	06/28/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-1211	12/21/11	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-0612	06/07/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-1212	12/19/12	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-0613	06/27/13	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-1213	12/16/2013	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-0614	6/26/2014	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-1114	11/5/2014	N	< 0.021 J	< 0.021 J	< 0.021 J	< 0.021 J	< 0.021 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.95	< 0.19	< 0.19	< 0.19	< 0.19 J	< 0.19
	MW-213-0615	7/2/2015	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-0616	6/29/2016	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-0517	05/25/17	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-213-0518	05/15/18	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes
Bold result indicates detected concentration exceeds cleanup goal
Underlined non-detected value indicates detection limit exceeds cleanup goal
N = Normal Sample
FD = Field Duplicate
D = Dissolved
T = Total
J = Estimated Concentration
J- = Estimated Concentration, biased low
J+ = Estimated Concentration, biased high
R = Result Rejected
Y = Reporting limit raised due to presence of interference
NA = Not Analyzed