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23 February 2016

Dena Thompson (PM-H)
CESAS-PM-H
100 W. Oglethorpe Ave.
Savannah, GA 31401-3640

Subject: Submittal of the *Long-term Monitoring Report, October 2015 Event, FTBR-305 (Site 305), Fort Bragg, North Carolina* (Contract W912QR-12-D-0002, Task Order CV02)

Ms. Thompson,

Please find enclosed one hard copy and one electronic copy of the *Long-term Monitoring Report, October 2015 Event, FTBR-305 (Site 305), Fort Bragg, North Carolina.* This document was prepared by Parsons Government Services, Inc. (Parsons) for the U.S. Army Engineer District, Savannah and the Fort Bragg Directorate of Public Works (DPW). A copy of this document was also submitted to the North Carolina Department of Environmental Quality (NCDEQ).

If you have any questions or require additional information, please contact me at (801) 572-5999 or at ross.miller@parsons.com.

Sincerely,

PARSONS

Ross Miller PhD, P.E.
Project Manager

cc:

Mr. Paul Humphrey– Fort Bragg DPW (1 electronic copy)
Ms. Marti Morgan – NCDEQ (1 electronic copy)

LONG-TERM MONITORING REPORT

SITE FTBR-305

OCTOBER 2015 SAMPLING EVENT

ENVIRONMENTAL REMEDIATION SERVICES

AT

FORT BRAGG, NORTH CAROLINA

Prepared For:

USACE Savannah District

and

Fort Bragg

Prepared By:

PARSONS

February 2016

LONG-TERM MONITORING REPORT

FTBR-305 (SITE 305)

OCTOBER 2015 SAMPLING EVENT

Project Title: Performance Based Remediation of 66 Sites, Fort Bragg-Pope AAF, North Carolina

Project Number: 748776

Client Name: U.S. Army Corp of Engineers, Savannah District

Contract Number: W912QR-12-D-0002, Task Order CV02

Contractor: Parsons Government Services, Inc.

Original Submission: NA

REVIEWED AND APPROVED BY:

Project Manager: _____ February 4, 2016
Ross Miller, PhD, P.E. Date

Task Manager: _____ February 4, 2016
Angie M. Welch, P.G. Date

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ACRONYMS AND ABBREVIATIONS

AAF	Army Air Field
AFB	Air Force Base
AFCEE	Air Force Center for Environmental Excellence
AOCs	Areas of Concern
ARARs	Applicable or Relevant and Appropriate Requirement
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
COC	Chemicals of Concern
HBRA	Human Health Baseline Risk Assessment
IDW	Investigation derived waste
IRP	Installation Restoration Program
LTM	Long Term Monitoring
MCL	Maximum Contaminant Level
N.C. 2L	North Carolina Subchapter 2L groundwater standards
NCDEQ	North Carolina Department of Environmental Quality
PA/SI	Preliminary Assessment/Site Inspection
PCE	Tetrachloroethylene
PRGs	Preliminary Remediation Goals
QC	Quality control
RI	Remedial Investigation
TCE	Trichloroethene
TPH	Total Petroleum Hydrocarbons
TS	Treatability Study
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
VOC	Volatile organic compound
WAA	Waste Accumulation Area

LONG-TERM MONITORING REPORT
SITE 305 (FTBR-305)
OCTOBER 2015 SAMPLING EVENT
FORT BRAGG, NORTH CAROLINA

1.0 INTRODUCTION

This Long-term Monitoring (LTM) report presents the results of groundwater monitoring conducted by Parsons at FTBR-305 (Site 305) during the October 2015 monitoring event. This report was prepared by Parsons to meet the format and content requirements identified in the United States Army Corps of Engineers (USACE) Performance Work Statement issued for this Task Order, and the Project Management Plan for Remediation Services at Fort Bragg, North Carolina for Task Order CV02 issued under contract number W912QR-12-D-0002.

1.1 Project Description and Objectives

Remediation at Site 305 is being conducted pursuant to Comprehensive Environmental Response Compensation and Liability Act (CERCLA) corrective action requirements, with the North Carolina Department of Environmental Quality (NCDEQ) as the lead regulatory agency. The LTM activities are being performed to monitor contaminant concentration trends over time and to determine if contamination is migrating offsite. The analytical results from the groundwater samples for each sampling event will be compared to the North Carolina Subchapter 2L Groundwater Standards (N.C. 2L standards), or the federal Maximum Contaminant Levels (MCLs) in the absence of N.C. 2L standards. Groundwater monitoring is to comply with the Record of Decision document (URS, 2012). Six groundwater samples from the site monitoring wells will be collected annually and analyzed for volatile organic compounds (VOCs) and metals. The Record of Decision specifies that sampling frequency will be annual for five years and then re-evaluated to determine if continued monitoring is necessary and at what frequency it is required.

1.2 Site Description and Summary of Previous Investigations

1.2.1 Fort Bragg

The U.S. Army Reservation at Fort Bragg was established in 1918 as a major logistic, training, and mobilization deployment center for the XVIII Airborne Corps, which is part of the U.S. Army's mobile infantry, assault, and armored forces. Fort Bragg occupies approximately 161,024 acres in southeast North Carolina. Approximately 143,140 acres are designated for field maneuvers and military exercises. The cantonment area, which is in the eastern part of Fort Bragg, occupies 11,354 acres and includes approximately 6,195 buildings. Most military maintenance and production facilities, supply facilities, operation and training facilities, community installations, and family and troop housing are located within the cantonment area.

Fort Bragg lies within the Sand Hills section of the North Carolina Coastal Plain (Figure 1). The Sand Hills area is characterized by deep, sandy soil and has variable elevations. The topography at Fort Bragg is characterized by gently to steeply sloping ridges. Elevations across the base range from 550 feet above mean sea level (amsl) in the western part to about 150 feet amsl in the northeastern part of the military reservation. Site specific geologic and hydrogeologic information was provided in the USACE Statement of Work and in the United States Geological Survey (USGS) *RCRA Facility Investigation (RFI) Report* (USGS, 1996a and 1996b). The Fort Bragg area is underlain by three freshwater aquifers: the saprolite-basement, the Cape Fear, and the Middendorf aquifers. The subsurface material consists primarily of saprolite, sand, silty sand, clay, and sandy clay. The major water-bearing strata at Fort Bragg are in the Middendorf Formation (Bhate, 2005).

1.2.2 Site 305 Overview

Site 305 (formerly designated as individual sites SS004 and SS018) is part of an industrial area in the northwest section of the former Pope Air Force Base (AFB). In March 2011, Pope AFB was closed and the lands returned to Department of Army control. Pope AFB was re-designated Pope Army Airfield (AAF). Based on historical and recent analytical data obtained from both Sites SS0018 and SS004, it is apparent that the environmental impacts to the two sites are related and that the impacts most likely originate from the same source. For this reason, site impacts are being addressed together. The formerly independent sites (SS018 and SS004) are most recently referred to as the Combined Study Area; however, they are also administratively referred to as FTBR-305 or Site 305.

The boundaries of Site 305 included the majority of the industrial area between the Blue Ramp north to the former Pope AFB boundary, including the Lox Street Facility and the wooded area to its west.

1.2.3 Site 305 Previous Characterization History

1.2.3.1 Phase I-Records Search for Pope AFB

Site SS004 has been under investigation since 1985 when the Phase I Records Search (Parsons, 1985) identified waste disposal discrepancies and indicated that potential releases could have occurred during wheel and tire shop operations. The Phase I concluded that the wheel and tire shop and waste accumulation area (WAA) had sufficient potential to create environmental contamination and recommended further investigation.

1.2.3.2 1989 Limited Remedial Investigation

Metcalf & Eddy (1993) completed a limited Remedial Investigation (RI) at Site SS004 in two separate phases (Phase I and Phase II) beginning in 1989 and ending in 1992. The Phase II RI Report concluded that soil at Site SS004 was impacted by past operations at the wheel and tire shop and identified the metals arsenic, lead, and selenium as the primary chemicals of concern (COCs). The report recommended that impacted soils be

removed to a depth of 12 feet below ground surface (ft bgs) and additional groundwater investigation be performed at the site.

1.2.3.3 1992 Soil Excavation Activities

In October of 1992, OHM advanced four soil borings within the WAA at Site SS004 to a depth of 20 ft bgs. A total of 20 soil samples were collected from the four soil borings (BH1 through BH4) and analyzed for VOCs, metals, and total petroleum hydrocarbons (TPH). Based on these analytical results, approximately 1,302 tons of impacted soil was removed between November 1992 and April 1993 from the WAA to a depth of 12 ft bgs (OHM, 1992). Excavation within the original WAA was completed in December 1992; however, additional excavation was recommended to remove segments of drainage piping (and impacted soil) located to the south and southwest of the WAA excavation.

1.2.3.4 1993 Rapid Response Action

Additional excavation activities were completed at Site SS004 in 1993 as part of a rapid response action. During excavation at Area A, the block building was demolished and the shop's degreaser wash basin and floor drainage network were removed. Impacted soils were removed to a depth of 6.8 ft bgs at Area A. Impacted soils around the drainage piping extending to the south of the WAA toward the storm drain line discharge point were excavated to a depth of approximately 8 ft bgs. This excavation area was identified as Area B.

Approximately 500 tons of soil was excavated from Areas A and B during the 1993 rapid response action. The Revised-Final Rapid Response Remedial Action Report (OHM, 1993) concluded that TPH contamination may still be present near the building foundation where excavation was not possible.

1.2.3.5 1995 PA/SI for Multi-Sites

A preliminary Assessment/Site Inspection (PA/SI) was completed in 1995 for 66 Areas of Concern (AOCs) located throughout Pope AAF, six of which are in the vicinity and northwest of Site SS018. The six AOCs discussed in this section were designated:

- AOC26 – Building 731 – Battery Shop
- AOC50 – Oil/Water Separator (OWS) for building 715
- AOC51 – Oil/Water Separator for building 712
- AOC52 – Oil/Water Separator for building 731
- AOC53 – Oil/Water Separator for building 726 (and 724)
- AOC54 – Oil/Water Separator for building 736

AOC26 and AOC52 are located next to building 731 within the boundary of Site SS018. Both AOC53 and AOC54 are located on the edge of the Blue Ramp, east of Site SS018. AOC54 is located on Site SS007 near building 736 and AOC53 is located near buildings 724 and 726. AOC51 is located on the west side of building 712 within the Site

SS004 area. The OWS, known as AOC50, is positioned just northeast of Site SS004, adjacent to building 715, which houses the Armament and Propeller Shops.

1.2.3.6 2002 Multi-Site Treatability Study

A Treatability Study (TS) was performed at five Installation Restoration Program (IRP) sites on Pope AAF, and a report was submitted in 2002 (URS, 2002). Fieldwork was completed in 1999. Two of these five sites were Site SS004 and Site SS007. Groundwater analytical results from wells MW7-03 and MW7-06 were compared to the applicable groundwater quality standards described in 15A NCAC 02L.0202 (NC 2L standards) and interim standards, national drinking water standards, and USEPA Region 9 tap water preliminary remediation goals (PRGs). At Site SS007, benzene exceeded all three criteria in well MW7-03. Tetrachloroethylene (PCE) was not detected in the 1999 groundwater samples from well MW7-03 or MW7-06. At Site SS004, analytes exceeded at least one of the criteria.

1.2.3.7 2002 Seven Site RI

An RI was completed at Site SS004 to investigate and characterize the extent of groundwater contamination and complete a baseline risk assessment. Fieldwork was completed from 1996 to 1997. The draft RI was submitted in 1998 and the final RI was submitted in August 2002 (URS, 2002).

Several VOCs were determined to exceed the NC 2L standards during this sampling event. These VOCs include the following:

- Benzene (up to [estimated] 110 micrograms per liter [ug/L])
- Ethylbenzene (up to [estimated] 57 ug/L)
- Bromodichloromethane (at [estimated] 2 ug/L)
- Trichchloroethene 9(TCE) (up to 9 ug/L)
- PCE (up to 8 ug/L)

Concentrations of chlorinated hydrocarbons in groundwater were low and determined to be from the WAA. No clear evidence was found that BTEX and metals contamination in groundwater northwest of the WAA was directly associated with the past operations at the wheel and tire shop.

1.2.3.8 Site SS004 Supplemental RI

Based on conclusions and recommendations of the 2002 Seven Site RI, URS was contracted to complete a Supplemental RI at Site SS004 (URS, 2005a). The project objective for the RI was focused on further assessment of groundwater contamination, collections of subsurface soil samples at monitoring well locations and development of a baseline risk assessment. The Supplemental RI activities were performed at the Site from 2003 to 2004.

Laboratory analytical data for subsurface soil and groundwater samples were compared to the applicable screening guidelines. Metals data for soils was further

compared to Base-wide background values established during the 2005 Air Force Center for Environmental Excellence (AFCEE) study (AFCEE, 2005).

1.2.3.9 Site SS018 Phase I RI

In April 2004, a Phase I RI was submitted for Site SS018 (URS, 2004). The Phase I RI Report for Site SS018 concluded that additional site investigation was required to determine the source and extent of chlorinated hydrocarbons in the groundwater.

1.2.3.10 Site SS018 Phase II RI

In 2005, URS was contracted by AFCEE to complete a Phase II RI addressing the recommendations provided by the Phase I RI. During the Phase II RI it became apparent that the SS004 spill site was likely the source of groundwater contamination detected at Site SS018. Following the report, the Pope AFB Tier 1 partnering team elected to combine the two sites to form the Combined Study Area.

The Human Health Baseline Risk Assessment (HBRA) found that conditions at SS018 pose a potential risk to human health for future hypothetical residential land uses. Applicable or relevant and appropriate requirements (ARARs) were also exceeded for PCE, TCE, chloroform, and arsenic.

2.0 FIELD ACTIVITIES AND SAMPLING METHODOLOGY

Monitoring activities were conducted by Parsons on 22-23 October 2015 in accordance with the Final Quality Assurance Project Plan/Sampling and Analysis Plan for Performance Based Remediation of 66 Sites at Fort Bragg-Pope AAF (Parsons, 2013). Groundwater samples were collected from six site wells at Site 305 and analyzed for TAL metals and VOCs.

2.1 Water Level Gauging

Static groundwater level measurements were collected using an electronic water level indicator. The indicator probe was lowered into each monitoring well until the alarm sounded and/or the indicator light illuminated. The probe was then withdrawn several feet and slowly lowered again until the groundwater surface was contacted, as noted by the alarm and/or indicator light. Water level measurements were estimated to the nearest 0.01 ft from the top of the well casing. Depth to water and groundwater elevation measurements from each monitoring well are summarized in Table 1. Well construction data, including screened intervals of each well, is provided in Appendix A. A potentiometric surface map depicting shallow groundwater flow is provided in Figure 3.

2.2 Monitoring Well Purging, Sampling, and Analysis

Purging and sampling of monitoring wells were performed using a decontaminated, non-dedicated bladder pump. Dedicated Teflon®-lined polyethylene tubing was used with the bladder pump and disposable polyethylene tubing was used with the peristaltic pump. Decontamination of non-dedicated equipment used for the purging of monitoring

wells and collection of groundwater samples was conducted between samples. All decontamination liquids were contained and recovered for disposal as investigative derived waste (IDW).

Purging was performed using low-flow techniques with a pumping rate of less than 500 milliliters per minute (mL/min). The pH, specific conductance, dissolved oxygen (DO), oxidation-reduction potential (Redox), turbidity and temperature of the groundwater were recorded during well purging and sampling using a YSI 556® multi-meter equipped with a flow-through cell and a Lamotte 2020® stand-alone turbidity meter. The parameter readings were considered stabilized when three consecutive readings, taken at three to five minute intervals, satisfy the following NCDEQ criteria: temperature (± 0.2°C), pH (± 0.2 Standard Units), specific conductance (± 5.0% of reading), ORP (± 10% millivolts [not required by NCDEQ criteria, but included in Parsons standard operating procedure]), DO (± 0.2 mg/L or 10% whichever is greater), and turbidity (± 5 NTUs, or 10% whichever is greater). A summary of the water quality parameters measured prior to sample collection are presented in **Table 4**, and field forms are provided in **Appendix C**.

Sampling of the monitoring wells was conducted immediately after completion of purging. All groundwater samples were transferred directly into pre-labeled laboratory sample containers from the pump discharge (bladder pump) or from the discharge tubing (peristaltic pump). Immediately after collection of samples, each container was placed into an ice-filled cooler to ensure preservation. Groundwater samples were shipped to Gulf Coast Analytical Laboratories, Inc. in Baton Rouge, Louisiana under standard chain of custody procedures. Gulf Coast Analytical Laboratories, Inc. is currently accredited by the North Carolina Division of Water Quality and holds certificate number 618. In accordance with the Sampling and Analysis Plan/Quality Assurance Project Plan for Remediation Services at Fort Bragg-Pope AAF, North Carolina (Parsons 2012), Gulf Coast Analytical Laboratories, Inc. provided analyses for the following parameters:

- VOCs by USEPA Method 8260B
- Metals by USEPA Methods 6020A, 7470A

Quality Control (QC) samples were collected during the LTM event to determine and evaluate laboratory precision and accuracy. Field duplicates were collected at a frequency of 10% of normal samples per the overall October 2015 event at all sites. One trip blank was collected per cooler of VOCs shipped to the lab. Equipment blanks were collected at a frequency of 5% for the overall event at all sites.

2.3 Investigative Derived Waste (IDW)

All purge water and decontamination fluids were containerized within 55-gallon drums and properly sealed and labeled. Drums were staged at the post drum storage yard adjacent to Building 3-1137. The IDW was classified as non-hazardous based on previous analytical profiles and transported to an appropriate disposal facility.

3.0 GROUNDWATER ANALYTICAL RESULTS SUMMARY

This section presents the results of groundwater analysis from the October 2015 event at Site 305. A summary of the groundwater analytical data is presented in Table 2, and detections of compounds exceeding their respective NC 2L standard are presented on Figure 4. Laboratory data sheets are included in Appendix B.

- **Monitoring Well 18M16 -** One VOC was detected at a concentration above the N.C. 2L Standard.
    - PCE (0.791 J µg/L compared to 0.7 µg/L standard)
- **Monitoring Well 18M19 -** Two VOCs were detected at a concentration above the N.C. 2L Standard.
    - TCE (4.72 µg/L compared to 3.0 µg/L standard)
    - PCE (0.899 J µg/L compared to 0.7 µg/L standard)
- **Monitoring Well MW4-01 -** Two VOCs were detected at a concentration above the N.C. 2L Standard.
    - Benzene (7.9 µg/L compared to 1µg/L standard)
    - PCE (0.845 J µg/L compared to 0.7 µg/L standard)
- **Monitoring Well MW4-13 –** Two VOCs were detected at a concentration above the N.C. 2L Standard:
    - PCE (12.4 µg/L compared to 0.7 µg/L standard)
    - TCE (3.69µg/L compared to 3.0 µg/L standard)
- **Monitoring Well MW4-14 –** One VOC was detected at a concentration above the N.C. 2L Standard:
    - PCE (3.18 µg/L compared to 0.7 µg/L standard)

3.1 Historical Analytical Data

Historical site data are summarized in Table 3, and trend charts showing historical concentrations of PCE and TCE are shown on Figure 4. Historical sampling data indicate a decreasing trend in PCE and TCE concentrations, and current concentrations are either below or slightly above the respective NC 2L standard. Monitoring well 4-13 was an exception to this decreasing trend in PCE during the October 2015 event, there was an increase in concentration from 2.2 µg/L in November 2014 to 12.4 µg/L during the most recent sampling event.

4.0 CONCLUSIONS AND RECOMMENDATIONS

During the October 2015 monitoring round, TCE, PCE, and Benzene were the only compounds detected at a concentration exceeding the NC 2L standard. Twelve rounds of historical groundwater monitoring have occurred at Site 305 between April 1997 and October 2015 (Table 3), and a review of historical data indicates a decreasing trend in TCE and PCE concentrations and low-level concentrations for several consecutive

monitoring rounds. The ROD specifies that sampling frequency should be re-evaluated after five annual rounds. As such, it is recommended that the monitoring frequency at this site be reduced to every three years. This recommendation is made due to the relatively low concentrations, the lack of receptors, and the stability of the plume (as evaluated from historical data and also documented in the Five Year Review). It is further recommended that metals analysis be eliminated from the monitoring program. Only Mn and Fe exceed their respective NC 2L standards, and these compounds are not associated with the original release at this site. These compounds are likely naturally occurring or are the result of historic hydrocarbon biodegradation given the industrial land use and proximity to the flight line.

5.0 REFERENCES

Parsons, 2013. *Final Quality Assurance Project Plan/Sampling and Analysis Plan for Performance Based Remediation of 66 Sites at Fort Bragg-Pope AAF* Parsons, 2013.

URS, 2012. *Record of Decision for Pope Army Air Field SS018, North Carolina*. January 2012.

URS, 2013. *Groundwater Monitoring Report-DRAFT, Year 4 LTM Sampling Event –May 2013 - SS018, Pope Army Airfield, North Carolina*. July 2013.

FIGURES

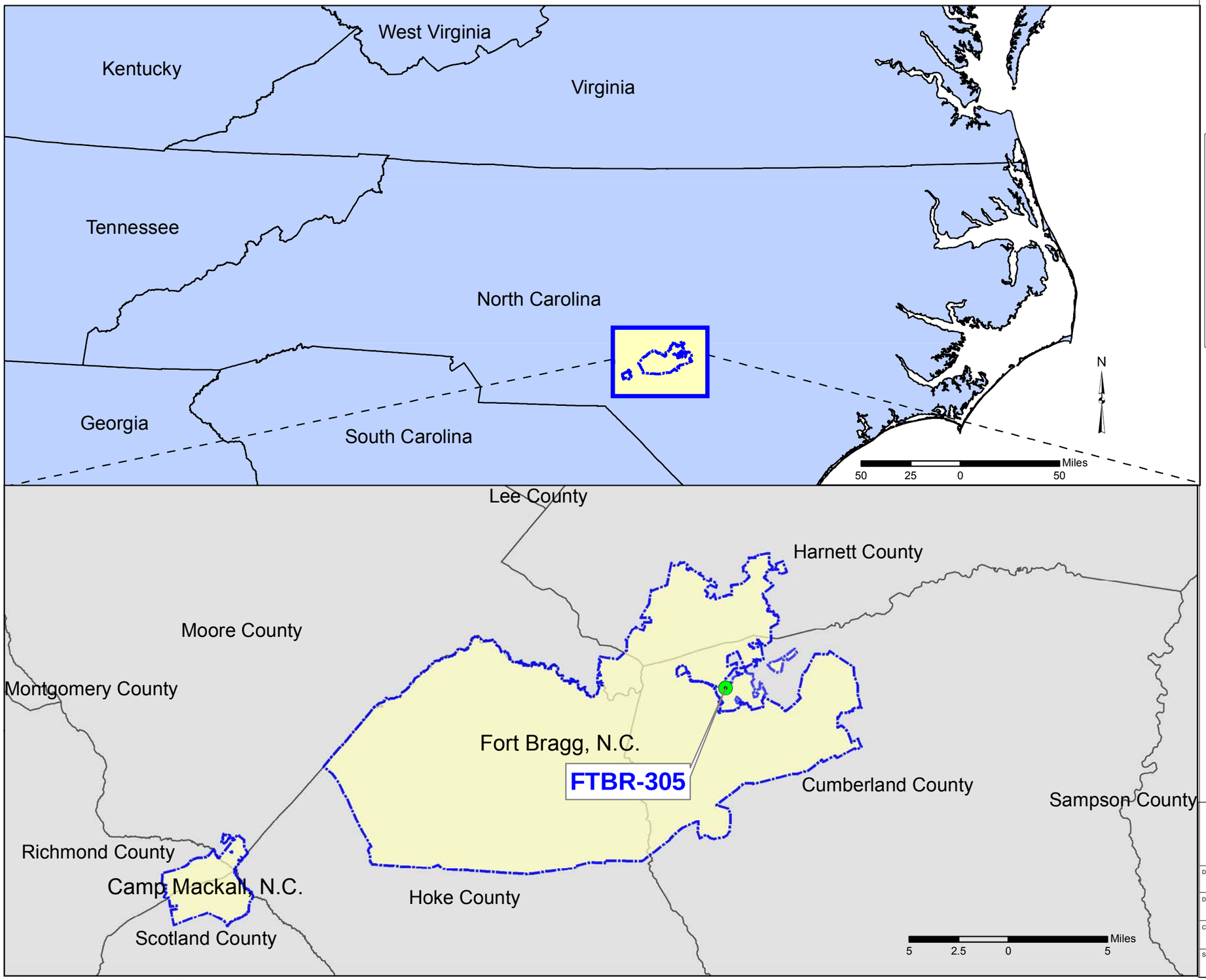


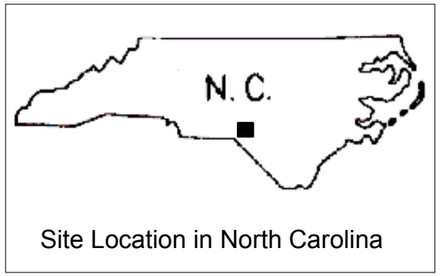
Figure 1

Site Location
FTBR-305

Fort Bragg, North Carolina

Legend

- FTBR-305
- Installation Boundary
- County Boundary
- State Boundary



Coordinate System: North Carolina State Plane, NAD83, Feet

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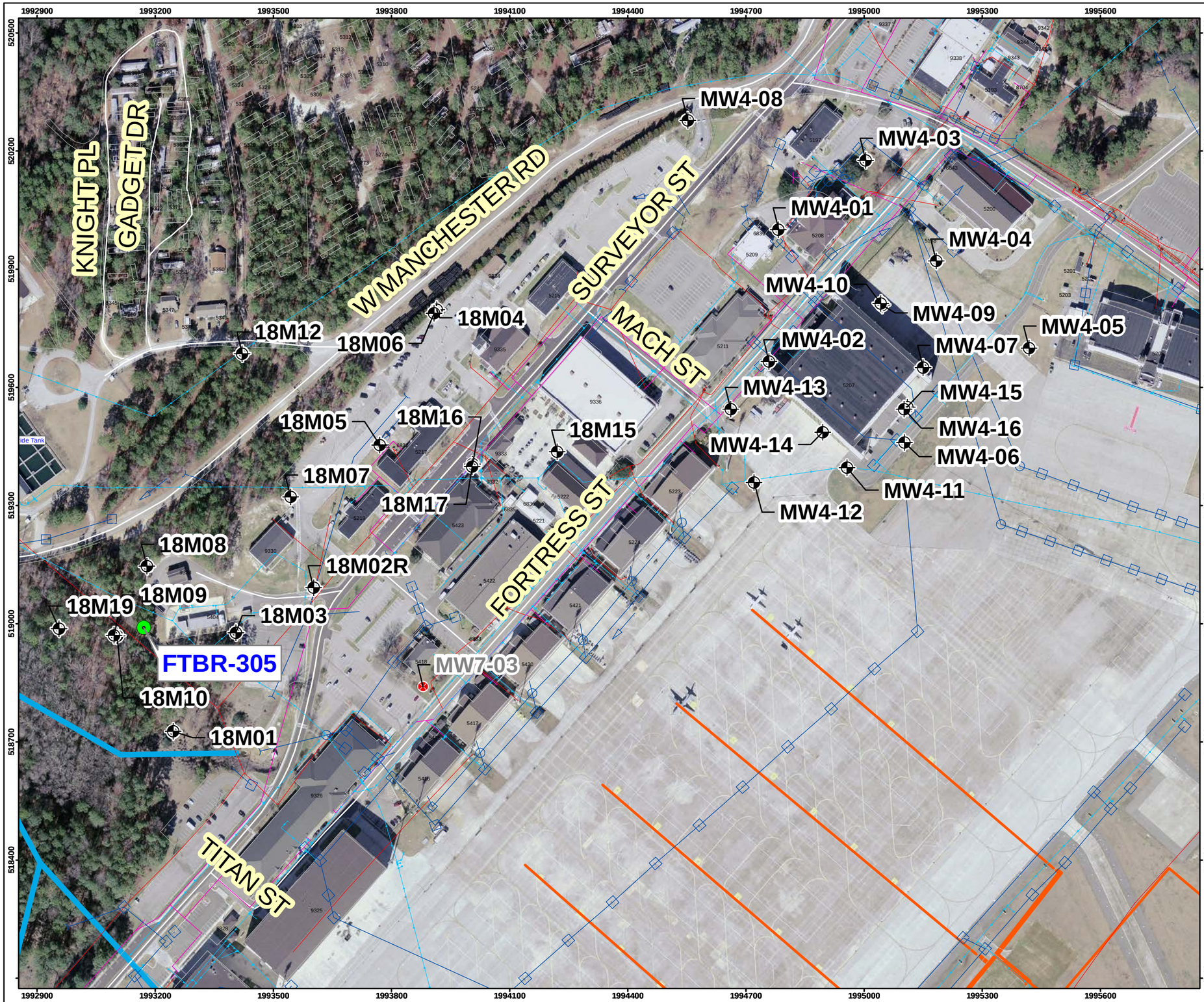


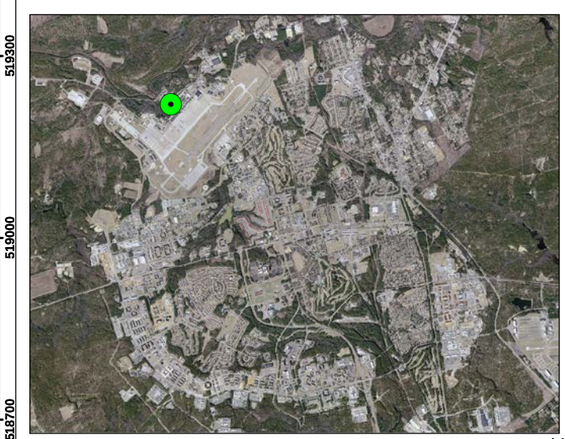
Figure 2

Site FTBR-305
Site Layout

Fort Bragg, North Carolina

Legend

- Street/Road
- Stream
- Building
- Existing Infrastructure
- Monitoring Well Location
- Monitoring Well Location - Abandoned
- Location of FTBR-305
- Fuel Line
- Electrical Line
- Gas Line
- Water Line
- Storm Sewer Line



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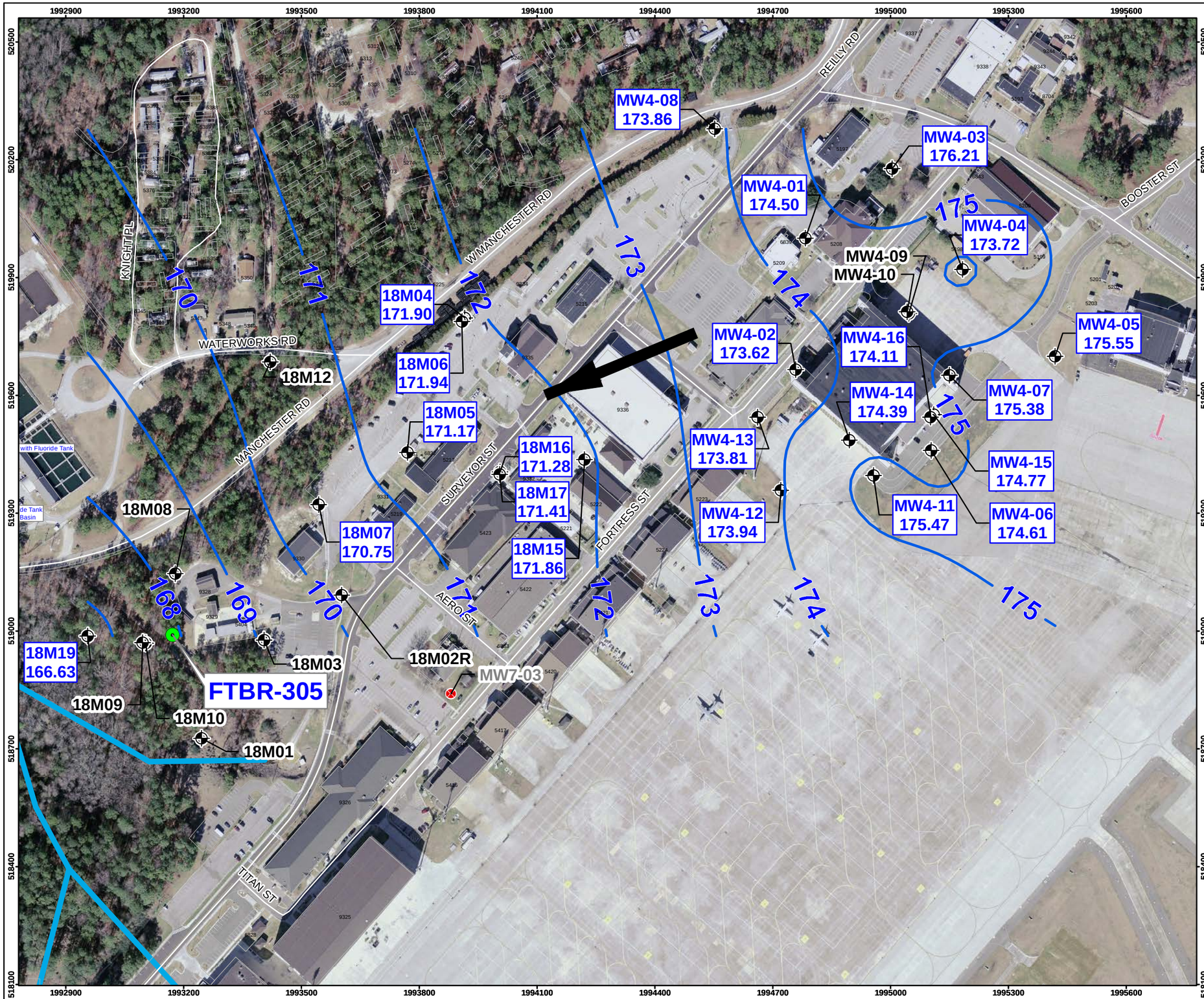

Figure 3

FTBR-305
Groundwater Potentiometric Surface
October 2015 Event
Fort Bragg, North Carolina

Legend

- Street/Road
- Stream
- Building
- Existing Infrastructure
- Monitoring Well Location
- Monitoring Well Location - Abandoned
- Location of FTBR-305
- 175 — 175 Groundwater Elevation Contour, Dash where inferred
- MW4-05 175.55 — Well ID; Groundwater Elevation (feet above mean sea level)
- Groundwater Flow Direction

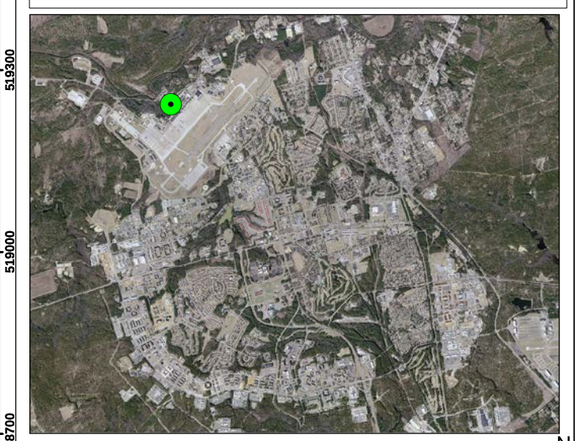

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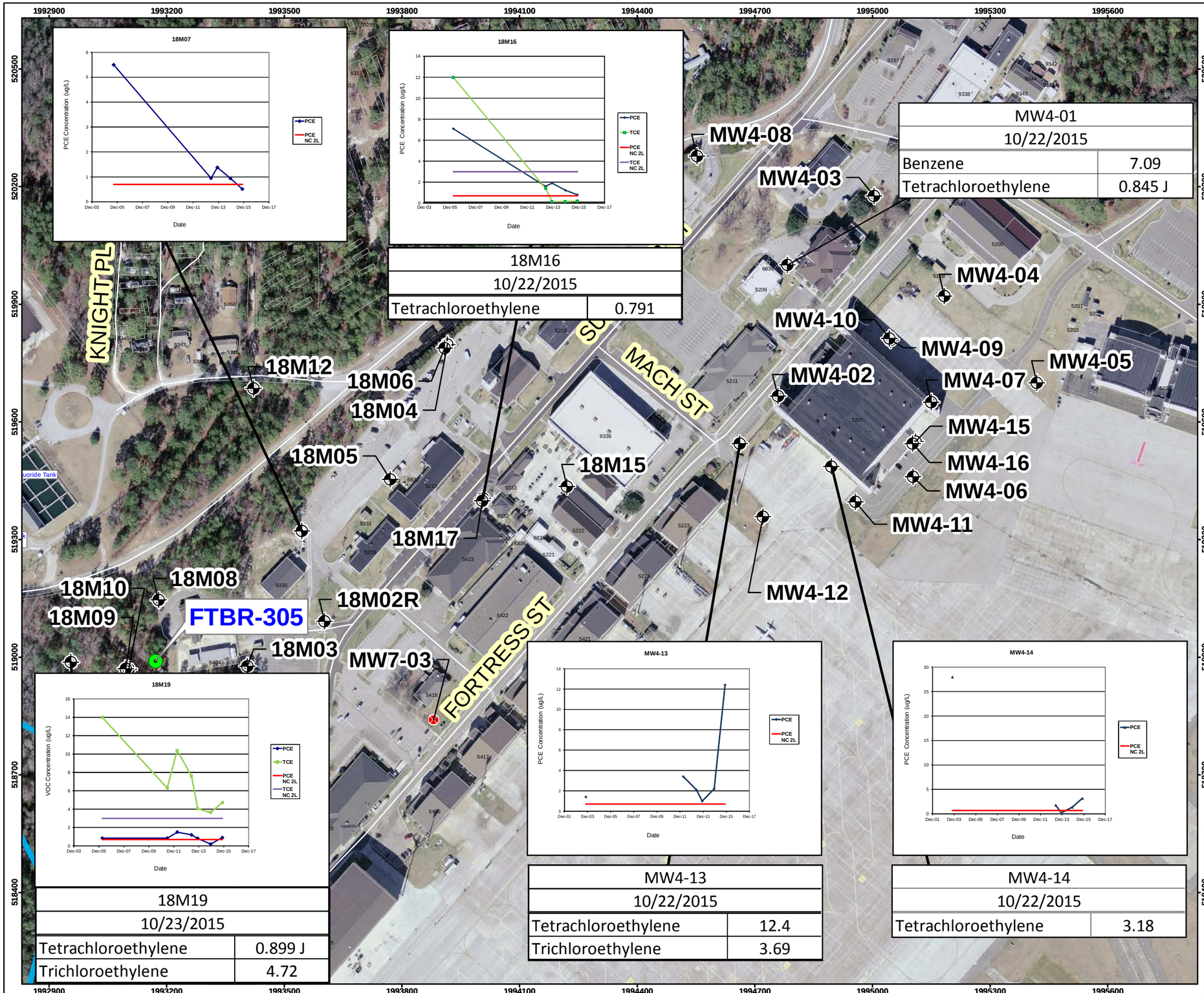
Figure 4

FTBR-305
Groundwater Analytical Results
NC 2L Exceedances
October 2015 Monitoring Event
Fort Bragg, North Carolina



MW4-01	
10/22/2015	
Benzene	7.09
Tetrachloroethylene	0.845 J

18M16	
10/22/2015	
Tetrachloroethylene	0.791

18M19	
10/23/2015	
Tetrachloroethylene	0.899 J
Trichloroethylene	4.72

MW4-13	
10/22/2015	
Tetrachloroethylene	12.4
Trichloroethylene	3.69

MW4-14	
10/22/2015	
Tetrachloroethylene	3.18

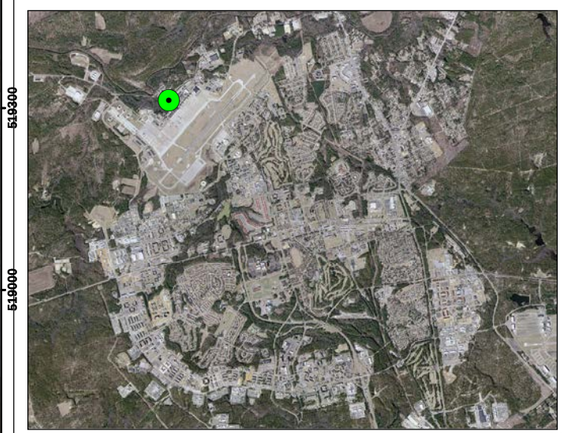
Legend

- Street/Road
- Stream
- Building
- Existing Infrastructure
- Monitoring Well Location
- Monitoring Well Location - Abandoned
- Location of FTBR-305

All concentrations are in ug/L.

"J" = estimated value due to discrepancies in meeting certain analyte-specific quality control criteria.

NC 2L = North Carolina Subchapter 2L Groundwater Standards



Coordinate System: North Carolina State Plane, NAD83, Feet

250 125 0 250 Feet

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DRAWN BY:	LH
CHECKED BY:	AW
SUBMITTED BY:	AW

FTBR-305
Groundwater Analytical Results
NC 2L Exceedances
October 2015 Monitoring Event

SCALE: As Shown
PROJECT NUMBER:
DATE: January 2016
FIGURE NUMBER: 4
FILE: FTBR_305.mxd

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TABLES

Table 1
Well Gauging Summary
FTBR-305 (Site 305)
Ft. Bragg, NC

Monitoring Well	Screen Interval (ft bgs)	TOC Elevation (ft msl)	Well Depth (ft bgs)	Depth to Water (ft btoc)	Date Measured	Water Elevation (ft msl)
18MW03	19.8-29.8	190.18	30.00	Could not locate	11/14/13	--
				Could not locate	11/12/14	--
				Could not locate	10/22/15	--
18MW04	38.3-41.3	193.81	41.50	22.13	11/13/13	171.68
				22.39	11/12/14	171.42
				21.91	10/22/15	171.90
18MW05	18.3-28.3	189.71	28.50	18.51	11/13/13	171.20
				18.85	11/12/14	170.86
				18.54	10/22/15	171.17
18MW06	20.2-30.2	193.9	30.40	22.22	11/13/13	171.68
				22.50	11/12/14	171.40
				21.96	10/22/15	171.94
18MW07	22.2-32.2	191.94	32.40	21.21	11/13/13	170.73
				21.49	11/12/14	170.45
				21.19	10/22/15	170.75
18MW13*	3.0-18.0	156.6	18.00	5.47	05/20/13	151.13
				5.23	01/12/14	151.37
				5.88	11/16/14	150.72
				5.90	10/25/15	150.70
18MW15	12.5-27.5	191.24	27.50	19.35	11/13/13	171.89
				19.65	11/12/14	171.59
				19.38	10/22/15	171.86
18MW16	12.0-27.0	189.06	27.30	17.78	11/13/13	171.28
				18.02	11/12/14	171.04
				17.78	10/22/15	171.28
18MW17	42.0-47.0	189.22	47.00	17.80	11/13/13	171.42
				18.08	11/12/14	171.14
				17.81	10/22/15	171.41
18MW19	6.0-21.0	174.49	21.20	8.02	11/15/13	166.47
				8.22	11/12/14	166.27
				7.86	10/22/15	166.63
MW4-01	16.0-31.0	191.91	31.20	17.15	11/13/13	174.76
				17.94	11/12/14	173.97
				17.41	10/22/15	174.50
MW4-02	17.0-32.0	193.67	32.20	20.18	11/13/13	173.49
				20.40	11/12/14	173.27
				20.05	10/22/15	173.62
MW4-03	13.0-28.0	189.63	28.20	14.19	11/13/13	175.44
				14.48	11/12/14	175.15
				13.42	10/22/15	176.21
MW4-04	15.0-30.0	191.94	30.20	NA	11/13/13	--
				18.22	10/22/15	173.72
MW4-05	15.0-30.0	193.96	30.20	18.75	11/13/13	175.21
				18.91	11/11/14	175.05
				18.41	10/22/15	175.55
MW4-06	17.0-32.0	193.7	32.20	19.12	11/13/13	174.58
				19.36	11/11/14	174.34
				19.09	10/22/15	174.61
MW4-07	17.0-32.0	195.11	32.20	19.91	11/13/13	175.20
				20.11	11/11/14	175.00
				19.73	10/22/15	175.38
MW4-08	18.0-33.0	195.23	33.20	21.91	11/13/13	173.32
				22.07	11/12/14	173.16
				21.37	10/22/15	173.86
MW4-09	30.0-33.0	193.81	33.20	Unable to open	11/13/13	--
				Unable to open	11/12/14	--
				Unable to open	10/22/15	--

Table 1
Well Gauging Summary
FTBR-305 (Site 305)
Ft. Bragg, NC

Monitoring Well	Screen Interval (ft bgs)	TOC Elevation (ft msl)	Well Depth (ft bgs)	Depth to Water (ft btoc)	Date Measured	Water Elevation (ft msl)
MW4-10	17.0-27.0	194.01	27.20	Unable to open	11/13/13	--
				Unable to open	11/12/14	--
				Unable to open	10/22/15	--
MW4-11	15.8-25.8	194.66	26.00	20.13	11/13/13	174.53
				20.39	11/11/14	174.27
				19.19	10/22/15	175.47
MW4-12	15.8-25.8	192.73	26.00	18.68	11/13/13	174.05
				18.96	11/11/14	173.77
				18.79	10/22/15	173.94
MW4-13	16.8-26.8	193.93	27.00	20.00	11/13/13	173.93
				20.35	11/12/14	173.58
				20.12	10/22/15	173.81
MW4-14	16.8-26.8	194.64	27.00	20.23	11/13/13	174.41
				20.45	11/11/14	174.19
				20.25	10/22/15	174.39
MW4-15	15.8-25.8	194.36	26.00	19.66	11/13/13	174.70
				19.86	11/11/14	174.50
				19.59	10/25/15	174.77
MW4-16	36.8-41.8	194.52	42.00	20.46	11/13/13	174.06
				20.94	11/11/14	173.58
				20.41	10/22/15	174.11
MW7-03*	15.0-30.0	192.16	30.00	20.81	11/13/13	171.35
				21.00	11/12/14	171.16
				Abandoned November 2014		

Notes:
NA - Not Available
ft msl - feet above mean sea level
ft btoc - feet below top of casing
* Well associated with adjacent site. 18MW13 is gauged and sampled with Site 44

Table 2
Analytical Results, October 2015 Event
FTBR-305 (Site 305)
Fort Bragg, NC

Well ID Date Sampled units Laboratory Control ID	Federal MCL (ug/L)	NC 2L Ground-water Standard (ug/L)	305 18M07 10/23/2015 ug/L N 21510241302	305 18M16 10/22/2015 ug/L N 21510231004	305 18M19 10/23/2015 ug/L N 21510241303	305 MW4-01 10/22/2015 ug/L N 21510231006	305 MW4-13 10/22/2015 ug/L N 21510231002	305 MW4-14 10/22/2015 ug/L FD 21510231003	305 MW4-14 10/22/2015 ug/L N 21510231001
Metals									
ALUMINUM	NA	NA	**98**	**160**	**480**	**49**	**530**	**13900**	**15100**
ANTIMONY	6	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
ARSENIC	10	10	0.2 U	0.2 U	**0.58 J**	**0.35 J**	**0.61 J**	**12**	**13**
BARIUM	2000	700	**81**	**70**	**110**	**62**	**92**	**89**	**95**
BERYLLIUM	4	4	0.2 U	0.2 U	**0.43 J**	0.2 U	**0.53 J**	**1.3**	**1.5**
CADMIUM	5	2	**0.57 J**	**0.61 J**	0.2 U	0.2 U	**1**	**4.1**	**4.4**
CALCIUM	NA	NA	**21300**	**17300**	**8140**	**7550**	**11700**	**45600**	**47700**
CHROMIUM, TOTAL	100	10	**7**	**0.83 J**	**4.3**	0.2 U	**0.31 J**	**0.86 J**	**0.93 J**
COBALT	NA	1	0.2 U	**0.74 J**	**2.6**	**1.1**	**2.7**	**43**	**45**
COPPER	1300	1000	0.2 U	**0.67 J**	**1.4**	**0.26 J**	**0.76 J**	**1.8**	**1.8**
IRON	NA	300	25 U	25 U	**420**	**380**	**63 J**	25 U	25 U
LEAD	15	15	0.2 U	0.2 U	**0.35 J**	**3.3**	**0.37 J**	**3.1**	**3.3**
MAGNESIUM	NA	NA	**3280**	**2600**	**2570**	**1170**	**2450**	**9510**	**10200**
MANGANESE	NA	50	**170**	**460**	**56**	**24**	**800**	**5530**	**6080**
NICKEL	NA	100	0.5 U	**0.91 J**	**3.9**	0.5 U	**1.8 J**	**9.1**	**9.4**
POTASSIUM	NA	NA	**3310**	**3040**	**2370**	**2880**	**2960**	**3320**	**3540**
SELENIUM	50	20	**0.92 J**	**0.51 J**	0.2 U	0.2 U	**0.49 J**	0.2 U	**1.1**
SILVER	NA	20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
SODIUM	NA	NA	**4890**	**10700**	**13100**	**4240**	**2270**	**3610**	**3680**
THALLIUM	2	0.2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VANADIUM	NA	0.3	**0.59 J**	**0.66 J**	**4.1**	**4.8**	**0.36 J**	0.2 U	0.2 U
ZINC	NA	1000	5 U	5 U	**6 J**	5 U	**5.6 J**	**31**	**34**
MERCURY	2	1	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**0.49**	**0.55**
VOCs									
1,1,1-TRICHLOROETHANE	200	200	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2,2-TETRACHLOROETHANE	NA	0.2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-TRICHLOROETHANE	5	0.6	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-DICHLOROETHANE	NA	6	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-DICHLOROETHENE	7	350	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-DICHLOROPROPENE	NA	NA	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2,3-TRICHLOROBENZENE	NA	NA	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2,3-TRICHLOROPROPANE	NA	0.005	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2,4-TRICHLOROBENZENE	70	70	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2,4-TRIMETHYLBENZENE	NA	400	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-DIBROMOETHANE	NA	0.02	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-DICHLOROBENZENE	600	20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-DICHLOROETHANE	5	0.4	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-DICHLOROPROPANE	5	0.6	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,3,5-TRIMETHYLBENZENE	NA	400	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,3-DICHLOROBENZENE	NA	200	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,3-DICHLOROPROPANE	NA	0.4	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,4-DICHLOROBENZENE	75	6	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U

Table 2
Analytical Results, October 2015 Event
FTBR-305 (Site 305)
Fort Bragg, NC

Well ID Date Sampled units Laboratory Control ID	Federal MCL (ug/L)	NC 2L Ground-water Standard (ug/L)	305 18M07 10/23/2015 ug/L N 21510241302	305 18M16 10/22/2015 ug/L N 21510231004	305 18M19 10/23/2015 ug/L N 21510241303	305 MW4-01 10/22/2015 ug/L N 21510231006	305 MW4-13 10/22/2015 ug/L N 21510231002	305 MW4-14 10/22/2015 ug/L FD 21510231003	305 MW4-14 10/22/2015 ug/L N 21510231001
VOCs									
2,2-DICHLOROPROPANE	NA	NA	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2-CHLOROTOLUENE	NA	100	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2-HEXANONE	NA	40	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-CHLOROTOLUENE	NA	24	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
ACETONE	NA	6000	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
BENZENE	5	1	0.2 U	0.2 U	0.2 U	**7.09**	0.2 U	0.2 U	0.2 U
BROMOBENZENE	NA	NA	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
BROMOCHLOROMETHANE	NA	NA	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
BROMODICHLOROMETHANE	80	0.6	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
BROMOFORM	80	4	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
BROMOMETHANE	NA	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CARBON TETRACHLORIDE	5	0.3	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
CHLOROBENZENE	100	50	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
CHLOROETHANE	NA	3000	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
CHLOROFORM	80	70	0.2 U	**0.551 J**	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
CHLOROMETHANE	NA	3	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
cis-1,2-DICHLOROETHYLENE	70	70	0.2 U	0.2 U	**0.889 J**	**31.2**	**0.6 J**	0.2 U	0.2 U
cis-1,3-DICHLOROPROPENE	NA	0.4	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
DIBROMOCHLOROMETHANE	NA	0.4	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
DICHLORODIFLUOROMETHANE	NA	1000	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
ETHYLBENZENE	700	600	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
ISOPROPYL ETHER	NA	70	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
ISOPROPYLBENZENE	NA	70	0.2 U	0.2 U	0.2 U	**0.423 J**	0.2 U	0.2 U	0.2 U
M,P-XYLENE (SUM OF ISOMERS)	10000	500	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
METHYL ETHYL KETONE (2-BUTANONE)	NA	4000	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	NA	100	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
METHYLENE CHLORIDE	NA	5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
n-BUTYLBENZENE	NA	70	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
n-PROPYLBENZENE	NA	70	1 U	1 U	1 U	1 U	1 U	1 U	1 U

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FTBR-305 (Site 305)
Fort Bragg, NC

Well ID Date Sampled units Laboratory Control ID	Federal MCL (ug/L)	NC 2L Ground-water Standard (ug/L)	305 18M07 10/23/2015 ug/L N 21510241302	305 18M16 10/22/2015 ug/L N 21510231004	305 18M19 10/23/2015 ug/L N 21510241303	305 MW4-01 10/22/2015 ug/L N 21510231006	305 MW4-13 10/22/2015 ug/L N 21510231002	305 MW4-14 10/22/2015 ug/L FD 21510231003	305 MW4-14 10/22/2015 ug/L N 21510231001
VOCs									
O-XYLENE (1,2-DIMETHYLBENZENE)	10000	500	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
P-CYMENE (p-	NA	25	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
SEC-BUTYLBENZENE	NA	70	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
STYRENE	100	70	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
t-BUTYLBENZENE	NA	70	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
tert-BUTYL METHYL ETHER	NA	20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
TETRACHLOROETHYLENE	5	0.7	**0.51 J**	**0.791 J**	**0.899 J**	**0.845 J**	**12.4**	**2.77**	**3.18**
TOLUENE	1000	600	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,2-DICHLOROETHENE	100	100	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,3-DICHLOROPROPENE	NA	0.4	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
TRICHLOROETHYLENE (TCE)	5	3	0.2 U	0.2 U	**4.72**	0.2 U	**3.69**	**1.05**	**1.02**
TRICHLOROFLUOROMETHANE	NA	2000	**1.4**	0.2 U	**0.853 J**	0.2 U	0.2 U	0.2 U	0.2 U
VINYL ACETATE	NA	88	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VINYL CHLORIDE	2	0.03	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
XYLENES, TOTAL	10000	500	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U

[1] = Interim Maximum Allowable Concentration (IMAC) are established under 15A NCAC 2L .0202.
Bolded value = detectable concentration.
Red value = exceeds NC 2L Groundwater Standard.
NA = an NC 2L Groundwater Standard does not exist for this analyte.
U = Undetected. The analyte was analyzed for, but not detected
J = Indicates an estimated value.
Q = LCS/LCSD recovery and/or RPD was outside control limits/CCV did not meet acceptance criteria.
NC 2L = North Carolina subchapter 2L groundwater standards.
ug/L = micrograms per liter
MCL = Maximum Contaminant Level

Table 3
Summary of Historical Dectections
FTBR-305 (Site 305)
Fort Bragg, NC

Location:		18M02R	18M03	18M03	18M04	18M05	18M06	18M07	18M07	18M07	18M07	305 18M07	305 18M07	18M08	18M09	18M10	18M11	18M11	18M12
Field Sample ID:		18M2RWG00N1	18M03WG00N1	18M03WG00FD1	18M04WG00N1	18M05WG00N1	18M06WG00N1	18M07WG00N1	18M07WG00N1			21411170504	21510241302	18M08WG00N1	18M09WG00N1	18M10WG00N1	18M11WG00N1	18M11WG00FD1	18M12WG00N1
Sample Date:		3/8/2006	8/23/2005	8/23/2005	8/22/2005	8/23/2005	8/22/2005	8/22/2005	11/1/2012	05/2013	11/2013	11/13/2014	10/23/2015	8/23/2005	8/24/2005	8/24/2005	8/24/2005	8/24/2005	3/15/2006
Sample Type:	NC 2L1	Normal	Normal	Duplicate	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal
VOC																			
1,1,2-Trichloroethane	0.6 (2)	0.3 UM	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	--	NA	NA	0.159 U	0.2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.32 UM
1,1-Dichloroethane	6	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	--	0.21 U	0.2 U	0.171 U	0.2 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
1,1-Dichloroethene	7	0.39 F	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	--	NA	NA	0.2 U	0.2 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.14 U
1,2,4-Trimethylbenzene	400	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	--	NA	NA	0.084 U	0.2 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.14 U
1,2-Dichloroethene (Total)	60 (2)	NA	NA	NA	NA	NA	NA	NA	--	NA	NA	NA	0.2 U	NA	NA	NA	NA	NA	NA
1,2-DICHLOROETHANE	0.4	NA	NA	NA	NA	NA	NA	NA	--	0.22 U	0.116 U	0.116 U	0.2 U	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	400	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	--	NA	NA	0.066 U	0.2 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.14 U
Acetone	6000	0.63 U	0.63 U	0.63 U	1 BF	0.63 U	0.63 U	0.63 U	--	NA	0.916	0.193 U	0.5 U	1.4 BF	1.4 BF	0.63 U	0.63 U	0.63 U	1.9 U
Benzene	1	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.21 U	0.21 U	0.111 U	0.111 U	0.2 U	0.15 U	0.15 U	0.15 U	**1.8**	**1.5**	0.2 F
Bromodichloromethane	0.06	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	--	NA	NA	0.083 U	0.2 U	**0.31 F**	**3.7**	0.19 U	0.19 U	0.19 U	0.17 U
Chlorobenzene	50	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	--	NA	NA	0.083 U	0.2 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.17 U
Chloroethane	3000	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	--	NA	NA	0.235 U	0.25 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.41 U
Chloroform	70	0.15 U	0.22 F	0.22 F	0.15 U	0.15 U	0.15 U	0.15 U	--	NA	NA	**0.43 J**	0.2 U	2.9	31	0.15 U	0.25 F	0.29 F	1.1
Chloromethane	3	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	NA	NA	0.144 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.3 U
cis-1,2-Dichloroethylene	70	0.2 U	0.28 F	0.28 F	NA	0.77 F	NA	NA	0.37 F	0.24 U	0.103 U	0.103 U	0.2 U	8.6	0.2 U	2.4	2.9	2.5	0.15 U
Dibromochloromethane	0.4	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	--	NA	NA	0.054 U	0.2 U	0.19 U	0.27 F	0.19 U	0.19 U	0.19 U	0.17 U
Ethylbenzene	600	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	--	NA	NA	0.109 U	0.2 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Isopropylbenzene (Cumene)	70	0.2 U	0.2 U	0.2 U	NA	0.2 U	NA	NA	--	NA	NA	0.13 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U
m,p-Xylene (sum of isomers)	500	0.37 U	0.37 U	0.37 U	NA	0.37 U	NA	NA	--	NA	NA	0.123 U	0.2 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.34 U
Methyl ethyl ketone (2-Butanone)	4000	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	--	NA	NA	0.142 U	0.2 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	1.8 U
Methylene chloride	5	0.29 BF	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	--	NA	NA	0.149 U	0.2 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.32 U
Naphthalene	6	0.23 U	0.23 U	0.23 U	NA	0.23 U	NA	NA	--	NA	NA	NA	0.2 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.22 U
n-Propylbenzene	70	0.21 U	0.21 U	0.21 U	NA	0.21 U	NA	NA	--	NA	NA	0.727 U	1 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.16 U
sec-Butylbenzene	70	0.22 U	0.22 U	0.22 U	NA	0.22 U	NA	NA	--	NA	NA	0.107 U	0.2 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.17 U
t-Butylbenzene	70	0.2 U	0.2 U	0.2 U	NA	0.2 U	NA	NA	--	NA	NA	0.087 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.16 U
Tetrachloroethylene (PCE)	0.7	0.64 F	**1.2**	**1.2**	0.17 U	**2.6**	0.17 U	**5.5**	**0.93 F**	**0.95 F**	**1.38**	**0.938 J**	**0.51 J**	**3.2**	0.17 U	0.2 F	0.35 F	0.39 F	0.2 U
Toluene	600	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.22 F	2.3	0.122 U	0.122 U	0.2 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
trans-1,2-Dichloroethene	100	0.16 U	0.16 U	0.16 U	NA	0.16 U	NA	NA	--	NA	NA	0.077 U	0.2 U	0.2 F	0.16 U	0.16 U	0.3 F	0.26 F	0.15 U
Trichloroethylene (TCE)	3	0.16 U	0.24 F	0.23 F	0.16 U	2.2	0.16 U	**7.5**	0.31 U	0.31 U	0.161 U	0.161 U	**1.4**	**7.3**	**7.6**	0.49 F	0.97 F	1	0.16 U
Trichlorofluoromethane	2000	0.13 U	0.15 F	0.16 F	NA	0.13 U	NA	NA	5.9	1.9 FM	0.494 J	**2.13**	0.2 U	2.2	0.13 U	0.13 U	0.13 U	0.13 U	0.29 U
Xylenes, Total	500	NA	NA	NA	NA	NA	NA	NA	--	NA	NA	0.179 U	0.4 U	NA	NA	NA	NA	NA	NA
VINYL CHLORIDE	0.3	NA	NA	NA	NA	NA	NA	NA	--	0.44 U	0.127 U	0.127 U	0.2 U	NA	NA	NA	NA	NA	NA
SVOC																			
4-Chloro-3-methylphenol	NE	1.3 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.3 U
Benzoic acid	30000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	16 U
Benzyl butyl phthalate	1000	1.7 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.7 U
bis(2-Ethylhexyl) phthalate	3	1.4 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.4 U
Diethyl phthalate	6000	1.8 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.8 U
Di-n-Butyl phthalate	700	1.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.9 U
Naphthalene	6	1.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.5 U
Petroleum Hydrocarbons																			
EPH C11-C22 Aromatic	200 (3)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPH C19-C36 Aliphatic	10000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPH C9-C18 Aliphatic	700 (4)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Components	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VPH C5-C8 Aliphatic	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VPH C9-C10 Aromatic	200 (3)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VPH C9-C12 Aliphatic	700 (4)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 3
Summary of Historical Dectections
FTBR-305 (Site 305)
Fort Bragg, NC

Location:		18M02R	18M03	18M03	18M04	18M05	18M06	18M07	18M07	18M07	18M07	305 18M07	305 18M07	18M08	18M09	18M10	18M11	18M11	18M12
Field Sample ID:		18M2RWG00N1	18M03WG00N1	18M03WG00FD1	18M04WG00N1	18M05WG00N1	18M06WG00N1	18M07WG00N1	18M07WG00N1	NA	NA	21411170504	21510241302	18M08WG00N1	18M09WG00N1	18M10WG00N1	18M11WG00N1	18M11WG00FD1	18M12WG00N1
Sample Date:		3/8/2006	8/23/2005	8/23/2005	8/22/2005	8/23/2005	8/22/2005	8/22/2005	11/1/2012	05/2013	11/2013	11/13/2014	10/23/2015	8/23/2005	8/24/2005	8/24/2005	8/24/2005	8/24/2005	3/15/2006
Sample Type:	NC 2L1	Normal	Normal	Duplicate	Normal	Normal	Normal	Normal	Normal	NA	NA	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal
Metals (Total)																			
Aluminum	NE	NA	670	600	17000	410	730	220	67.9 F	57.2 BF	NA	NA	98	450	1,400 J	190 FJ	530 J	1,200 J	NA
Antimony	1 (2)	NA	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	--	NA	NA	NA	0.5 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	NA
Arsenic	10	NA	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	--	NA	5 U	0.2 U	0.2 U	4.4 U	4.4 U	4.4 U	4.4 U	6.5 F	NA
Barium	700	NA	97	93	66	42 F	56	48 F	84 F	98.1 F	83	**74**	**81**	71	100	68	34 F	39 F	NA
Beryllium	4 (2)	NA	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	--	NA	NA	NA	0.2 U	0.41 U	0.6 F	0.79 F	0.41 U	0.41 U	NA
Boron	700	NA	NA	NA	NA	NA	NA	NA	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2	NA	0.45 U	0.45 U	0.45 U	0.45 U	1.3 F	0.45 U	0.5 U	NA	NA	**0.4 J**	**0.57 J**	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	NA
Calcium	NE	NA	20000	20000	6500	13000	23000	14000	22300	25100	NA	NA	**21300**	7000	3800	2700	5100	5300	NA
Chromium	10	NA	6.2 F	6 F	**31**	2.1 F	4.1 F	6.7 F	**13.9**	10.2	8.7 J	**7.4**	**7**	4.8 F	0.97 BF	0.82 U	0.82 U	1.8 BF	NA
Cobalt	1 (2)	NA	0.97 U	0.97 U	**1.4 F**	0.97 U	0.97 U	0.97 U	0.5 U	0.5 U	NA	NA	0.2 U	0.97 U	1 F	0.97 U	0.97 U	0.97 U	NA
Copper	1000	NA	4.5 U	4.5 U	18	4.5 U	4.5 U	4.5 U	--	NA	NA	NA	0.2 U	4.5 U	4.5 U	4.5 U	4.5 U	4.5 U	NA
Iron	300	NA	80 BFM	70 BFM	**940 M**	89 BFM	96 FM	64 FM	32.6 BF	29 U	NA	25 U	25 U	71 BFM	240 JM	**3,100 JM**	**11,000 JM**	**16,000 JM**	NA
Lead	15	NA	2.2 U	2.2 U	7.7 F	2.2 U	2.2 U	2.2 U	--	NA	NA	0.2 U	0.2 U	2.2 F	2.2 U	2.2 U	2.4 BF	2.2 BF	NA
Magnesium	NE	NA	4000	3800	1200	2100	3300	2300	3280 F	3450 F	NA	NA	**3280**	2000	1200	890 F	1200	1300	NA
Manganese	50	NA	**360**	**340**	50	21	31	26	**317 JM**	**273**	NA	**80**	**170**	41	20	38	**200**	**200**	NA
Mercury	1	NA	0.044 U	0.044 U	0.082 F	0.044 U	0.044 U	0.044 U	--	0.034	0.1 U	0 U	0.1 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	NA
Nickel	100	NA	1.2 U	1.2 U	5.2 F	1.2 U	2.6 F	1.2 U	0.6 BF	NA	NA	NA	0.5 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	NA
Potassium	NE	NA	3,600	3,500	2,300	3,800	2,900	3,400	3410 F	3170 F	NA	NA	**3310**	2,600	1,500	1,800	2,400	2,300	NA
Selenium	20	NA	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.5 BF	--	NA	NA	**0.8 J**	**0.92 J**	4.4 U	4.4 U	4.4 U	5.2 F	4.4 U	NA
Silver	20	NA	0.81 BF	0.96 BF	0.72 U	1 BF	0.72 U	0.72 U	--	NA	NA	0.2 U	0.2 U	1.1 BF	1.1 BF	0.96 BF	1.1 BF	1 BF	NA
Sodium	NE	NA	4,100	4,000	2,500	3,900	2,700	3,200	4050 BF	4070 F	NA	NA	**4890**	3,600	2,500	3,700	5,600	5,200	NA
Tin	2,000 (2)	NA	NA	NA	NA	NA	NA	NA	--	NA	NA	NA	0.2 U	NA	NA	NA	NA	NA	NA
Vanadium	0.3 (2)	NA	2.5 U	2.5 U	**7.2 F**	2.5 U	2.5 U	2.5 U	1 U	1 U	NA	NA	**0.59 J**	**2.9 F**	**6.4 F**	2.5 U	**2.8 F**	10	NA
Zinc	1000	NA	7 BF	5.2 BF	8.2 BF	4.4 U	9.6 BF	4.4 U	8.6 BF	NA	NA	NA	5 U	9.5 BF	74 B	5.9 BF	5.6 BF	5 BF	NA
Aluminum	1500 (2)	NA	NA	NA	43 F	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	1 (2)	NA	NA	NA	3.6 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	10	NA	NA	NA	4.4 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	700	NA	NA	NA	37 F	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	4 (2)	NA	NA	NA	0.41 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2	NA	NA	NA	0.45 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	NE	NA	NA	NA	6,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	10	NA	NA	NA	0.82 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	1 (2)	NA	NA	NA	0.97 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1000	NA	NA	NA	4.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	300	NA	NA	NA	21 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	15	NA	NA	NA	2.2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	NE	NA	NA	NA	1,100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	50	NA	NA	NA	48	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	1	NA	NA	NA	0.044 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	100	NA	NA	NA	1.2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	NE	NA	NA	NA	2,100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	20	NA	NA	NA	4.4 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	20	NA	NA	NA	0.72 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	NE	NA	NA	NA	2,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tin	2,000 (2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	0.3 (2)	NA	NA	NA	2.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	1000	NA	NA	NA	5.4 F	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 3
Summary of Historical Dectections
FTBR-305 (Site 305)
Fort Bragg, NC

Location:		18M13	18M13	18M13	18M14	18M15	18M15	18M15	18M15	18M16	18M16	18M16	*18M16*	18M16	18M16	305 18M16	305 18M16	18M17	18M18
Field Sample ID:		18M13WG00N1	18M13WG00N1	18M13WG00N1	18M14WG00N1	18M15WG00N1	18M15WG00N1	18M15WG00N1	18M15WG00FD1	18M16WG00N1	18M16WG00FD1	18M16WG00N1				21411170502	21510231004	18M17WG00N1	18M18WG00N1
Sample Date:		3/15/2006	5/26/2011	3/13/2012	3/15/2006	3/8/2006	5/26/2011	3/13/2012	3/13/2012	3/8/2006	3/8/2006	11/1/2012	*05/2013*	11/2013 FD	11/2013	11/13/2014	10/22/2015	3/8/2006	3/14/2006
Sample Type:	NC 2L1	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal	Duplicate	Normal	*Normal*	Duplicate	Normal	Normal	Normal	Normal	Normal
VOC																			
1,1,2-Trichloroethane	0.6 (2)	0.32 UM	0.22 U	0.22 U	0.32 UM	0.3 UM	0.22 U	0.22 U	0.22 U	0.3 UM	0.3 UM	--	*NA*	NA	NA	0.159 U	0.2 U	0.3 UM	0.32 UM
1,1-Dichloroethane	6	0.18 F	0.25 U	0.25 U	0.16 U	0.16 U	0.25 U	0.25 U	0.25 U	0.16 U	0.16 U	--	*0.21 U*	0.2 U	0.2 U	0.171 U	0.2 U	0.16 U	0.16 U
1,1-Dichloroethene	7	0.14 U	0.23 U	0.23 U	0.14 U	0.17 U	0.23 U	0.23 U	0.23 U	0.17 U	0.17 U	--	*NA*	NA	NA	0.2 U	0.2 U	0.17 U	0.14 U
1,2,4-Trimethylbenzene	400	0.14 U	0.27 U	0.27 U	0.14 U	0.18 U	0.27 U	0.27 U	0.27 U	0.18 U	0.18 U	--	*NA*	NA	NA	0.084 U	0.2 U	0.18 U	0.14 U
1,2-Dichloroethene (Total)	60 (2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	*NA*	NA	NA	NA	0.2 U	NA	NA
1,2-DICHLOROETHANE	0.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	*0.22 U*	0.116 U	0.116 U	0.116 U	0.2 U	NA	NA
1,3,5-Trimethylbenzene	400	0.14 U	0.21 U	0.21 U	0.14 U	0.19 U	0.21 U	0.21 U	0.21 U	0.19 U	0.19 U	--	*NA*	NA	NA	0.066 U	0.2 U	0.19 U	0.14 U
Acetone	6000	1.9 U	10 U	10 U	1.9 U	0.63 U	10 U	10 U	10 U	0.63 U	0.63 U	--	*NA*	0.788	1.89	0.193 U	0.5 U	0.63 U	1.9 U
Benzene	1	0.57	0.2 U	0.2 U	0.22 F	0.15 U	0.2 U	0.2 U	0.2 U	0.15 U	0.15 U	0.21 U	*0.21 U*	0.111 U	0.111 U	0.111 U	0.2 U	0.66	0.16 U
Bromodichloromethane	0.06	0.17 U	0.2 U	0.2 U	0.17 U	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.19 U	--	*NA*	NA	NA	0.083 U	0.2 U	0.19 U	0.17 U
Chlorobenzene	50	0.17 U	0.2 U	0.2 U	0.17 U	0.15 U	0.2 U	0.2 U	0.2 U	0.15 U	0.15 U	--	*NA*	NA	NA	0.083 U	0.2 U	0.15 U	0.17 U
Chloroethane	3000	0.41 U	0.5 U	0.5 U	0.41 U	0.46 U	0.5 U	0.5 U	0.5 U	0.46 U	0.46 U	--	*NA*	NA	NA	0.235 U	0.25 U	0.46 U	0.41 U
Chloroform	70	0.15 U	0.22 U	0.22 U	0.15 U	0.15 U	0.22 U	0.22 U	0.22 U	0.15 U	0.15 U	--	*NA*	NA	NA	0.155 U	**0.551 J**	0.48	0.87
Chloromethane	3	0.3 U	0.5 U	0.5 U	0.3 U	0.2 U	0.5 U	0.5 U	0.5 U	0.2 U	0.2 U	--	*NA*	NA	NA	0.144 U	0.2 U	0.2 U	0.3 U
cis-1,2-Dichloroethylene	70	1.2	0.95 F	0.73 F	0.15 U	19	0.54 F	0.28 F	0.26 U	36	35	1.3	*1.5*	0.626 J	0.663 J	**0.324 J**	0.2 U	0.93 F	2.4
Dibromochloromethane	0.4	0.17 U	0.2 U	0.2 U	0.17 U	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.19 U	--	*NA*	NA	NA	0.054 U	0.2 U	0.19 U	0.17 U
Ethylbenzene	600	0.16 U	0.2 U	0.2 U	0.16 U	0.16 U	0.2 U	0.2 U	0.2 U	0.16 U	0.16 U	--	*NA*	NA	NA	0.109 U	0.2 U	0.16 U	0.16 U
Isopropylbenzene (Cumene)	70	0.19 U	0.2 U	0.2 U	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	*NA*	NA	NA	0.13 U	0.2 U	0.2 U	0.19 U
m,p-Xylene (sum of isomers)	500	0.34 U	0.32 U	0.32 U	0.34 U	0.37 U	0.32 U	0.32 U	0.32 U	0.37 U	0.37 U	--	*NA*	NA	NA	0.123 U	0.2 U	0.37 U	0.34 U
Methyl ethyl ketone (2-Butanone)	4000	1.8 U	2 U	2 U	1.8 U	0.9 U	2 U	2 U	2 U	0.9 U	0.9 U	--	*NA*	NA	NA	0.142 U	0.2 U	0.9 U	1.8 U
Methylene chloride	5	0.32 U	2 U	2 U	0.32 U	0.25 BF	2 U	2 U	2 U	0.34 BF	0.32 BF	--	*NA*	NA	NA	0.149 U	0.2 U	0.37 BF	0.32 U
Naphthalene	6	0.22 U	1 U	1 U	0.22 U	0.23 U	1 U	1 U	1 U	0.23 U	0.23 U	--	*NA*	NA	NA	NA	0.2 U	0.23 U	0.22 U
n-Propylbenzene	70	0.16 U	0.2 U	0.2 U	0.16 U	0.21 U	0.2 U	0.2 U	0.2 U	0.21 U	0.21 U	--	*NA*	NA	NA	0.727 U	1 U	0.21 U	0.16 U
sec-Butylbenzene	70	0.17 U	0.22 U	0.22 U	0.17 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	--	*NA*	NA	NA	0.107 U	0.2 U	0.22 U	0.17 U
t-Butylbenzene	70	0.16 U	0.27 U	0.27 U	0.16 U	0.2 U	0.27 U	0.27 U	0.27 U	0.2 U	0.2 U	--	*NA*	NA	NA	0.087 U	0.2 U	0.54 F	0.16 U
Tetrachloroethylene (PCE)	0.7	0.2 U	0.25 U	0.25 U	0.2 U	**5.6**	**0.79 F**	**0.89 F**	**0.87 F**	**7.1**	**6.8**	**1.5**	***1.6***	**1.91**	**1.91**	**1.23**	**0.791 J**	0.17 U	0.68 F
Toluene	600	0.17 U	0.2 U	0.92 BF	0.17 U	0.17 U	0.2 U	0.69 BF	0.36 BF	0.17 U	0.17 U	0.2 U	*3.7*	0.122 U	0.122 U	0.122 U	0.2 U	0.17 F	0.17 U
trans-1,2-Dichloroethene	100	0.15 U	0.35 U	0.35 U	0.15 U	0.27 F	0.35 U	0.35 U	0.35 U	0.36 F	0.37 F	--	*NA*	NA	NA	0.077 U	0.2 U	0.16 U	0.15 U
Trichloroethylene (TCE)	3	0.16 U	0.26 U	0.26 U	0.16 U	**6.7**	0.38 F	0.3 F	0.26 U	**12**	**12**	0.86 F	*1.4*	0.161 U	0.161 U	0.161 U	0.2 U	0.17 F	**12**
Trichlorofluoromethane	2000	0.29 U	0.5 UM	0.5 UM	0.29 U	0.13 U	0.5 UM	0.5 UM	0.5 UM	0.13 U	0.13 U	0.5 U	*0.50 UM*	0.157 U	0.157 U	0.157 U	0.2 U	0.13 U	0.29 U
Xylenes, Total	500	NA	0.52 U	0.52 U	NA	NA	0.52 U	0.52 U	0.52 U	NA	NA	--	*NA*	NA	NA	0.179 U	0.4 U	NA	NA
VINYL CHLORIDE	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	*0.44 U*	0.127 U	0.127 U	0.127 U	0.2 U	NA	NA
SVOC																			
4-Chloro-3-methylphenol	NE	1.3 U	NA	NA	1.3 U	1.3 U	NA	NA	NA	1.3 U	1.3 U	NA	*NA*	NA	NA	NA	NA	1.3 U	1.3 U
Benzoic acid	30000	16 U	NA	NA	16 U	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	16 U
Benzyl butyl phthalate	1000	1.7 U	NA	NA	1.7 U	1.7 U	NA	NA	NA	1.7 U	1.7 U	NA	*NA*	NA	NA	NA	NA	1.7 U	1.7 U
bis(2-Ethylhexyl) phthalate	3	1.4 U	NA	NA	1.4 U	2.2 F	NA	NA	NA	2.2 F	2 F	NA	*NA*	NA	NA	NA	NA	2.2 F	1.4 U
Diethyl phthalate	6000	1.8 U	NA	NA	1.8 U	1.8 U	NA	NA	NA	1.8 U	1.8 U	NA	*NA*	NA	NA	NA	NA	1.8 U	1.8 U
Di-n-Butyl phthalate	700	1.9 U	NA	NA	1.9 U	1.9 U	NA	NA	NA	1.9 U	1.9 U	NA	*NA*	NA	NA	NA	NA	1.9 U	1.9 U
Naphthalene	6	1.5 U	NA	NA	1.5 U	1.5 U	NA	NA	NA	1.5 U	1.5 U	NA	*NA*	NA	NA	NA	NA	1.5 U	1.5 U
Petroleum Hydrocarbons																			
EPH C11-C22 Aromatic	200 (3)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA
EPH C19-C36 Aliphatic	10000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA
EPH C9-C18 Aliphatic	700 (4)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA
Gasoline Components	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA
VPH C5-C8 Aliphatic	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA
VPH C9-C10 Aromatic	200 (3)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA
VPH C9-C12 Aliphatic	700 (4)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA

Table 3
Summary of Historical Dectections
FTBR-305 (Site 305)
Fort Bragg, NC

Location:		18M13	18M13	18M13	18M14	18M15	18M15	18M15	18M15	18M16	18M16	18M16	*18M16*	18M16	18M16	305 18M16	305 18M16	18M17	18M18
Field Sample ID:		18M13WG00N1	18M13WG00N1	18M13WG00N1	18M14WG00N1	18M15WG00N1	18M15WG00N1	18M15WG00N1	18M15WG00FD1	18M16WG00N1	18M16WG00FD1	18M16WG00N1	*NA*	NA	NA	21411170502	21510231004	18M17WG00N1	18M18WG00N1
Sample Date:		3/15/2006	5/26/2011	3/13/2012	3/15/2006	3/8/2006	5/26/2011	3/13/2012	3/13/2012	3/8/2006	3/8/2006	11/1/2012	*05/2013*	11/2013 FD	11/2013	11/13/2014	10/22/2015	3/8/2006	3/14/2006
Sample Type:	NC 2L1	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal	Duplicate	Normal	*NA*	NA	NA	Normal	Normal	Normal	Normal
Metals (Total)																			
Aluminum	NE	NA	30.4 F	25 U	NA	NA	191 F	462	464	NA	NA	177 F	*595*	NA	NA	NA	**160**	NA	NA
Antimony	1 (2)	NA	2 U	2 U	NA	NA	2 U	2 U	2 U	NA	NA	--	*NA*	NA	NA	NA	0.5 U	NA	NA
Arsenic	10	NA	2 U	2 U	NA	NA	2 U	2 U	2 U	NA	NA	--	*NA*	5 U	5 U	0.2 U	0.2 U	NA	NA
Barium	700	NA	30.1 F	39.1 F	NA	NA	84 F	102 F	98.2 F	NA	NA	83.8 F	*77.6*	54	58	**68**	**70**	NA	NA
Beryllium	4 (2)	NA	1 U	1 U	NA	NA	1 U	1 U	1 U	NA	NA	--	*NA*	NA	NA	NA	0.2 U	NA	NA
Boron	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	*NA*	NA	NA	NA	NA	NA	NA
Cadmium	2	NA	1 U	1 U	NA	NA	1 U	1 U	1 U	NA	NA	0.5 BF	*NA*	NA	NA	**0.6 J**	**0.61 J**	NA	NA
Calcium	NE	NA	17600	24100	NA	NA	18300	19600	18700	NA	NA	14500	*13300*	NA	NA	NA	**17300**	NA	NA
Chromium	10	NA	1 U	1 U	NA	NA	1 U	1.7 BF	1.3 BF	NA	NA	2 U	*2 U*	2.5 U	2.5 U	**1**	**0.83 J**	NA	NA
Cobalt	1 (2)	NA	1 U	1 U	NA	NA	1 U	1 U	1 U	NA	NA	1 BF	*0.8 BF*	NA	NA	NA	**0.74 J**	NA	NA
Copper	1000	NA	2 U	2 U	NA	NA	2 U	2 U	2 U	NA	NA	--	*NA*	NA	NA	NA	**0.67 J**	NA	NA
Iron	300	NA	154 F	163 F	NA	NA	35 U	35 U	35.9 BF	NA	NA	162 F	***758***	NA	NA	25 U	25 U	NA	NA
Lead	15	NA	1 U	1 U	NA	NA	1 U	1 U	1 U	NA	NA	--	*NA*	NA	NA	0.2 U	0.2 U	NA	NA
Magnesium	NE	NA	1,650 F	2,370 F	NA	NA	3,080 F	3,160 F	2,990 F	NA	NA	2880 F	*2610 F*	NA	NA	NA	**2600**	NA	NA
Manganese	50	NA	47.8	**75.4**	NA	NA	**566**	**612**	**584**	NA	NA	**517 JM**	***388***	NA	NA	**370**	**460**	NA	NA
Mercury	1	NA	0.05 U	0.05 U	NA	NA	0.05 U	0.05 U	0.05 U	NA	NA	--	*0.046 F*	0.1 U	0.1 U	0 U	0.1 U	NA	NA
Nickel	100	NA	2 U	2 U	NA	NA	2 U	2 U	2 U	NA	NA	0.9 BF	*NA*	NA	NA	NA	**0.91 J**	NA	NA
Potassium	NE	NA	2,950 F	3,440 F	NA	NA	2,940 F	2,880 F	2,740 F	NA	NA	3220 F	*3010 F*	NA	NA	NA	**3040**	NA	NA
Selenium	20	NA	2 U	2 U	NA	NA	2.1 BF	2 U	2 U	NA	NA	--	*NA*	NA	NA	**0.6 J**	**0.51 J**	NA	NA
Silver	20	NA	1 U	1 U	NA	NA	1 U	1 U	1 U	NA	NA	--	*NA*	NA	NA	0.2 U	0.2 U	NA	NA
Sodium	NE	NA	6,060 F	5,570 F	NA	NA	2,260 F	2,620 F	2,490 F	NA	NA	2500 BF	*2460 F*	NA	NA	NA	**10700**	NA	NA
Tin	2,000 (2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	*NA*	NA	NA	NA	0.2 U	NA	NA
Vanadium	0.3 (2)	NA	1 U	1 U	NA	NA	1 U	1 U	1 U	NA	NA	1.3 BF	***5.7 F***	NA	NA	NA	**0.66 J**	NA	NA
Zinc	1000	NA	13.3 F	5 U	NA	NA	5.3 F	5.5 F	6.9 F	NA	NA	9.7 F	*NA*	NA	NA	NA	5 U	NA	NA
Aluminum	1500 (2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA
Antimony	1 (2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA
Arsenic	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA
Barium	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA
Beryllium	4 (2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA
Boron	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA
Cadmium	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA
Calcium	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA
Chromium	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA
Cobalt	1 (2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA
Copper	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA
Iron	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA
Lead	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA
Magnesium	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA
Manganese	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA
Mercury	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA
Nickel	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA
Potassium	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA
Selenium	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA
Silver	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA
Sodium	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA
Tin	2,000 (2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA
Vanadium	0.3 (2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA
Zinc	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA

Table 3
Summary of Historical Dectections
FTBR-305 (Site 305)
Fort Bragg, NC

Location:		18M19	18M19	18M19	18M19	*18M19*	18M19	305 18M19	305 18M19	18M1R	AOCA-ZMW1	MW4-01	MW4-01	MW4-01	MW4-01	*MW4-01*	MW4-01	305 MW4-01	305 MW4-01	MW4-02	MW4-02
Field Sample ID:		18M19WG00N1	18M19WG00N1	18M19WG00N1	18M19WG00N1			21411170503	21510241303	18M1RWG00N1	18MZ1WG00N1	SS04MWF0100	SS04MWF0200	04M01WG00N1	04M01WG00N1			21411134602	21510231006	SS04MWF0300	SS04MWF0300
Sample Date:		3/14/2006	5/26/2011	3/13/2012	11/1/2012	*05/2013*	11/2013	11/13/2014	10/23/2015	3/14/2006	3/14/2006	4/9/1997	4/17/1997	9/22/1999	11/1/2012	*05/2013*	11/2013	11/12/2014	10/22/2015	4/17/1997	9/23/1999
Sample Type:	NC 2L1	Normal	Normal	Normal	Normal	*Normal*	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	*Normal*	Normal	Normal	Normal	Normal	Normal
VOC																					
1,1,2-Trichloroethane	0.6 (2)	0.32 UM	0.22 U	0.22 U	--	*NA*	NA	0.159 U	0.2 U	0.32 UM	0.32 UM	5 U	5 U	0.11 UJ	--	*NA*	NA	0.159 U	0.2 U	5 U	**1 J**
1,1-Dichloroethane	6	0.16 U	0.25 U	0.25 U	--	*0.21 U*	0.2 U	0.171 U	0.2 U	0.16 U	0.16 U	5 U	5 U	0.07 UJ	--	*0.27 F*	0.2 U	0.171 U	0.2 U	5 U	0.07 UJ
1,1-Dichloroethene	7	0.14 U	0.23 U	0.23 U	--	*NA*	NA	0.2 U	0.2 U	0.14 U	0.14 U	NA	NA	NA	--	*NA*	NA	0.2 U	0.2 U	NA	NA
1,2,4-Trimethylbenzene	400	0.14 U	0.27 U	0.27 U	--	*NA*	NA	0.084 U	0.2 U	0.14 U	0.14 U	NA	NA	0.12 UJ	--	*NA*	NA	0.084 U	0.2 U	NA	0.12 UJ
1,2-Dichloroethene (Total)	60 (2)	NA	NA	NA	--	*NA*	NA		0.2 U	NA	NA	2 J	3 J	NA	--	*NA*	NA	NA	0.2 U	5 U	NA
1,2-DICHLOROETHANE	0.4	NA	NA	NA	--	*0.22 U*	0.116 U	0.116 U	0.2 U	NA	NA	NA	NA	NA	--	*0.33 F*	0.116 U	0.116 U	0.2 U	NA	NA
1,3,5-Trimethylbenzene	400	0.14 U	0.21 U	0.21 U	--	*NA*	NA	0.066 U	0.2 U	0.14 U	0.14 U	NA	NA	0.1 UJ	--	*NA*	NA	0.066 U	0.2 U	NA	0.1 UJ
Acetone	6000	1.9 U	10 U	10 U	--	*NA*	0.1093 U	0.193 U	0.5 U	1.9 U	1.9 U	NA	NA	NA	--	*NA*	0.193 U	0.193 U	0.5 U	NA	NA
Benzene	1	0.16 U	0.2 U	0.2 U	0.21 U	*0.21 U*	0.111 U	0.111 U	0.2 U	0.16 U	0.16 U	**10**	**24**	**110 J**	**141**	***143***	0.8	0.111 U	**7.09**	5 U	1 J
Bromodichloromethane	0.06	0.17 U	0.2 U	0.2 U	--	*NA*	NA	0.083 U	0.2 U	0.17 U	0.17 U	5 U	5 U	0.07 UJ	--	*NA*	NA	0.083 U	0.2 U	5 U	**2 J**
Chlorobenzene	50	0.17 U	0.2 U	0.2 U	--	*NA*	NA	0.083 U	0.2 U	0.17 U	0.17 U	5 U	5 U	1 UJ	--	*NA*	NA	0.083 U	0.2 U	5 U	0.09 UJ
Chloroethane	3000	0.41 U	0.5 U	0.5 U	--	*NA*	NA	0.235 U	0.25 U	0.41 U	0.41 U	10 U	10 U	0.13 UJ	--	*NA*	NA	0.235 U	0.25 U	10 U	0.13 UJ
Chloroform	70	1.1	0.26 F	0.33 F	--	*NA*	NA	0.155 U	0.2 U	0.16 F	2.7	5 U	5 U	0.12 U	--	*NA*	NA	0.155 U	0.2 U	5 U	0.12 U
Chloromethane	3	0.3 U	0.5 U	0.5 U	--	*NA*	NA	0.144 U	0.2 U	0.3 U	0.3 U	10 U	10 U	0.1 UJ	--	*NA*	NA	0.144 U	0.2 U	10 U	0.1 UJ
cis-1,2-Dichloroethylene	70	2.4	2.6	2.7	2.6	*1*	1.54	**1.35**	**0.889 J**	0.96 F	0.15 U	NA	NA	12 J	28.1	*41.2*	1.93	0.103 U	**31.2**	NA	0.12 UJ
Dibromochloromethane	0.4	0.17 U	0.2 U	0.2 U	--	*NA*	NA	0.054 U	0.2 U	0.17 U	0.17 U	NA	NA	NA	--	*NA*	NA	0.054 U	0.2 U	NA	NA
Ethylbenzene	600	0.16 U	0.2 U	0.2 U	--	*NA*	NA	0.109 U	0.2 U	0.16 U	0.16 U	5 U	5 U	0.08 UJ	--	*NA*	NA	0.109 U	0.2 U	5	0.08 UJ
Isopropylbenzene (Cumene)	70	0.19 U	0.2 U	0.2 U	--	*NA*	NA	0.13 U	0.2 U	0.19 U	0.19 U	NA	NA	NA	--	*NA*	NA	0.13 U	**0.423 J**	NA	NA
m,p-Xylene (sum of isomers)	500	0.34 U	0.32 U	0.32 U	--	*NA*	NA	0.123 U	0.2 U	0.34 U	0.34 U	NA	NA	1 UJ	--	*NA*	NA	0.123 U	0.2 U	NA	0.2 UJ
Methyl ethyl ketone (2-Butanone)	4000	1.8 U	2 U	2 U	--	*NA*	NA	0.142 U	0.2 U	1.8 U	1.8 U	10 U	10 U	0.29 UJ	--	*NA*	NA	0.142 U	0.2 U	10 U	0.29 UJ
Methylene chloride	5	0.32 U	2 U	2 U	--	*NA*	NA	0.149 U	0.2 U	0.32 U	0.32 U	5 U	5 U	0.73 UJ	--	*NA*	NA	0.149 U	0.2 U	5 U	0.73 UJ
Naphthalene	6	0.22 U	1 U	1 U	--	*NA*	NA		0.2 U	0.22 U	0.22 U	NA	NA	NA	--	*NA*	NA	NA	0.2 U	NA	NA
n-Propylbenzene	70	0.16 U	0.2 U	0.2 U	--	*NA*	NA	0.727 U	1 U	0.16 U	0.16 U	NA	NA	NA	--	*NA*	NA	0.727 U	1 U	NA	NA
sec-Butylbenzene	70	0.17 U	0.22 U	0.22 U	--	*NA*	NA	0.107 U	0.2 U	0.17 U	0.17 U	NA	NA	NA	--	*NA*	NA	0.107 U	0.2 U	NA	NA
t-Butylbenzene	70	0.16 U	0.27 U	0.27 U	--	*NA*	NA	0.087 U	0.2 U	0.16 U	0.16 U	NA	NA	NA	--	*NA*	NA	0.087 U	0.2 U	NA	NA
Tetrachloroethylene (PCE)	0.7	**0.84 F**	**0.85 F**	**1.5**	**1**	***1.2***	**0.811 J**	0.193 U	**0.899 J**	**1.5**	0.2 U	5 U	5 U	0.3 UJ	0.32 U	*0.32 U*	0.559 J	0.193 U	**0.845 J**	**3 J**	**1 J**
Toluene	600	0.17 U	0.2 U	0.33 BF	0.2 U	*1.8*	0.122 U	0.122 U	0.2 U	0.17 U	0.17 U	5 U	5 U	0.07 UJ	0.27 F	*0.25 F*	0.122 U	0.122 U	0.2 U	5 U	0.07 UJ
trans-1,2-Dichloroethene	100	0.15 U	0.35 U	0.35 U	--	*NA*	NA	0.077 U	0.2 U	0.15 U	0.15 U	NA	NA	0.09 UJ	--	*NA*	NA	0.077 U	0.2 U	NA	0.09 UJ
Trichloroethylene (TCE)	3	**14**	**6.3**	**10.4**	**5.7**	***7.6***	**4.04**	**3.64**	**4.72**	0.6 F	0.16 U	5 U	5 U	1 U	0.31 U	*0.31 U*	0.903 J	0.161 U	0.2 U	5 U	0.5 J
Trichlorofluoromethane	2000	0.33 F	0.5 UM	0.57 FM	0.5 U	*0.50 UJ M*	0.157 U	**0.732 J**	**0.853 J**	0.29 U	0.29 U	NA	NA	NA	0.5 U	*0.50 UM*	0.157 U	0.157 U	0.2 U	NA	NA
Xylenes, Total	500	NA	0.52 U	0.52 U	--	*NA*	NA	0.179 U	0.4 U	NA	NA	5 U	5 U	NA	--	*NA*	NA	0.179 U	0.4 U	94	NA
VINYL CHLORIDE	0.3	NA	NA	NA	--	*0.44 M*	0.127 U	0.127 U	0.2 U	NA	NA	NA	NA	NA	--	***0.74 F***	0.127 U	0.127 U	0.2 U	NA	NA
SVOC																					
4-Chloro-3-methylphenol	NE	1.3 U	NA	NA	NA	*NA*	NA	NA	NA	1.3 U	1.3 U	NA	10 U	NA	NA	*NA*	NA	NA	NA	10 U	NA
Benzoic acid	30000	16 U	NA	NA	NA	*NA*	NA	NA	NA	16 U	16 U	NA	50 U	NA	NA	*NA*	NA	NA	NA	50 U	NA
Benzyl butyl phthalate	1000	1.7 U	NA	NA	NA	*NA*	NA	NA	NA	1.7 U	1.7 U	NA	10 U	NA	NA	*NA*	NA	NA	NA	10 U	NA
bis(2-Ethylhexyl) phthalate	3	1.4 U	NA	NA	NA	*NA*	NA	NA	NA	1.4 U	1.4 U	NA	10 U	NA	NA	*NA*	NA	NA	NA	10 U	NA
Diethyl phthalate	6000	1.8 U	NA	NA	NA	*NA*	NA	NA	NA	1.8 U	1.8 U	NA	10 U	NA	NA	*NA*	NA	NA	NA	10 U	NA
Di-n-Butyl phthalate	700	1.9 U	NA	NA	NA	*NA*	NA	NA	NA	1.9 U	1.9 U	NA	10 U	NA	NA	*NA*	NA	NA	NA	10 U	NA
Naphthalene	6	1.5 U	NA	NA	NA	*NA*	NA	NA	NA	1.5 U	1.5 U	NA	10 U	NA	NA	*NA*	NA	NA	NA	2 J	NA
Petroleum Hydrocarbons																					
EPH C11-C22 Aromatic	200 (3)	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA
EPH C19-C36 Aliphatic	10000	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA
EPH C9-C18 Aliphatic	700 (4)	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA
Gasoline Components	NE	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	0.05 U	NA	NA	*NA*	NA	NA	NA	2	NA
VPH C5-C8 Aliphatic	400	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA
VPH C9-C10 Aromatic	200 (3)	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA
VPH C9-C12 Aliphatic	700 (4)	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA

Table 3
Summary of Historical Dectections
FTBR-305 (Site 305)
Fort Bragg, NC

Location:		18M19	18M19	18M19	18M19	*18M19*	18M19	305 18M19	305 18M19	18M1R	AOCA-ZMW1	MW4-01	MW4-01	MW4-01	MW4-01	*MW4-01*	MW4-01	305 MW4-01	305 MW4-01	MW4-02	MW4-02
Field Sample ID:		18M19WG00N1	18M19WG00N1	18M19WG00N1	18M19WG00N1	*NA*	NA	21411170503	21510241303	18M1RWG00N1	18MZ1WG00N1	SS04MWF0100	SS04MWF0200	04M01WG00N1	04M01WG00N1	*NA*	NA	21411134602	21510231006	SS04MWF0300	SS04MWF0300
Sample Date:		3/14/2006	5/26/2011	3/13/2012	11/1/2012	*05/2013*	11/2013	11/13/2014	10/23/2015	3/14/2006	3/14/2006	4/9/1997	4/17/1997	9/22/1999	11/1/2012	*05/2013*	11/2013	11/12/2014	10/22/2015	4/17/1997	9/23/1999
Sample Type:	NC 2L1	Normal	Normal	Normal	Normal	*NA*	NA	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	*NA*	NA	Normal	Normal	Normal	Normal
Metals (Total)																					
Aluminum	NE	NA	236	285	179 F	*218*	NA	NA	**480**	NA	NA	NA	NA	NA	32.2 BF	*60.9 BF*	NA	NA	**49**	NA	NA
Antimony	1 (2)	NA	2.1 BF	2 U	--	*NA*	NA	NA	0.5 U	NA	NA	NA	NA	NA	--	*NA*	NA	NA	0.5 U	NA	NA
Arsenic	10	NA	2 U	2 U	--	*NA*	5.3 J	**0.3 J**	**0.58 J**	NA	NA	NA	4 F	NA	--	*NA*	5 U	0.2 U	**0.35 J**	3 U	NA
Barium	700	NA	75.1 F	83.1 F	78.2 F	*95.9 F*	95	**92**	**110**	NA	NA	NA	68.3 F	NA	77.1 F	*66.5*	33	**30**	**62**	43.2 F	NA
Beryllium	4 (2)	NA	1 U	1 U	--	*NA*	NA	NA	**0.43 J**	NA	NA	NA	NA	NA	--	*NA*	NA	NA	0.2 U	NA	NA
Boron	700	NA	NA	NA	--	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	--	*NA*	NA	NA	NA	NA	NA
Cadmium	2	NA	1 U	1 U	0.5 U	*NA*	NA	0.2 U	0.2 U	NA	NA	NA	1 U	NA	0.5 U	*NA*	NA	**0.6 J**	**7550**	1 U	NA
Calcium	NE	NA	3870	3850	4120	*5250*	NA	NA	**8140**	NA	NA	NA	NA	NA	3670	*2020*	NA	NA	0.2 U	NA	NA
Chromium	10	NA	2.9 F	4.4 BF	2 U	*2 BF*	2.5 U	**2.2**	**4.3**	NA	NA	NA	6.9 F	NA	2 U	*2 U*	2.5 U	**0.2 J**	**1.1**	**12.7**	NA
Cobalt	1 (2)	NA	1.4 BF	2 BF	1.5 BF	*2.1 BF*	NA	NA	**2.6**	NA	NA	NA	NA	NA	0.5 U	*0.9BF*	NA	NA	**0.26 J**	NA	NA
Copper	1000	NA	2 U	2 U	--	*NA*	NA	NA	**1.4**	NA	NA	NA	NA	NA	--	*NA*	NA	NA	**380**	NA	NA
Iron	300	NA	**852**	**796**	**660**	***434***	NA	**350**	**420**	NA	NA	NA	NA	NA	**1700**	***1650***	NA	**760**	**3.3**	NA	NA
Lead	15	NA	1 U	1 U	--	*NA*	NA	**0.3 J**	**0.35 J**	NA	NA	NA	2.6 F	NA	--	*NA*	NA	7	**1170**	**21.5**	NA
Magnesium	NE	NA	1,270 F	1,560 F	1460 F	*1890 F*	NA	NA	**2570**	NA	NA	NA	NA	NA	964 F	*757 F*	NA	NA	**24**	NA	NA
Manganese	50	NA	41.5	30.1	37.8 JM	*45.4*	NA	**47**	**56**	NA	NA	NA	NA	NA	26.9 JM	*24.4*	NA	**44**	**56**	NA	NA
Mercury	1	NA	0.05 U	0.05 U	--	*0.03 U*	0.1 U	0 U	0.1 U	NA	NA	NA	0.38	NA	--	*0.03 U*	0.1 U	0 U	0.1 U	0.4	NA
Nickel	100	NA	2 U	2 U	1.3 BF	*NA*	NA	NA	**3.9**	NA	NA	NA	NA	NA	0.5 U	*NA*	NA	NA	**0.5 U**	NA	NA
Potassium	NE	NA	1,770 F	1,470 F	1870 F	*2050 F*	NA	NA	**2370**	NA	NA	NA	NA	NA	2130 F	*1100*	NA	NA	**2880**	NA	NA
Selenium	20	NA	2.1 BF	2 U	--	*NA*	NA	0.2 U	0.2 U	NA	NA	NA	NA	NA	--	*NA*	NA	**0.3 J**	0.2 U	NA	NA
Silver	20	NA	1 U	1 U	--	*NA*	NA	0.2 U	0.2 U	NA	NA	NA	1 UJ	NA	--	*NA*	NA	0.2 U	0.2 U	1 UJ	NA
Sodium	NE	NA	3,060 F	3,100 F	3320 BF	*3530 F*	NA	NA	**13100**	NA	NA	NA	NA	NA	2880 BF	*2590 F*	NA	NA	**4240**	NA	NA
Tin	2,000 (2)	NA	NA	NA	--	*NA*	NA	NA	0.2 U	NA	NA	NA	NA	NA	--	*NA*	NA	NA	0.2 U	NA	NA
Vanadium	0.3 (2)	NA	**14.7 F**	**14.8 F**	**15.2 F**	***9.3 F***	NA	NA	**4.1**	NA	NA	NA	NA	NA	1.8 BF	*1.6 BF*	NA	NA	**4.8**	NA	NA
Zinc	1000	NA	7.5 F	7.4 F	11.4 F	*NA*	NA	NA	**6 J**	NA	NA	NA	NA	NA	12.5 F	*NA*	NA	NA	5 U	NA	NA
Aluminum	1500 (2)	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA
Antimony	1 (2)	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA
Arsenic	10	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	4.2 F	NA	NA	*NA*	NA	NA	NA	3 U	NA
Barium	700	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	63.6 F	NA	NA	*NA*	NA	NA	NA	39.1 F	NA
Beryllium	4 (2)	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA
Boron	700	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA
Cadmium	2	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	1 U	NA	NA	*NA*	NA	NA	NA	1 U	NA
Calcium	NE	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA
Chromium	10	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	2.2 F	NA	NA	*NA*	NA	NA	NA	5.1 F	NA
Cobalt	1 (2)	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA
Copper	1000	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA
Iron	300	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA
Lead	15	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	2 U	NA	NA	*NA*	NA	NA	NA	**18.5**	NA
Magnesium	NE	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA
Manganese	50	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA
Mercury	1	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	0.2 U	NA	NA	*NA*	NA	NA	NA	0.33 J	NA
Nickel	100	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA
Potassium	NE	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA
Selenium	20	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA
Silver	20	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA
Sodium	NE	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA
Tin	2,000 (2)	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA
Vanadium	0.3 (2)	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA
Zinc	1000	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA

Table 3
Summary of Historical Dectections
FTBR-305 (Site 305)
Fort Bragg, NC

Location:		MW4-02	MW4-02	MW4-03	MW4-03	MW4-03	MW4-04	MW4-04	MW4-04	MW4-04	MW4-05	MW4-05	MW4-05	MW4-06	MW4-06	MW4-06	MW4-06
Field Sample ID:		04M02WG00N1	04M02WG00N1	SS04MWF0400	04M03WG00N1	04M03WG00FD1	SS04MWF0500	SS04MWF0500	04M04WG00N1	04M04WG00N1	SS04MWF0700	SS04MWD0700	04M05WG00N1	SS04MWF0600	04M06WG00N1	04M06WG00N1	04M06WG00N1
Sample Date:		10/13/2003	3/9/2004	4/17/1997	9/23/1999	9/23/1999	4/17/1997	4/21/1997	9/22/1999	10/13/2003	4/22/1997	4/22/1997	9/22/1999	4/21/1997	9/22/1999	10/9/2003	3/10/2004
Sample Type:	NC 2L1	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal	Normal	Normal	Normal
VOC																	
1,1,2-Trichloroethane	0.6 (2)	0.06 UM	NA	5 U	0.11 UJ	0.11 UJ	NA	5 U	0.11 UJ	0.06 UM	25 U	25 U	**1 J**	5 U	0.11 U	0.06 UM	NA
1,1-Dichloroethane	6	0.05 U	NA	1 J	0.07 UJ	0.07 UJ	NA	5 U	0.07 UJ	0.05 U	25 U	25 U	0.07 UJ	5 U	0.07 U	0.05 U	NA
1,1-Dichloroethene	7	0.09 U	NA	NA	NA	NA	NA	NA	NA	0.09 U	NA	NA	NA	NA	NA	0.09 U	NA
1,2,4-Trimethylbenzene	400	0.52 F	NA	NA	0.12 UJ	0.12 UJ	NA	NA	1 J	0.05 U	NA	NA	0.12 UJ	NA	0.12 U	0.05 U	NA
1,2-Dichloroethene (Total)	60 (2)	NA	NA	5	NA	NA	NA	5 U	NA	NA	25 U	25 U	NA	3 J	NA	NA	NA
1,2-DICHLOROETHANE	0.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	400	0.35 F	NA	NA	0.1 UJ	0.1 UJ	NA	NA	0.1 UJ	0.06 U	NA	NA	0.1 UJ	NA	0.1 U	0.06 U	NA
Acetone	6000	R	NA	NA	NA	NA	NA	NA	NA	R	NA	NA	NA	NA	NA	2 UM	NA
Benzene	1	0.35 F	NA	**34**	0.04 UJ	0.04 UJ	NA	5 U	**8 J**	0.29 F	25 U	25 U	0.04 UJ	5 U	0.04 U	0.05 U	NA
Bromodichloromethane	0.06	0.05 U	NA	5 U	0.07 UJ	0.07 UJ	NA	5 U	0.07 U	0.05 U	25 U	25 U	0.07 UJ	5 U	0.07 U	0.05 U	NA
Chlorobenzene	50	0.05 U	NA	5 U	0.7 J	0.09 UJ	NA	5 U	0.09 UJ	0.05 U	25 U	25 U	0.09 UJ	5 U	0.09 U	0.05 U	NA
Chloroethane	3000	0.09 U	NA	10 U	0.13 UJ	0.13 UJ	NA	10 U	0.13 UJ	0.09 U	50 U	50 U	0.13 UJ	10 U	0.13 U	0.09 U	NA
Chloroform	70	0.29 BF	NA	5 U	0.12 U	0.12 U	NA	5 U	0.12 U	0.06 U	25 U	25 U	0.12 UJ	5 U	0.12 U	0.06 U	NA
Chloromethane	3	0.2 U	NA	10 U	0.1 UJ	0.1 UJ	NA	10 U	0.1 UJ	0.2 U	50 U	50 U	0.1 UJ	10 U	0.1 U	0.2 U	NA
cis-1,2-Dichloroethylene	70	0.23 F	NA	NA	0.12 UJ	0.12 UJ	NA	NA	0.12 UJ	0.06 U	NA	NA	0.12 UJ	NA	4	3.5 J	NA
Dibromochloromethane	0.4	0.05 U	NA	NA	NA	NA	NA	NA	NA	0.05 U	NA	NA	NA	NA	NA	0.05 U	NA
Ethylbenzene	600	0.24 F	NA	5 U	0.08 UJ	0.08 UJ	NA	5 U	2 J	0.07 U	78	77	20 J	5 U	0.08 U	0.07 U	NA
Isopropylbenzene (Cumene)	70	28 M	NA	NA	NA	NA	NA	NA	NA	1.2 M	NA	NA	NA	NA	NA	0.07 UM	NA
m,p-Xylene (sum of isomers)	500	3	NA	NA	0.2 UJ	0.2 UJ	NA	NA	4 J	0.1 U	NA	NA	98 J	NA	0.2 U	0.1 U	NA
Methyl ethyl ketone (2-Butanone)	4000	R	NA	10 U	0.29 UJ	0.29 UJ	NA	10 U	0.29 UJ	R	50 U	50 U	0.29 UJ	10 U	0.29 U	0.8 UM	NA
Methylene chloride	5	0.54 BF	NA	5 U	0.73 UJ	0.73 UJ	NA	5 U	0.73 UJ	0.72 BF	25 U	25 U	0.73 UJ	5 U	0.73 U	0.54 BF	NA
Naphthalene	6	0.2 U	NA	NA	NA	NA	NA	NA	NA	0.2 U	NA	NA	NA	NA	NA	0.2 U	NA
n-Propylbenzene	70	0.24 F	NA	NA	NA	NA	NA	NA	NA	0.05 U	NA	NA	NA	NA	NA	0.05 U	NA
sec-Butylbenzene	70	0.06 U	NA	NA	NA	NA	NA	NA	NA	0.06 U	NA	NA	NA	NA	NA	0.06 U	NA
t-Butylbenzene	70	0.17 F	NA	NA	NA	NA	NA	NA	NA	0.06 U	NA	NA	NA	NA	NA	0.06 U	NA
Tetrachloroethylene (PCE)	0.7	**7.8**	NA	5 U	0.3 UJ	0.3 UJ	NA	5 U	0.3 UJ	0.09 U	25 U	25 U	0.3 UJ	**7**	**8**	**2.4 J**	NA
Toluene	600	0.25 BF	NA	5 U	0.07 UJ	0.07 UJ	NA	5 U	0.07 UJ	0.18 BF	25 U	25 U	0.07 UJ	5 U	0.07 U	0.06 U	NA
trans-1,2-Dichloroethene	100	0.07 U	NA	NA	0.09 UJ	0.09 UJ	NA	NA	0.09 UJ	0.07 U	NA	NA	0.09 UJ	NA	0.09 U	0.073 F	NA
Trichloroethylene (TCE)	3	1.9	NA	5 U	0.14 U	0.14 U	NA	5 U	0.14 U	0.06 U	25 U	25 U	0.14 UJ	**6**	**9**	3 J	NA
Trichlorofluoromethane	2000	0.085 F	NA	NA	NA	NA	NA	NA	NA	0.06 U	NA	NA	NA	NA	NA	0.06 U	NA
Xylenes, Total	500	NA	NA	5 U	NA	NA	NA	5 U	NA	NA	**710**	**700**	NA	5 U	NA	NA	NA
VINYL CHLORIDE	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOC																	
4-Chloro-3-methylphenol	NE	0.84 UM	NA	10 U	NA	NA	NA	10 U	NA	0.84 UM	10 U	10 U	NA	10 U	NA	0.84 UM	NA
Benzoic acid	30000	5.5 UM	NA	50 U	NA	NA	NA	50 U	NA	5.5 UM	50 U	50 U	NA	50 U	NA	5.5 UM	NA
Benzyl butyl phthalate	1000	1.1 UM	NA	10 U	NA	NA	NA	10 U	NA	1.1 UM	1 J	10 UJ	NA	0.9 J	NA	1.1 UM	NA
bis(2-Ethylhexyl) phthalate	3	0.87 UM	NA	10 U	NA	NA	NA	10 U	NA	0.87 UM	**12 J**	10 UJ	NA	0.7 J	NA	0.87 UM	NA
Diethyl phthalate	6000	0.74 U	NA	10 U	NA	NA	NA	10 U	NA	0.74 U	10 U	10 U	NA	10 U	NA	0.74 U	NA
Di-n-Butyl phthalate	700	0.83 U	NA	10 U	NA	NA	NA	10 U	NA	0.83 U	10 U	10 U	NA	10 U	NA	0.83 U	NA
Naphthalene	6	0.77 UM	NA	10 U	NA	NA	NA	10 U	NA	0.77 UM	10 U	10 U	NA	10 U	NA	0.77 UM	NA
Petroleum Hydrocarbons																	
EPH C11-C22 Aromatic	200 (3)	390 B	11 U	NA	NA	NA	NA	NA	NA	250 B	NA	NA	NA	NA	NA	160 B	11 U
EPH C19-C36 Aliphatic	10000	R	11 U	NA	NA	NA	NA	NA	NA	R	NA	NA	NA	NA	NA	R	11 U
EPH C9-C18 Aliphatic	700 (4)	R	9.5 UM	NA	NA	NA	NA	NA	NA	R	NA	NA	NA	NA	NA	25 JM	9.5 UM
Gasoline Components	NE	NA	NA	0.06	NA	NA	NA	0.24	NA	NA	5.8	4.1	NA	0.05 U	NA	NA	NA
VPH C5-C8 Aliphatic	400	**620**	370	NA	NA	NA	NA	NA	NA	140	NA	NA	NA	NA	NA	4.5 U	7.6 J
VPH C9-C10 Aromatic	200 (3)	**240**	**210**	NA	NA	NA	NA	NA	NA	23 B	NA	NA	NA	NA	NA	4.6 U	4.6 U
VPH C9-C12 Aliphatic	700 (4)	96	110	NA	NA	NA	NA	NA	NA	4.2 U	NA	NA	NA	NA	NA	4.2 U	4.2 U

Table 3
Summary of Historical Dectections
FTBR-305 (Site 305)
Fort Bragg, NC

Location:		MW4-02	MW4-02	MW4-03	MW4-03	MW4-03	MW4-04	MW4-04	MW4-04	MW4-04	MW4-05	MW4-05	MW4-05	MW4-06	MW4-06	MW4-06	MW4-06
Field Sample ID:		04M02WG00N1	04M02WG00N1	SS04MWF0400	04M03WG00N1	04M03WG00FD1	SS04MWF0500	SS04MWF0500	04M04WG00N1	04M04WG00N1	SS04MWF0700	SS04MWD0700	04M05WG00N1	SS04MWF0600	04M06WG00N1	04M06WG00N1	04M06WG00N1
Sample Date:		10/13/2003	3/9/2004	4/17/1997	9/23/1999	9/23/1999	4/17/1997	4/21/1997	9/22/1999	10/13/2003	4/22/1997	4/22/1997	9/22/1999	4/21/1997	9/22/1999	10/9/2003	3/10/2004
Sample Type:	NC 2L1	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal	Normal	Normal	Normal
Metals (Total)																	
Aluminum	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	1 (2)	3.6 U	NA	NA	NA	NA	NA	NA	NA	3.6 U	NA	NA	NA	NA	NA	3.6 U	NA
Arsenic	10	4.9 U	NA	6.8 F	NA	NA	3 U	NA	NA	4.9 U	4.7 F	3 U	NA	3 U	NA	4.9 U	NA
Barium	700	28 F	NA	88.1 F	NA	NA	29.1 F	NA	NA	22 F	22.3 F	23.2 F	NA	53.1 F	NA	72	NA
Beryllium	4 (2)	0.69 BF	NA	NA	NA	NA	NA	NA	NA	0.74 BF	NA	NA	NA	NA	NA	0.58 F	NA
Boron	700	41 F	NA	NA	NA	NA	NA	NA	NA	17 F	NA	NA	NA	NA	NA	26 BF	NA
Cadmium	2	0.27 U	NA	1 U	NA	NA	1 U	NA	NA	0.27 U	1 U	1 U	NA	**3 F**	NA	2 BF	NA
Calcium	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	10	2.1 U	NA	**33.8**	NA	NA	1.6 F	NA	NA	2.1 U	1.8 F	1.9 F	NA	4.1 F	NA	2.1 U	NA
Cobalt	1 (2)	0.67 U	NA	NA	NA	NA	NA	NA	NA	0.67 U	NA	NA	NA	NA	NA	**16 F**	NA
Copper	1000	0.97 U	NA	NA	NA	NA	NA	NA	NA	0.97 U	NA	NA	NA	NA	NA	1.5 BF	NA
Iron	300	**6,200 M**	NA	NA	NA	NA	NA	NA	NA	**4,500 M**	NA	NA	NA	NA	NA	170 FM	NA
Lead	15	**23 F**	NA	**17.6**	NA	NA	11.1	NA	NA	6.5 F	**20.4**	**23**	NA	2.6 F	NA	3.9 F	NA
Magnesium	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	50	**58**	NA	NA	NA	NA	NA	NA	NA	**87**	NA	NA	NA	NA	NA	**1700**	NA
Mercury	1	0.054 U	NA	0.38	NA	NA	0.2 U	NA	NA	0.054 U	0.2 U	0.2 U	NA	0.2 U	NA	0.5 F	NA
Nickel	100	4.2 U	NA	NA	NA	NA	NA	NA	NA	4.2 U	NA	NA	NA	NA	NA	4.3 F	NA
Potassium	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	20	4.6 U	NA	NA	NA	NA	NA	NA	NA	4.6 U	NA	NA	NA	NA	NA	4.6 U	NA
Silver	20	1.4 BF	NA	1 UJ	NA	NA	1 UJ	NA	NA	1.1 BF	1 UJ	1 UJ	NA	1 UJ	NA	0.7 U	NA
Sodium	NE	8.1 U	NA	NA	NA	NA	NA	NA	NA	8.1 U	NA	NA	NA	NA	NA	NA	NA
Tin	2,000 (2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA
Vanadium	0.3 (2)	2.6 U	NA	NA	NA	NA	NA	NA	NA	2.6 U	NA	NA	NA	NA	NA	2.6 U	NA
Zinc	1000	8.4 BF	NA	NA	NA	NA	NA	NA	NA	8.9 BF	NA	NA	NA	NA	NA	26	NA
Aluminum	1500 (2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	1 (2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	10	NA	NA	3.6 F	NA	NA	3 U	NA	NA	NA	4.1 F	5 F	NA	3 U	NA	NA	NA
Barium	700	NA	NA	78.6 F	NA	NA	28.6 F	NA	NA	NA	22.6 F	22.6 F	NA	51.4 F	NA	NA	NA
Beryllium	4 (2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2	NA	NA	1 U	NA	NA	1 U	NA	NA	NA	1 U	1 U	NA	**2.9 F**	NA	NA	NA
Calcium	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	10	NA	NA	4.4 F	NA	NA	2.1 F	NA	NA	NA	1.8 F	1.6 F	NA	4.5 F	NA	NA	NA
Cobalt	1 (2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	15	NA	NA	7.1	NA	NA	10.6	NA	NA	NA	**22.2**	**21**	NA	2.8 F	NA	NA	NA
Magnesium	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	1	NA	NA	0.45 J	NA	NA	0.2 U	NA	NA	NA	0.2 U	0.2 U	NA	0.2 U	NA	NA	NA
Nickel	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tin	2,000 (2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	0.3 (2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 3
Summary of Historical Dectections
FTBR-305 (Site 305)
Fort Bragg, NC

Location:		MW4-06	MW4-06	MW4-07	MW4-07	MW4-07	MW4-07	MW4-08	MW4-08	MW4-08	MW4-08	MW4-09	MW4-09	MW4-10	MW4-10	MW4-10	MW4-11
Field Sample ID:		04M06WG00N	04M06WG00N	SS04MWF0800	04M07WG00N1	04M07WG00N1	04M07WG00N1	SS04MWF0900	04M08WG00N1	04M08WG00N1	04M08WG00N1	SS04MWF1000	04M09WG00N1	SS04MWF1100	SS04MWD1100	04M10WG00N1	04M11WG00N1
Sample Date:		5/26/2011	3/13/2012	4/23/1997	9/22/1999	3/10/2004	5/13/2004	4/23/1997	9/23/1999	8/23/2005	5/26/2011	4/24/1997	9/22/1999	4/24/1997	4/24/1997	9/22/1999	10/8/2003
Sample Type:	NC 2L1	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
VOC																	
1,1,2-Trichloroethane	0.6 (2)	0.22 U	0.22 U	5 U	0.11 UJ	NA	0.06 UM	5 U	0.11 UJ	0.3 U	0.22 U	5 U	**3 J**	5 U	5 U	**2 J**	0.06 UM
1,1-Dichloroethane	6	0.25 U	0.25 U	5 U	0.07 UJ	NA	0.05 U	5 U	0.07 UJ	0.16 U	0.25 U	5 U	0.07 UJ	5 U	5 U	0.07 UJ	0.05 U
1,1-Dichloroethene	7	0.23 U	0.23 U	NA	NA	NA	0.09 U	NA	NA	0.17 U	0.23 U	NA	NA	NA	NA	NA	0.09 U
1,2,4-Trimethylbenzene	400	0.27 U	0.27 U	NA	0.12 UJ	NA	0.05 U	NA	0.12 UJ	0.18 U	0.27 U	NA	4 J	NA	NA	6 J	0.05 U
1,2-Dichloroethene (Total)	60 (2)	NA	NA	5 U	NA	NA	NA	5 U	NA	NA	NA	5 U	NA	5 U	5 U	NA	NA
1,2-DICHLOROETHANE	0.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	400	0.21 U	0.21 U	NA	0.1 UJ	NA	0.06 U	NA	0.1 UJ	0.19 U	0.21 U	NA	1 J	NA	NA	2 J	0.06 U
Acetone	6000	10 U	10 U	NA	NA	NA	2 UM	NA	NA	3.5 BF	10 U	NA	NA	NA	NA	NA	2 UM
Benzene	1	0.2 U	0.2 U	5 U	0.04 UJ	NA	0.05 U	5 U	0.04 UJ	0.15 U	0.2 U	**52**	**96 J**	5 U	5 U	**5 J**	0.05 U
Bromodichloromethane	0.06	0.2 U	0.2 U	5 U	0.07 UJ	NA	0.05 U	5 U	0.07 UJ	0.19 U	0.2 U	5 U	0.07 UJ	5 U	5 U	0.07 UJ	0.05 U
Chlorobenzene	50	0.2 U	0.2 U	5 U	0.09 UJ	NA	0.05 U	5 U	0.09 UJ	0.15 U	0.2 U	5 U	1 J	5 U	5 U	0.7 J	0.05 U
Chloroethane	3000	0.5 U	0.5 U	10 U	0.13 UJ	NA	0.09 U	10 U	0.13 UJ	0.46 U	0.5 U	10 U	0.13 UJ	10 U	10 U	0.13 UJ	0.09 U
Chloroform	70	0.22 U	0.22 U	5 U	0.12 UJ	NA	0.06 U	5 U	0.12 U	0.15 U	0.22 U	5 U	0.12 UJ	5 U	5 U	0.12 UJ	0.06 U
Chloromethane	3	0.5 U	0.5 U	10 U	1 J	NA	0.2 U	10 U	0.1 UJ	0.2 U	0.5 U	10 U	0.1 UJ	10 U	10 U	0.1 UJ	0.2 U
cis-1,2-Dichloroethylene	70	0.26 U	0.26 U	NA	0.12 UJ	NA	0.06 U	NA	0.12 UJ	0.2 U	0.26 U	NA	18 J	NA	NA	0.12 UJ	0.06 U
Dibromochloromethane	0.4	0.2 U	0.2 U	NA	NA	NA	0.05 U	NA	NA	0.19 U	0.2 U	NA	NA	NA	NA	NA	0.05 U
Ethylbenzene	600	0.2 U	0.2 U	5 U	0.08 UJ	NA	0.19 F	5 U	0.08 UJ	0.16 U	0.2 U	18	57 J	9	9	53 J	0.07 U
Isopropylbenzene (Cumene)	70	0.2 U	0.2 U	NA	NA	NA	21 M	NA	NA	0.2 U	0.2 U	NA	NA	NA	NA	NA	0.07 UM
m,p-Xylene (sum of isomers)	500	0.32 U	0.32 U	NA	0.2 UJ	NA	0.1 U	NA	0.2 UJ	0.37 U	0.32 U	NA	19 J	NA	NA	29 J	0.1 U
Methyl ethyl ketone (2-Butanone)	4000	2 U	2 U	10 U	0.29 UJ	NA	0.8 UM	22	0.29 UJ	0.9 U	2 U	10 U	0.29 UJ	10 U	10 U	0.29 UJ	0.8 UM
Methylene chloride	5	2 U	2 U	5 U	0.73 UJ	NA	0.2 U	5 U	0.73 UJ	0.17 U	2 U	5 U	0.73 UJ	5 U	5 U	0.73 UJ	0.46 BF
Naphthalene	6	1 U	1 U	NA	NA	NA	0.2 U	NA	NA	0.23 U	1 U	NA	NA	NA	NA	NA	0.2 U
n-Propylbenzene	70	0.2 U	0.2 U	NA	NA	NA	0.05 U	NA	NA	0.21 U	0.2 U	NA	NA	NA	NA	NA	0.05 U
sec-Butylbenzene	70	0.22 U	0.22 U	NA	NA	NA	0.1 F	NA	NA	0.22 U	0.22 U	NA	NA	NA	NA	NA	0.06 U
t-Butylbenzene	70	0.27 U	0.27 U	NA	NA	NA	0.68 F	NA	NA	0.2 U	0.27 U	NA	NA	NA	NA	NA	0.06 U
Tetrachloroethylene (PCE)	0.7	0.25 U	0.25 U	5 U	**0.9 J**	NA	0.09 U	5 U	0.3 UJ	0.17 U	0.25 U	5 U	0.3 UJ	5 U	5 U	0.3 UJ	0.27 F
Toluene	600	0.2 U	0.25 BF	5 U	0.07 UJ	NA	0.067 F	5 U	0.07 UJ	0.17 U	0.2 U	5 U	0.07 UJ	5 U	5 U	0.07 UJ	0.06 U
trans-1,2-Dichloroethene	100	0.35 U	0.35 U	NA	0.09 UJ	NA	0.07 U	NA	0.09 UJ	0.16 U	0.35 U	NA	0.09 UJ	NA	NA	0.09 UJ	0.07 U
Trichloroethylene (TCE)	3	0.26 U	0.26 U	5 U	0.14 UJ	NA	0.06 U	5 U	0.14 U	0.16 U	0.26 U	5 U	0.14 UJ	5 U	5 U	0.14 UJ	0.06 U
Trichlorofluoromethane	2000	0.5 UM	0.5 UM	NA	NA	NA	0.06 U	NA	NA	0.13 U	0.5 UM	NA	NA	NA	NA	NA	0.06 U
Xylenes, Total	500	0.52 U	0.52 U	5	NA	NA	NA	5 U	NA	NA	0.52 U	120	NA	73	69	NA	NA
VINYL CHLORIDE	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOC																	
4-Chloro-3-methylphenol	NE	NA	NA	10 U	NA	NA	0.84 UM	10 U	NA	NA	NA	NA	NA	2 J	1 J	NA	0.84 UM
Benzoic acid	30000	NA	NA	50 U	NA	NA	21 F	50 U	NA	NA	NA	NA	NA	50 U	50 U	NA	5.5 UM
Benzyl butyl phthalate	1000	NA	NA	10 U	NA	NA	1.1 UM	10 U	NA	NA	NA	NA	NA	10 U	10 U	NA	1.1 UM
bis(2-Ethylhexyl) phthalate	3	NA	NA	10 U	NA	NA	0.87 UM	10 U	NA	NA	NA	NA	NA	1 J	10 U	NA	0.87 UM
Diethyl phthalate	6000	NA	NA	10 U	NA	NA	0.74 U	10 U	NA	NA	NA	NA	NA	10 U	0.6 J	NA	0.74 U
Di-n-Butyl phthalate	700	NA	NA	10 U	NA	NA	0.83 U	10 U	NA	NA	NA	NA	NA	10 U	0.4 J	NA	0.83 U
Naphthalene	6	NA	NA	10 U	NA	NA	0.77 UM	10 U	NA	NA	NA	NA	NA	4 J	3 J	NA	0.77 UM
Petroleum Hydrocarbons																	
EPH C11-C22 Aromatic	200 (3)	NA	NA	NA	NA	11 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	240 B
EPH C19-C36 Aliphatic	10000	NA	NA	NA	NA	11 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	R
EPH C9-C18 Aliphatic	700 (4)	NA	NA	NA	NA	9.5 UM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	R
Gasoline Components	NE	NA	NA	0.44	NA	NA	NA	0.05 U	NA	NA	NA	NA	NA	1.7	2.2	NA	NA
VPH C5-C8 Aliphatic	400	NA	NA	NA	NA	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.5 U
VPH C9-C10 Aromatic	200 (3)	NA	NA	NA	NA	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.4 J
VPH C9-C12 Aliphatic	700 (4)	NA	NA	NA	NA	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.2 U

Table 3
Summary of Historical Dectections
FTBR-305 (Site 305)
Fort Bragg, NC

Location:		MW4-06	MW4-06	MW4-07	MW4-07	MW4-07	MW4-07	MW4-08	MW4-08	MW4-08	MW4-08	MW4-09	MW4-09	MW4-10	MW4-10	MW4-10	MW4-11
Field Sample ID:		04M06WG00N	04M06WG00N	SS04MWF0800	04M07WG00N1	04M07WG00N1	04M07WG00N1	SS04MWF0900	04M08WG00N1	04M08WG00N1	04M08WG00N1	SS04MWF1000	04M09WG00N1	SS04MWF1100	SS04MWD1100	04M10WG00N1	04M11WG00N1
Sample Date:		5/26/2011	3/13/2012	4/23/1997	9/22/1999	3/10/2004	5/13/2004	4/23/1997	9/23/1999	8/23/2005	5/26/2011	4/24/1997	9/22/1999	4/24/1997	4/24/1997	9/22/1999	10/8/2003
Sample Type:	NC 2L1	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
Metals (Total)																	
Aluminum	NE	NA	4670	NA	NA	NA	NA	NA	NA	300	508	NA	NA	NA	NA	NA	NA
Antimony	1 (2)	NA	2 U	NA	NA	NA	3.6 U	NA	NA	3.6 U	2 U	NA	NA	NA	NA	NA	3.6 U
Arsenic	10	NA	5.5 F	3 U	NA	NA	4.9 U	3 U	NA	4.4 U	2 U	NA	NA	3.3 F	3.3 F	NA	4.9 U
Barium	700	NA	43.6 F	43.7 F	NA	NA	33 F	53 F	NA	48 F	52.8 F	NA	NA	37.2 F	37.3 F	NA	53
Beryllium	4 (2)	NA	1 U	NA	NA	NA	0.41 U	NA	NA	0.41 U	1 U	NA	NA	NA	NA	NA	0.66 F
Boron	700	NA	NA	NA	NA	NA	33 F	NA	NA	NA	NA	NA	NA	NA	NA	NA	30 BF
Cadmium	2	NA	1.6 F	1 U	NA	NA	0.27 U	1 U	NA	0.45 U	1 U	NA	NA	1 U	1 U	NA	1.1 BF
Calcium	NE	NA	31800	NA	NA	NA	NA	NA	NA	7200	9010	NA	NA	NA	NA	NA	NA
Chromium	10	NA	2.4 BF	1.7 F	NA	NA	2.1 U	7 F	NA	0.82 U	1.3 BF	NA	NA	3.4 F	5.2 F	NA	2.1 U
Cobalt	1 (2)	NA	**11.3 F**	NA	NA	NA	0.67 U	NA	NA	0.97 U	1 U	NA	NA	NA	NA	NA	**9.6 F**
Copper	1000	NA	2 U	NA	NA	NA	0.97 U	NA	NA	4.5 U	2 U	NA	NA	NA	NA	NA	5.1 BF
Iron	300	NA	103 F	NA	NA	NA	**7,200 M**	NA	NA	65 BFM	51.4 F	NA	NA	NA	NA	NA	140 BM
Lead	15	NA	1.8 F	6.5	NA	NA	**23 F**	2 U	NA	2.2 U	1 U	NA	NA	**23.6**	**23.5**	NA	2.1 U
Magnesium	NE	NA	4,650 F	NA	NA	NA	NA	NA	NA	1400	1,370 F	NA	NA	NA	NA	NA	NA
Manganese	50	NA	**2310**	NA	NA	NA	**79**	NA	NA	16	20.9	NA	NA	NA	NA	NA	**1200**
Mercury	1	NA	0.28 F	0.2 U	NA	NA	0.025 U	0.2 U	NA	0.044 U	0.05 U	NA	NA	0.2 U	0.2 U	NA	0.054 U
Nickel	100	NA	3 F	NA	NA	NA	4.2 U	NA	NA	1.2 U	2 U	NA	NA	NA	NA	NA	7.7 F
Potassium	NE	NA	2,940 F	NA	NA	NA	NA	NA	NA	2,100	1,940 F	NA	NA	NA	NA	NA	NA
Selenium	20	NA	2 U	NA	NA	NA	4.6 U	NA	NA	4.4 U	2 U	NA	NA	NA	NA	NA	4.6 U
Silver	20	NA	1 U	1 UJ	NA	NA	0.7 U	1 UJ	NA	1 BF	1 U	NA	NA	1 UJ	1 UJ	NA	0.7 U
Sodium	NE	NA	2,980 F	NA	NA	NA	NA	NA	NA	2,000	2,160 F	NA	NA	NA	NA	NA	NA
Tin	2,000 (2)	NA	NA	NA	NA	NA	5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.5 F
Vanadium	0.3 (2)	NA	1 BF	NA	NA	NA	2.6 U	NA	NA	2.5 U	1 U	NA	NA	NA	NA	NA	2.6 U
Zinc	1000	NA	14.9 F	NA	NA	NA	6.1 F	NA	NA	4.4 U	5 U	NA	NA	NA	NA	NA	25
Aluminum	1500 (2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	1 (2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	10	NA	NA	3 U	NA	NA	NA	3 U	NA	NA	NA	NA	NA	3 U	3 U	NA	NA
Barium	700	NA	NA	43.8 F	NA	NA	NA	53 F	NA	NA	NA	NA	NA	35.2 F	35.6 F	NA	NA
Beryllium	4 (2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2	NA	NA	1 U	NA	NA	NA	1 U	NA	NA	NA	NA	NA	1 U	1 U	NA	NA
Calcium	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	10	NA	NA	1.7 F	NA	NA	NA	6.9 F	NA	NA	NA	NA	NA	2.7 F	4.2 F	NA	NA
Cobalt	1 (2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	15	NA	NA	6.9	NA	NA	NA	2 U	NA	NA	NA	NA	NA	**23.6**	**23.3**	NA	NA
Magnesium	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	1	NA	NA	0.2 U	NA	NA	NA	0.2 U	NA	NA	NA	NA	NA	0.2 U	0.2 U	NA	NA
Nickel	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tin	2,000 (2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	0.3 (2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 3
Summary of Historical Dectections
FTBR-305 (Site 305)
Fort Bragg, NC

Location:		MW4-11	MW4-12	MW4-12	MW4-13	MW4-13	MW4-13	MW4-13	MW4-13	*MW4-13*	MW4-13	305 MW4-13	305 MW4-13	MW4-14	MW4-14	MW4-14	*MW4-14*	MW4-14	305 MW4-14	305 MW4-14	305 MW4-14
Field Sample ID:		04M11WG00N1	04M12WG00N1	04M12WG00N1	04M13WG00N1	04M13WG00N1	04M13WG00N1	04M13WG00N1	04M13WG00N1			21411134601	21510231002	04M14WG00N1	04M14WG00N1	04M14WG00N1			21411123102	21411123102	21510231003
Sample Date:		3/9/2004	10/8/2003	3/9/2004	10/13/2003	3/10/2004	3/13/2012	11/1/2012	11/1/2012	*05/2013*	11/2013	11/12/2014	10/22/2015	10/8/2003	3/9/2004	11/1/2012	*05/2013*	11/2013	11/11/2014	11/11/2014	10/22/2015
Sample Type:	NC 2L1	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate	*Normal*	Normal	Normal	Normal	Normal	Normal	Normal	*Normal*	Normal	Normal	Duplicate	Duplicate
VOC																					
1,1,2-Trichloroethane	0.6 (2)	NA	0.06 UM	NA	0.3 UM	NA	0.22 U	--	--	*NA*	NA	0.159 U	0.2 U	0.06 UJM	NA	--	*NA*	NA	0.159 U	0.159 U	0.2 U
1,1-Dichloroethane	6	NA	0.05 U	NA	0.25 U	NA	0.25 U	--	--	*0.21 U*	0.2 U	0.171 U	0.2 U	0.05 UJ	NA	--	*0.21 U*	0.2 U	0.174 U	0.174 U	0.2 U
1,1-Dichloroethene	7	NA	0.09 U	NA	0.45 U	NA	0.23 U	--	--	*NA*	NA	0.2 U	0.2 U	0.09 UJ	NA	--	*NA*	NA	0.2 U	0.2 U	0.2 U
1,2,4-Trimethylbenzene	400	NA	0.05 U	NA	0.25 U	NA	0.27 U	--	--	*NA*	NA	0.084 U	0.2 U	0.05 UJ	NA	--	*NA*	NA	0.084 U	0.084 U	0.2 U
1,2-Dichloroethene (Total)	60 (2)	NA	NA	NA	NA	NA	NA	--	--	*NA*	NA	NA	0.2 U	NA	NA	--	*NA*	NA	NA	NA	0.2 U
1,2-DICHLOROETHANE	0.4	NA	NA	NA	NA	NA	NA	--	--	*0.22 U*	0.116 U	0.116 U	0.2 U	NA	NA	--	*0.22 U*	0.116 U	0.116 U	0.116 U	0.2 U
1,3,5-Trimethylbenzene	400	NA	0.06 U	NA	0.3 U	NA	0.21 U	--	--	*NA*	NA	0.066 U	0.2 U	0.06 UJ	NA	--	*NA*	NA	0.066 U	0.066 U	0.2 U
Acetone	6000	NA	2 UM	NA	R	NA	10 U	--	--	*NA*	1.23	0.193 U	0.5 U	2 UJM	NA	--	*NA*	0.193 U	0.193 U	0.193 U	0.5 U
Benzene	1	NA	0.05 U	NA	0.51 F	NA	0.2 U	0.21 U	0.21 U	*0.21 U*	0.111 U	0.111 U	0.2 U	0.05 UJ	NA	0.21 U	*0.21 U*	0.111 U	0.111 U	0.111 U	0.2 U
Bromodichloromethane	0.06	NA	**0.067 F**	NA	0.25 U	NA	0.2 U	--	--	*NA*	NA	0.083 U	0.2 U	0.05 UJ	NA	--	*NA*	NA	0.083 U	0.083 U	0.2 U
Chlorobenzene	50	NA	0.05 U	NA	0.25 U	NA	0.2 U	--	--	*NA*	NA	0.083 U	0.2 U	0.05 UJ	NA	--	*NA*	NA	0.083 U	0.083 U	0.2 U
Chloroethane	3000	NA	0.09 U	NA	0.45 U	NA	0.5 U	--	--	*NA*	NA	0.235 U	0.25 U	0.09 UJ	NA	--	*NA*	NA	0.235 U	0.235 U	0.25 U
Chloroform	70	NA	0.74	NA	0.3 U	NA	0.22 U	--	--	*NA*	NA	0.155 U	0.2 U	0.37 UJ	NA	--	*NA*	NA	0.155 U	0.155 U	0.2 U
Chloromethane	3	NA	0.2 U	NA	1 U	NA	0.5 U	--	--	*NA*	NA	0.144 U	0.2 U	0.2 UJ	NA	--	*NA*	NA	0.144 U	0.144 U	0.2 U
cis-1,2-Dichloroethylene	70	NA	8.4	NA	0.46 F	NA	3.7	0.84 F	0.83 F	*0.38 F*	0.103 U	0.103 U	**0.6 J**	68	NA	1.2	*0.49 F*	0.103 U	0.103 U	0.103 U	0.2 U
Dibromochloromethane	0.4	NA	0.05 U	NA	0.25 U	NA	0.2 U	--	--	*NA*	NA	0.054 U	0.2 U	0.05 UJ	NA	--	*NA*	NA	0.054 U	0.054 U	0.2 U
Ethylbenzene	600	NA	0.07 U	NA	0.35 U	NA	0.2 U	--	--	*NA*	NA	0.109 U	0.2 U	0.07 UJ	NA	--	*NA*	NA	0.109 U	0.109 U	0.2 U
Isopropylbenzene (Cumene)	70	NA	0.07 UM	NA	**180 M**	NA	0.2 U	--	--	*NA*	NA	0.13 U	0.2 U	0.07 UJM	NA	--	*NA*	NA	0.13 U	0.13 U	0.2 U
m,p-Xylene (sum of isomers)	500	NA	0.1 U	NA	0.5 U	NA	0.32 U	--	--	*NA*	NA	0.123 U	0.2 U	0.1 UJ	NA	--	*NA*	NA	0.123 U	0.123 U	0.2 U
Methyl ethyl ketone (2-Butanone)	4000	NA	0.8 UM	NA	R	NA	2 U	--	--	*NA*	NA	0.142 U	0.2 U	0.8 UJM	NA	--	*NA*	NA	0.142 U	0.142 U	0.2 U
Methylene chloride	5	NA	0.43 BF	NA	1 U	NA	2 U	--	--	*NA*	NA	0.149 U	0.2 U	0.41 BFJ	NA	--	*NA*	NA	0.149 U	0.149 U	0.2 U
Naphthalene	6	NA	0.2 U	NA	1.7 F	NA	1 U	--	--	*NA*	NA	NA	0.2 U	0.2 UJ	NA	--	*NA*	NA	NA	NA	0.2 U
n-Propylbenzene	70	NA	0.05 U	NA	1.4 F	NA	0.2 U	--	--	*NA*	NA	0.727 U	1 U	0.05 UJ	NA	--	*NA*	NA	0.727 U	0.727 U	1 U
sec-Butylbenzene	70	NA	0.06 U	NA	0.74 F	NA	0.22 U	--	--	*NA*	NA	0.107 U	0.2 U	0.06 UJ	NA	--	*NA*	NA	0.107 U	0.107 U	0.2 U
t-Butylbenzene	70	NA	0.06 U	NA	1.8 F	NA	0.27 U	--	--	*NA*	NA	0.087 U	0.2 U	0.06 UJ	NA	--	*NA*	NA	0.087 U	0.087 U	0.2 U
Tetrachloroethylene (PCE)	0.7	NA	**3.1**	NA	**1.4 F**	NA	**3.4**	**2.9**	**2.9**	***2.1***	**0.99 J**	**2.2**	**12.4**	**28 J**	NA	**3.4**	***1.8***	0.193 U	**1.38**	**1.35**	**2.77**
Toluene	600	NA	0.06 U	NA	0.3 U	NA	0.31 BF	0.2 U	0.2 U	*0.20 U*	0.122 U	0.122 U	0.2 U	0.06 UJ	NA	0.2 U	*0.20 U*	0.122 U	0.122 U	0.122 U	0.2 U
trans-1,2-Dichloroethene	100	NA	0.12 F	NA	0.35 U	NA	0.35 U	--	--	*NA*	NA	0.077 U	0.2 U	1.2 J	NA	--	*NA*	NA	0.077 U	0.077 U	0.2 U
Trichloroethylene (TCE)	3	NA	**3.7**	NA	0.3 U	NA	1.4	0.81 F	0.89 F	*0.55 F*	0.161 U	0.376 J	**3.69**	**41 J**	NA	0.87 F	*0.47 F*	0.161 U	0.161 U	0.161 U	**1.05**
Trichlorofluoromethane	2000	NA	0.06 U	NA	0.3 U	NA	0.5 UM	0.5 U	0.5 U	*0.50 UM*	0.157 U	0.157 U	0.2 U	0.06 UJ	NA	0.5 U	*0.50 UM*	0.157 U	0.157 U	0.157 U	0.2 U
Xylenes, Total	500	NA	NA	NA	NA	NA	0.52 U	--	--	*NA*	NA	0.179 U	0.4 U	NA	NA	--	*NA*	NA	0.179 U	0.179 U	0.4 U
VINYL CHLORIDE	0.3	NA	NA	NA	NA	NA	NA	--	--	*0.44 U*	0.127 U	0.127 U	0.2 U	NA	NA	--	*0.44 U*	0.127 U	0.127 U	0.127 U	0.2 U
SVOC																					
4-Chloro-3-methylphenol	NE	NA	0.84 UM	NA	0.84 UM	NA	NA	NA	NA	*NA*	NA	NA	NA	0.84 UM	NA	NA	*NA*	NA	NA	NA	NA
Benzoic acid	30000	NA	5.5 UM	NA	5.5 UM	NA	NA	NA	NA	*NA*	NA	NA	NA	5.5 UM	NA	NA	*NA*	NA	NA	NA	NA
Benzyl butyl phthalate	1000	NA	1.1 UM	NA	1.1 UM	NA	NA	NA	NA	*NA*	NA	NA	NA	1.1 UM	NA	NA	*NA*	NA	NA	NA	NA
bis(2-Ethylhexyl) phthalate	3	NA	0.87 UM	NA	0.87 UM	NA	NA	NA	NA	*NA*	NA	NA	NA	0.87 UM	NA	NA	*NA*	NA	NA	NA	NA
Diethyl phthalate	6000	NA	0.74 U	NA	0.74 U	NA	NA	NA	NA	*NA*	NA	NA	NA	0.74 U	NA	NA	*NA*	NA	NA	NA	NA
Di-n-Butyl phthalate	700	NA	0.83 U	NA	0.83 U	NA	NA	NA	NA	*NA*	NA	NA	NA	0.83 U	NA	NA	*NA*	NA	NA	NA	NA
Naphthalene	6	NA	0.77 UM	NA	1.4 FM	NA	NA	NA	NA	*NA*	NA	NA	NA	0.77 UM	NA	NA	*NA*	NA	NA	NA	NA
Petroleum Hydrocarbons																					
EPH C11-C22 Aromatic	200 (3)	11 U	250 B	11 U	180 B	11 U	NA	NA	NA	*NA*	NA	NA	NA	220 B	11 U	NA	*NA*	NA	NA	NA	NA
EPH C19-C36 Aliphatic	10000	11 U	R	11 U	R	11 U	NA	NA	NA	*NA*	NA	NA	NA	R	11 U	NA	*NA*	NA	NA	NA	NA
EPH C9-C18 Aliphatic	700 (4)	9.5 UM	R	9.5 UM	36 JM	9.5 UM	NA	NA	NA	*NA*	NA	NA	NA	R	9.5 UM	NA	*NA*	NA	NA	NA	NA
Gasoline Components	NE	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA
VPH C5-C8 Aliphatic	400	4.5 U	4.5 U	6 BJ	**440**	61	NA	NA	NA	*NA*	NA	NA	NA	52	71	NA	*NA*	NA	NA	NA	NA
VPH C9-C10 Aromatic	200 (3)	4.6 U	4.6 U	4.6 U	160	8.3	NA	NA	NA	*NA*	NA	NA	NA	8.8	4.6 U	NA	*NA*	NA	NA	NA	NA
VPH C9-C12 Aliphatic	700 (4)	4.2 U	4.2 U	4.2 U	57	4.3 J	NA	NA	NA	*NA*	NA	NA	NA	4.2 U	4.2 U	NA	*NA*	NA	NA	NA	NA

Table 3
Summary of Historical Dectections
FTBR-305 (Site 305)
Fort Bragg, NC

Location:		MW4-11	MW4-12	MW4-12	MW4-13	MW4-13	MW4-13	MW4-13	MW4-13	*MW4-13*	MW4-13	305 MW4-13	305 MW4-13	MW4-14	MW4-14	MW4-14	*MW4-14*	MW4-14	305 MW4-14	305 MW4-14	305 MW4-14
Field Sample ID:		04M11WG00N1	04M12WG00N1	04M12WG00N1	04M13WG00N1	04M13WG00N1	04M13WG00N1	04M13WG00N1	04M13WG00N1	*NA*	NA	21411134601	21510231002	04M14WG00N1	04M14WG00N1	04M14WG00N1	*NA*	NA	21411123102	21411123102	21510231003
Sample Date:		3/9/2004	10/8/2003	3/9/2004	10/13/2003	3/10/2004	3/13/2012	11/1/2012	11/1/2012	*05/2013*	11/2013	11/12/2014	10/22/2015	10/8/2003	3/9/2004	11/1/2012	*05/2013*	11/2013	11/11/2014	11/11/2014	10/22/2015
Sample Type:	NC 2L1	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate	*NA*	NA	Normal	Normal	Normal	Normal	Normal	*NA*	NA	Normal	Duplicate	Duplicate
Metals (Total)																					
Aluminum	NE	NA	NA	NA	NA	NA	117 F	138 F	132 F	*211*	NA	NA	**530**	NA	NA	934	*595*	NA	NA	NA	**13900**
Antimony	1 (2)	NA	3.6 U	NA	3.6 U	NA	2 U	--	--	*NA*	NA	NA	0.5 U	3.6 U	NA	--	*NA*	NA	NA	NA	0.5 U
Arsenic	10	NA	4.9 U	NA	**11 F**	NA	2 U	--	--	*NA*	5 U	**0.7 J**	**0.61 J**	4.9 U	NA	--	*NA*	5 U	2.2	2.1	**12**
Barium	700	NA	68	NA	40 F	NA	59.5 F	63.7 F	63.2 F	*65.1 F*	62	**93**	**92**	35 F	NA	39.4 F	*57.4 F*	47	60	58	**89**
Beryllium	4 (2)	NA	0.41 U	NA	0.66 BF	NA	1 U	--	--	*NA*	NA	NA	**0.53 J**	0.41 U	NA	--	*NA*	NA	NA	NA	**1.3**
Boron	700	NA	21 BF	NA	37 F	NA	NA	--	--	*NA*	NA	NA	NA	31 BF	NA	--	*NA*	NA	NA	NA	NA
Cadmium	2	NA	1.1 BF	NA	0.27 U	NA	1 U	0.5 BF	0.5 U	*NA*	NA	**1 J**	**1**	0.57 BF	NA	0.8 BF	*NA*	NA	1.8	1.7	**4.1**
Calcium	NE	NA	NA	NA	NA	NA	8070	9250	9150	*10300*	NA	NA	**11700**	NA	NA	9650	*12000*	NA	NA	NA	**45600**
Chromium	10	NA	**11**	NA	2.1 U	NA	1 U	2 U	2 U	*2 U*	2.5 U	**0.8 J**	**0.31 J**	2.1 U	NA	2 U	*2 U*	2.6 J	0.6 J	0.6 J	**0.86 J**
Cobalt	1 (2)	NA	**4.6 F**	NA	0.67 U	NA	1 U	0.5 U	0.5 U	*0.7 BF*	NA	NA	**2.7**	**1.2 F**	NA	**5.6 F**	***5.2 F***	NA	NA	NA	**43**
Copper	1000	NA	4.8 BF	NA	0.97 U	NA	2 U	--	--	*NA*	NA	NA	**0.76 J**	1.7 BF	NA	--	*NA*	NA	NA	NA	**1.8**
Iron	300	NA	**3,200 M**	NA	**11,000 M**	NA	**1080**	**599**	**493**	***2070***	NA	**550**	**63 J**	80 FM	NA	29 U	*29 U*	NA	25 U	25 U	25 U
Lead	15	NA	4.1 F	NA	**29**	NA	1 U	--	--	*NA*	NA	**0.6 J**	**0.37 J**	9 F	NA	--	*NA*	NA	2	4.3	**3.1**
Magnesium	NE	NA	NA	NA	NA	NA	1,790 F	2000 F	1970 F	*2090 F*	NA	NA	**2450**	NA	NA	2010 F	*2690 F*	NA	NA	NA	**9510**
Manganese	50	NA	**700**	NA	**190**	NA	**349**	**399 JM**	**395 JM**	***581***	NA	**1000**	**800**	**150**	NA	**790 JM**	***1250***	NA	**2020**	**1950**	**5530**
Mercury	1	NA	0.054 U	NA	0.054 U	NA	0.05 U	--	--	*0.052 F*	0.1 U	0 U	0.1 U	0.054 U	NA	--	*0.075 F*	0.1 U	0.1 J	0.1 J	**0.49**
Nickel	100	NA	4.2 U	NA	4.2 U	NA	2 U	0.7 BF	0.9 BF	*NA*	NA	NA	**1.8 J**	4.2 U	NA	1.2 BF	*NA*	NA	NA	NA	**9.1**
Potassium	NE	NA	NA	NA	NA	NA	2,330 F	2800 F	2770 F	*2870 F*	NA	NA	**2960**	NA	NA	2570 F	*2910 F*	NA	NA	NA	**3320**
Selenium	20	NA	4.6 U	NA	4.6 U	NA	2 U	--	--	*NA*	NA	**0.5 J**	**0.49 J**	4.6 U	NA	--	*NA*	NA	0.2 U	0.2 U	0.2 U
Silver	20	NA	0.7 U	NA	0.84 BF	NA	1 U	--	--	*NA*	NA	0.2 U	0.2 U	0.7 U	NA	--	*NA*	NA	0.2 U	0.2 U	0.2 U
Sodium	NE	NA	NA	NA	NA	NA	1,900 U	1800 BF	1780 BF	*1860 F*	NA	NA	**2270**	NA	NA	1960 BF	*1960 F*	NA	NA	NA	**3610**
Tin	2,000 (2)	NA	5 U	NA	5 U	NA	NA	--	--	*NA*	NA	NA	0.2 U	5 U	NA	--	*NA*	NA	NA	NA	0.2 U
Vanadium	0.3 (2)	NA	**19**	NA	2.6 U	NA	1.6 BF	1 U	1 U	*1.6 BF*	NA	NA	**0.36 J**	2.6 U	NA	1 U	*1 U*	NA	NA	NA	0.2 U
Zinc	1000	NA	9.2 F	NA	12 BF	NA	5 U	9 BF	10.2 F	*NA*	NA	NA	**5.6 J**	3.6 U	NA	12.3 F	*NA*	NA	NA	NA	**31**
Aluminum	1500 (2)	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA
Antimony	1 (2)	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA
Arsenic	10	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA
Barium	700	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA
Beryllium	4 (2)	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA
Boron	700	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA
Cadmium	2	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA
Calcium	NE	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA
Chromium	10	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA
Cobalt	1 (2)	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA
Copper	1000	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA
Iron	300	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA
Lead	15	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA
Magnesium	NE	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA
Manganese	50	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA
Mercury	1	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA
Nickel	100	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA
Potassium	NE	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA
Selenium	20	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA
Silver	20	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA
Sodium	NE	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA
Tin	2,000 (2)	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA
Vanadium	0.3 (2)	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA
Zinc	1000	NA	NA	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA	NA	NA	*NA*	NA	NA	NA	NA

Table 3
Summary of Historical Dectections
FTBR-305 (Site 305)
Fort Bragg, NC

Location:		305 MW4-14	MW4-15	MW4-15	MW4-15	MW4-15	MW4-15	MW4-15	MW4-15	MW4-16	MW4-16
Field Sample ID:		21510231001	04M15WG00N1	04M35WG00FD1	04M15WG00N1	04M15WG00FD1	04M15WG00N1	04M15WG00FD1	04M15WG00N1	04M16WG00N1	04M16WG00N1
Sample Date:		10/22/2015	10/9/2003	10/9/2003	3/10/2004	3/10/2004	5/26/2011	5/26/2011	3/13/2012	10/9/2003	3/10/2004
Sample Type:	NC 2L1	Normal	Normal	Duplicate	Normal	Duplicate	Normal	Duplicate	Normal	Normal	Normal
VOC											
1,1,2-Trichloroethane	0.6 (2)	0.2 U	0.06 UM	0.06 UM	NA	NA	0.22 U	0.22 U	0.22 U	0.06 UM	NA
1,1-Dichloroethane	6	0.2 U	0.05 U	0.05 U	NA	NA	0.25 U	0.25 U	0.25 U	0.05 U	NA
1,1-Dichloroethene	7	0.2 U	0.09 U	0.09 U	NA	NA	0.23 U	0.23 U	0.23 U	0.09 U	NA
1,2,4-Trimethylbenzene	400	0.2 U	0.05 U	0.05 U	NA	NA	0.27 U	0.27 U	0.27 U	0.05 U	NA
1,2-Dichloroethene (Total)	60 (2)	0.2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-DICHLOROETHANE	0.4	0.2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	400	0.2 U	0.06 U	0.06 U	NA	NA	0.21 U	0.21 U	0.21 U	0.06 U	NA
Acetone	6000	0.5 U	2 UM	2 UM	NA	NA	10 U	10 U	10 U	2 UM	NA
Benzene	1	0.2 U	0.05 U	0.05 U	NA	NA	0.2 U	0.2 U	0.2 U	0.069 F	NA
Bromodichloromethane	0.06	0.2 U	0.05 U	0.05 U	NA	NA	0.2 U	0.2 U	0.2 U	**1.4**	NA
Chlorobenzene	50	0.2 U	0.05 U	0.05 U	NA	NA	0.2 U	0.2 U	0.2 U	0.05 U	NA
Chloroethane	3000	0.25 U	0.09 U	0.14 F	NA	NA	0.5 U	0.5 U	0.5 U	0.09 U	NA
Chloroform	70	0.2 U	0.14 F	0.16 F	NA	NA	0.22 U	0.22 U	0.22 U	15	NA
Chloromethane	3	0.2 U	0.2 U	0.2 U	NA	NA	0.5 U	0.5 U	0.5 U	0.2 U	NA
cis-1,2-Dichloroethylene	70	0.2 U	24	32	NA	NA	0.26 U	0.26 U	0.26 U	1.8 J	NA
Dibromochloromethane	0.4	0.2 U	0.05 U	0.05 U	NA	NA	0.2 U	0.2 U	0.2 U	0.05 U	NA
Ethylbenzene	600	0.2 U	0.07 U	0.07 U	NA	NA	0.2 U	0.2 U	0.2 U	0.07 U	NA
Isopropylbenzene (Cumene)	70	0.2 U	0.29 FM	0.23 FM	NA	NA	0.2 U	0.2 U	0.2 U	0.07 UM	NA
m,p-Xylene (sum of isomers)	500	0.2 U	0.1 U	0.1 U	NA	NA	0.32 U	0.32 U	0.32 U	0.1 U	NA
Methyl ethyl ketone (2-Butanone)	4000	0.2 U	0.8 UM	0.8 UM	NA	NA	2 U	2 U	2 U	0.8 UM	NA
Methylene chloride	5	0.2 U	0.2 U	0.56 BF	NA	NA	2 U	2 U	2 U	0.2 U	NA
Naphthalene	6	0.2 U	0.2 U	0.2 U	NA	NA	1 U	1 U	1 U	0.2 U	NA
n-Propylbenzene	70	1 U	0.05 U	0.05 U	NA	NA	0.2 U	0.2 U	0.2 U	0.05 U	NA
sec-Butylbenzene	70	0.2 U	0.06 U	0.06 U	NA	NA	0.22 U	0.22 U	0.22 U	0.06 U	NA
t-Butylbenzene	70	0.2 U	0.17 F	0.15 F	NA	NA	0.27 U	0.27 U	0.27 U	0.52 F	NA
Tetrachloroethylene (PCE)	0.7	**3.18**	**13**	**16**	NA	NA	0.25 U	0.25 U	0.35 F	**1.9 J**	NA
Toluene	600	0.2 U	0.06 U	0.06 U	NA	NA	0.2 U	0.2 U	0.42 BF	0.1 BF	NA
trans-1,2-Dichloroethene	100	0.2 U	0.57 F	0.67 F	NA	NA	0.35 U	0.35 U	0.35 U	0.07 U	NA
Trichloroethylene (TCE)	3	**1.02**	**21**	**27**	NA	NA	0.26 U	0.28 F	0.31 F	1.5 J	NA
Trichlorofluoromethane	2000	0.2 U	0.06 U	0.06 U	NA	NA	0.5 UM	0.5 UM	0.5 UM	0.06 U	NA
Xylenes, Total	500	0.4 U	NA	NA	NA	NA	0.52 U	0.52 U	0.52 U	NA	NA
VINYL CHLORIDE	0.3	0.2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOC											
4-Chloro-3-methylphenol	NE	NA	0.84 UM	0.84 UM	NA	NA	NA	NA	NA	0.84 UM	NA
Benzoic acid	30000	NA	5.5 UM	5.5 UM	NA	NA	NA	NA	NA	5.5 UM	NA
Benzyl butyl phthalate	1000	NA	1.1 UM	1.1 UM	NA	NA	NA	NA	NA	1.1 UM	NA
bis(2-Ethylhexyl) phthalate	3	NA	0.87 UM	0.87 UM	NA	NA	NA	NA	NA	0.87 UM	NA
Diethyl phthalate	6000	NA	0.74 U	0.74 U	NA	NA	NA	NA	NA	0.74 U	NA
Di-n-Butyl phthalate	700	NA	0.83 U	0.83 U	NA	NA	NA	NA	NA	0.83 U	NA
Naphthalene	6	NA	0.77 UM	0.77 UM	NA	NA	NA	NA	NA	0.77 UM	NA
Petroleum Hydrocarbons											
EPH C11-C22 Aromatic	200 (3)	NA	170 B	220 B	11 U	11 U	NA	NA	NA	220 B	11 U
EPH C19-C36 Aliphatic	10000	NA	R	R	11 U	11 U	NA	NA	NA	R	11 U
EPH C9-C18 Aliphatic	700 (4)	NA	R	R	9.5 UM	9.5 UM	NA	NA	NA	31 JM	9.5 UM
Gasoline Components	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VPH C5-C8 Aliphatic	400	NA	190	190	58	56	NA	NA	NA	250	78
VPH C9-C10 Aromatic	200 (3)	NA	19	25	5.3 J	5.5 J	NA	NA	NA	14	6.6 J
VPH C9-C12 Aliphatic	700 (4)	NA	23	20	4.2 U	4.2 U	NA	NA	NA	4.2 U	4.2 U

Table 3
Summary of Historical Dectections
FTBR-305 (Site 305)
Fort Bragg, NC

Location:		305 MW4-14	MW4-15	MW4-15	MW4-15	MW4-15	MW4-15	MW4-15	MW4-15	MW4-16	MW4-16
Field Sample ID:		21510231001	04M15WG00N1	04M35WG00FD1	04M15WG00N1	04M15WG00FD1	04M15WG00N1	04M15WG00FD1	04M15WG00N1	04M16WG00N1	04M16WG00N1
Sample Date:		10/22/2015	10/9/2003	10/9/2003	3/10/2004	3/10/2004	5/26/2011	5/26/2011	3/13/2012	10/9/2003	3/10/2004
Sample Type:	NC 2L1	Normal	Normal	Duplicate	Normal	Duplicate	Normal	Duplicate	Normal	Normal	Normal
Metals (Total)											
Aluminum	NE	**15100**	NA	NA	NA	NA	350	365	829	NA	NA
Antimony	1 [2]	0.5 U	3.6 U	3.6 U	NA	NA	2 U	2 U	2 U	3.6 U	NA
Arsenic	10	**13**	4.9 U	4.9 U	NA	NA	2 U	2 U	2 U	5.3 F	NA
Barium	700	**95**	47 F	50	NA	NA	40.8 F	42.8 F	55.8 F	50	NA
Beryllium	4 [2]	**1.5**	0.41 U	0.41 U	NA	NA	1 U	1 U	1 U	0.41 U	NA
Boron	700	NA	27 BF	31 BF	NA	NA	NA	NA	NA	31 BF	NA
Cadmium	2	**4.4**	0.37 BF	0.27 U	NA	NA	1 U	1 U	1 U	0.27 U	NA
Calcium	NE	**47700**	NA	NA	NA	NA	8210	8770	9670	NA	NA
Chromium	10	**0.93 J**	2.1 U	2.1 U	NA	NA	1 U	1 U	2 BF	2.1 U	NA
Cobalt	1 [2]	**45**	**2.2 F**	**2.8 F**	NA	NA	**2.2 F**	**2.3 F**	**3.3 F**	1 F	NA
Copper	1000	**1.8**	0.97 U	0.97 U	NA	NA	2 U	2 U	2 U	0.97 U	NA
Iron	300	25 U	**1,900 M**	**2,000 M**	NA	NA	35 U	35 U	**396**	**10,000 M**	NA
Lead	15	**3.3**	**35**	**36**	NA	NA	1 U	1 U	1 U	2.1 U	NA
Magnesium	NE	**10200**	NA	NA	NA	NA	1,930 F	1,950 F	2,240 F	NA	NA
Manganese	50	**6080**	**390**	**410**	NA	NA	**663**	**646**	**886**	**67**	NA
Mercury	1	**0.55**	0.054 U	0.054 U	NA	NA	0.25 BF	0.05 U	0.05 U	0.054 U	NA
Nickel	100	**9.4**	4.2 U	4.2 U	NA	NA	2 U	2 U	2 U	4.2 U	NA
Potassium	NE	**3540**	NA	NA	NA	NA	2,610 F	2,610 F	2,550 F	NA	NA
Selenium	20	**1.1**	4.6 U	4.6 U	NA	NA	2 U	2 U	2.5 BF	4.6 U	NA
Silver	20	0.2 U	0.7 U	0.7 U	NA	NA	1 U	1 U	1 U	0.7 U	NA
Sodium	NE	**3680**	NA	NA	NA	NA	1,900 U	1,900 U	1,900 U	NA	NA
Tin	2,000 [2]	0.2 U	5 U	5 U	NA	NA	NA	NA	NA	5 U	NA
Vanadium	0.3 [2]	0.2 U	2.6 U	2.6 U	NA	NA	1 U	1 U	1.5 BF	2.6 U	NA
Zinc	1000	**34**	7 F	9.1 F	NA	NA	5.4 F	6.4 F	5.4 F	5.8 F	NA
Aluminum	1500 [2]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	1 [2]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	4 [2]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	1 [2]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tin	2,000 [2]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	0.3 [2]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

B- The analyte was found in an associated blank, as well as in the sample.
F- The analyte was positively identified but the associated numerical value is below the RL.
J - The analyte was positively identified, the quantitation is an estimation.
M- A matrix effect was present.
NA - Not analyzed or not available
NE- Not established
R - The data are unusable due to deficiencies in the ability to analyze the sample and meet QC criteria.
U - Not detected
[1] Groundwater quality standard specified in 15A NCAC 02L .0202, effective January 1, 2010
[2] Interim Maximum Allowable Concentration (IMAC) established under 15A NCAC 2L .0202
[3] Petroleum aromatics carbon fraction class C9-C22
[4] Petroleum aliphatic carbon fraction class C9-C18
All results reported in ug/L.
Items in red exceed either groundwater quality standards specified in 15A NCAC 02L.0202 effective January 1, 2010, or, Interim Maximum Allowable Concentration (IMAC) established under 15A NCAC 2L.0202

All data previous to November 2013 was reported from "Groundwater Monitoring Report Year 4 LTM Sampling Event, May 2013. SS018, Pope Army Air Field, North Carolina. URS, 2013"

Table 4
Well Purging Data Summary
FTBR-305 (Site 305)
Ft. Bragg, NC

Monitoring Well ID	Sampling Date	Purging Data							
		Temperature (^{o}C)	pH	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Volume Purged (liters)	Pumping Rate (mL/min)
MW4-01	10/22/15	22.65	6.3	82	0.66	27.9	6.95	8.1	180
MW4-13	10/22/15	23.71	5.82	146	2.22	121.0	3.87	5.4	180
MW4-14	10/22/15	21.26	7.39	496	2.60	87.2	1.19	6.3	180
18MW07	10/23/15	22.94	4.92	220	3.57	105.2	1.19	6.9	180
18MW16	10/22/15	23.19	5.81	200	3.16	124.0	17.30	6.3	180
18MW19	10/23/15	18.92	4.58	108	1.26	207.0	6.58	7.0	200

Values represent last reading taken after equilibrium was reached.
^{o}C = degrees centigrade
µS/cm = microsiemens per centimeter
mg/L = milligrams per liter
mV = millivolts
mL/min = milliliters per minute

APPENDIX A
WELL CONSTRUCTION DATA

Table 1
Monitoring Well Construction Information
and Groundwater Level Data (May 22, 2013)
Site SS018
Pope Army Airfield, NC

Well ID	Top of Casing Elevation (ft amsl)	Screened Interval (ft btoc)	Total Depth (ft btoc)	Measurement Date	Depth to Water (ft btoc)	Groundwater Elevation (ft amsl)
18M01	172.85	7.7 - 17.7	17.9	5/22/2013	5.44	167.41
18M02R	186.41	14.6 - 24.2	24.4	5/22/2013	16.23	170.18
18M03	190.18	19.8 - 29.8	30.0	5/22/2013	CNL	NA
18M04	193.81	38.3 - 41.3	41.5	5/22/2013	22.79	171.02
18M05	189.71	18.3 - 28.3	28.5	5/22/2013	19.34	170.37
18M06	193.90	20.2 - 30.2	30.4	5/22/2013	22.87	171.03
18M07	191.94	22.2 - 32.2	32.4	5/22/2013	21.90	170.04
18M08	192.98	22.1 - 32.1	32.3	5/22/2013	24.08	168.90
18M09	187.08	18.0 - 25.0	25.2	5/22/2013	19.31	167.77
18M10	187.04	33.7 - 36.7	37.0	5/22/2013	20.77	166.27
18M11	165.46	11.5 - 21.5	21.7	5/22/2013	10.82	154.64
18M12	198.16	19.0 - 34.0	34.0	5/22/2013	28.83	169.33
18M13	156.60	3.0 - 18.0	18.0	5/22/2013	5.48	151.12
18M14	155.45	4.0 - 9.0	11.0	5/22/2013	7.35	148.10
18M15	191.24	12.5 - 27.5	27.5	5/22/2013	20.12	171.12
18M16	189.06	12.0 - 27.0	27.3	5/22/2013	18.51	170.55
18M17	189.22	42.0 - 47.0	47.0	5/22/2013	18.21	171.01
18M19	174.49	6.0 - 21.0	21.2	5/22/2013	8.62	165.87
MW4-01	191.91	16.0 - 31.0	31.2	5/22/2013	18.21	173.70
MW4-02	193.67	17.0 - 32.0	32.2	5/22/2013	20.81	172.86
MW4-03	189.63	13.0 - 28.0	28.2	5/22/2013	14.18	175.45
MW4-04	191.94	15.0 - 30.0	30.2	5/22/2013	17.31	174.63
MW4-05	193.96	15.0 - 30.0	30.2	5/22/2013	19.12	174.84
MW4-06	193.70	17.0 - 32.0	32.2	5/22/2013	19.77	173.93
MW4-07	195.11	17.0 - 32.0	32.2	5/22/2013	20.46	174.65
MW4-08	195.23	18.0 - 33.0	33.2	5/22/2013	22.26	172.97
MW4-09	193.81	30.0 - 33.0	33.2	5/22/2013	CNA	NA
MW4-10	194.01	17.0 - 27.0	27.2	5/22/2013	CNA	NA
MW4-11	194.66	15.8 - 25.8	26.0	5/22/2013	20.87	173.79
MW4-12	192.73	15.8 - 25.8	26.0	5/22/2013	19.45	173.28
MW4-13	193.93	16.8 - 26.8	27.0	5/22/2013	20.48	173.45
MW4-14	194.64	16.8 - 26.8	27.0	5/22/2013	20.94	173.70
MW4-15	194.36	15.8 - 25.8	26.0	5/22/2013	20.24	174.12
MW4-16	194.52	36.8 - 41.8	42.0	5/22/2013	21.22	173.30
MW7-03*	192.16	15-30	30	5/22/2013	NM	NM
MW7-06*	190.27	14-29	29	5/22/2013	NM	NM
ZMW-01	195.35	UNK	37.8	5/22/2013	29.19	166.16

Notes:

ft amsl - feet above mean sea level

ft btoc - feet below top of casing

UNK - unknown

CNA (could not access) - MW4-09 & -10 covered by Silver Ramp equipment;

CNL (could not locate) - 18M03 covered by thick vegetation

NA - not available

NM - not measured

* - Well associated with adjacent Site SS007

APPENDIX B
LABORATORY DATA SHEETS

GCAL
ANALYTICAL LABORATORIES, LLC

NELAP CERTIFICATE NUMBER: 01955
DOD ELAP CERTIFICATE NUMBER: L14-243

ANALYTICAL RESULTS

PERFORMED BY

GCAL, LLC
7979 Innovation Park Dr.
Baton Rouge, LA 70820

Report Date 11/22/2015

GCAL Report 215102310

Project Ft. Bragg - Site 305

Deliver To	*Additional Recipients*
Ross Miller Parsons 406 W South Jordan Pkwy Suite 300 South Jordan, UT 84095 801-572-5999	NONE

PJLA
Testing
DoD ELAP

ISO
17025

NELAP ACCREDITED
LABORATORY

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with GCAL's Standard Operating Procedures.

Common Abbreviations that may be Utilized in this Report

ND	Indicates the result was Not Detected at the specified reporting limit
DO	Indicates the result was Diluted Out
MI	Indicates the result was subject to Matrix Interference
TNTC	Indicates the result was Too Numerous To Count
SUBC	Indicates the analysis was Sub-Contracted
FLD	Indicates the analysis was performed in the Field
DL	Detection Limit
DL	Diluted analysis – when appended to Client Sample ID
LOD	Limit of Detection
LOQ	Limit of Quantitation
RE	Re-analysis
00:01	Reported as a time equivalent to 12:00 AM

Reporting Flags that may be Utilized in this Report

J or I	Indicates the result is between the MDL and LOQ
J	DOD flag on analyte in the parent sample for MS/MSD outside acceptance criteria
U	Indicates the compound was analyzed for but not detected
B or V	Indicates the analyte was detected in the associated Method Blank
Q	Indicates a non-compliant QC Result (See Q Flag Application Report)
*****	Indicates a non-compliant or not applicable QC recovery or RPD – see narrative
E	The result is estimated because it exceeded the instrument calibration range
E	Metals - % diference for the serial dilution is > 10%

Sample receipt at GCAL is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of GCAL. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with the NELAC Institute standard and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.

Authorized Signature
GCAL Report 215102310

Case Narrative

Client: Parsons **Report:** 215102310

Gulf Coast Analytical Laboratories received and analyzed the sample(s) listed on the Report Sample Summary page of this report. Receipt of the sample(s) is documented by the attached chain of custody. This applies only to the sample(s) listed in this report. No sample integrity or quality control exceptions were identified unless noted below.

This report was revised 11/22/15 with the correct EPA 8260B data for sample 21510231007 (TB-102115-03). This is a trip blank shared with another workorder and initially the incorrect file was copied to report for this sample.

METALS

In the EPA 6020A analysis, samples 21510231001 (305-MW4-14), 21510231002 (305-MW4-13), 21510231003 (305-MW4-140) ,and 21510231004 (305-18MW16) had to be diluted in order to bracket the concentration of target analytes within the calibration range of the instrument.

In the EPA 6020A analysis for prep batch 570859, the MS and/or MSD recovery is outside the control limits for Selenium. The LCS recovery is within control limits. This indicates the analysis is in control and the sample is affected by matrix interference. A post-digestion spike was performed with a recovery of 29%. This indicates matrix interference. The MS/MSD recoveries and RPD are not applicable for Aluminum and Manganese because the sample concentration is greater than four times the spike concentration.

Q Flag Summary

Client Sample ID: **TB-102115-03** Lab Sample ID: **21510231007**

Method: **EPA 8260B** Analysis Date: **11/3/2015 2:12:00 PM**

Analyte	CAS	CCV OUL	LCS/LCSD OUL	SURROGATE OUL	ANALYTE NC	IS OUL	CLCCV OUL
Acetone	67-64-1	X	X				

CCV OUL=CCV out of limits
LCS/LCSD OUL=LCS/LCSD out of limits
SURROGATE OUL=Surrogate out of limits
ANALYTE NC=The analyte did not confirm
IS OUL=Internal Standard out of limits
CLCCV OUL=Closing CCV out of limits

Sample/Test Summary 215102310

LabID	SampleID	Matrix	Procedure
21510231001	305-MW4-14	W	EPA 6020A
21510231001	305-MW4-14	W	EPA 6020A Water Prep
21510231001	305-MW4-14	W	EPA 7470A
21510231001	305-MW4-14	W	EPA 7470A
21510231001	305-MW4-14	W	EPA 8260B DOD Water
21510231002	305-MW4-13	W	EPA 6020A
21510231002	305-MW4-13	W	EPA 6020A Water Prep
21510231002	305-MW4-13	W	EPA 7470A
21510231002	305-MW4-13	W	EPA 7470A
21510231002	305-MW4-13	W	EPA 8260B DOD Water
21510231003	305-MW4-140	W	EPA 6020A
21510231003	305-MW4-140	W	EPA 6020A Water Prep
21510231003	305-MW4-140	W	EPA 7470A
21510231003	305-MW4-140	W	EPA 7470A
21510231003	305-MW4-140	W	EPA 8260B DOD Water
21510231004	305-18MW16	W	EPA 6020A
21510231004	305-18MW16	W	EPA 6020A Water Prep
21510231004	305-18MW16	W	EPA 7470A
21510231004	305-18MW16	W	EPA 7470A
21510231004	305-18MW16	W	EPA 8260B DOD Water
21510231005	EB-102215-03	W	EPA 6020A
21510231005	EB-102215-03	W	EPA 6020A Water Prep
21510231005	EB-102215-03	W	EPA 7470A
21510231005	EB-102215-03	W	EPA 7470A
21510231005	EB-102215-03	W	EPA 8260B DOD Water
21510231006	305-MW4-01	W	EPA 6020A
21510231006	305-MW4-01	W	EPA 6020A Water Prep
21510231006	305-MW4-01	W	EPA 7470A
21510231006	305-MW4-01	W	EPA 7470A
21510231006	305-MW4-01	W	EPA 8260B DOD Water
21510231007	TB-102115-03	W	EPA 8260B DOD Water

Manual Integrations 215102310

LabID	SampleID	Procedure	CAS	Analyte
21510231001	305-MW4-14	EPA 8260B	79-01-6	Trichloroethene
21510231002	305-MW4-13	EPA 8260B	156-59-2	cis-1,2-Dichloroethene
21510231003	305-MW4-140	EPA 8260B	79-01-6	Trichloroethene
21510231004	305-18MW16	EPA 8260B	127-18-4	Tetrachloroethene
21510231004	305-18MW16	EPA 8260B	67-66-3	Chloroform
21510231006	305-MW4-01	EPA 8260B	127-18-4	Tetrachloroethene
21510231006	305-MW4-01	EPA 8260B	98-82-8	Isopropylbenzene (Cumene)
21510231007RE	TB-102115-03RE	EPA 8260B	127-18-4	Tetrachloroethene

Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21510231001	305-MW4-14	Water	10/22/2015 08:52	10/23/2015 09:49
21510231002	305-MW4-13	Water	10/22/2015 11:22	10/23/2015 09:49
21510231003	305-MW4-140	Water	10/22/2015 09:10	10/23/2015 09:49
21510231004	305-18MW16	Water	10/22/2015 15:48	10/23/2015 09:49
21510231005	EB-102215-03	Water	10/22/2015 14:55	10/23/2015 09:49
21510231006	305-MW4-01	Water	10/22/2015 14:37	10/23/2015 09:49
21510231007	TB-102115-03	Water	10/21/2015 15:00	10/23/2015 09:49

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

305-MW4-14

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21510231001

Level: (low/med) Lab File ID: 2151103/g9558

% Moisture: not dec. Date Collected: 10/22/15 Time: 0852

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 10/23/15

Instrument ID: MSV11 Date Analyzed: 11/03/15 Time: 1110

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: LBH

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 571590

Analytical Method: EPA 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	LOQ
71-55-6	1,1,1-Trichloroethane	0.200	U	0.200	1.00
79-34-5	1,1,2,2-Tetrachloroethane	0.200	U	0.200	1.00
79-00-5	1,1,2-Trichloroethane	0.200	U	0.200	1.00
75-34-3	1,1-Dichloroethane	0.200	U	0.200	1.00
75-35-4	1,1-Dichloroethene	0.200	U	0.200	1.00
563-58-6	1,1-Dichloropropene	0.200	U	0.200	1.00
87-61-6	1,2,3-Trichlorobenzene	0.200	U	0.200	1.00
96-18-4	1,2,3-Trichloropropane	0.200	U	0.200	1.00
120-82-1	1,2,4-Trichlorobenzene	0.200	U	0.200	1.00
95-63-6	1,2,4-Trimethylbenzene	0.200	U	0.200	1.00
106-93-4	1,2-Dibromoethane	0.200	U	0.200	1.00
95-50-1	1,2-Dichlorobenzene	0.200	U	0.200	1.00
107-06-2	1,2-Dichloroethane	0.200	U	0.200	1.00
78-87-5	1,2-Dichloropropane	0.200	U	0.200	1.00
108-67-8	1,3,5-Trimethylbenzene	0.200	U	0.200	1.00
541-73-1	1,3-Dichlorobenzene	0.200	U	0.200	1.00
142-28-9	1,3-Dichloropropane	0.200	U	0.200	1.00
106-46-7	1,4-Dichlorobenzene	0.200	U	0.200	1.00
594-20-7	2,2-Dichloropropane	0.200	U	0.200	1.00
78-93-3	2-Butanone	0.200	U	0.200	5.00
95-49-8	2-Chlorotoluene	0.200	U	0.200	1.00
591-78-6	2-Hexanone	0.500	U	0.500	5.00
106-43-4	4-Chlorotoluene	0.200	U	0.200	1.00
99-87-6	4-Isopropyltoluene	0.200	U	0.200	1.00
108-10-1	4-Methyl-2-pentanone	0.200	U	0.200	5.00
67-64-1	Acetone	0.500	U	0.500	5.00
71-43-2	Benzene	0.200	U	0.200	1.00
108-86-1	Bromobenzene	0.200	U	0.200	1.00
74-97-5	Bromochloromethane	0.200	U	0.200	1.00
75-27-4	Bromodichloromethane	0.200	U	0.200	1.00
75-25-2	Bromoform	0.250	U	0.250	1.00

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

305-MW4-14

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21510231001

Level: (low/med) Lab File ID: 2151103/g9558

% Moisture: not dec. Date Collected: 10/22/15 Time: 0852

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 10/23/15

Instrument ID: MSV11 Date Analyzed: 11/03/15 Time: 1110

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: LBH

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 571590

CONCENTRATION UNITS: ug/L Analytical Method: EPA 8260B

CAS NO.	COMPOUND	RESULT	Q	MDL	LOQ
74-83-9	Bromomethane	0.500	U	0.500	1.00
56-23-5	Carbon tetrachloride	0.250	U	0.250	1.00
108-90-7	Chlorobenzene	0.200	U	0.200	1.00
75-00-3	Chloroethane	0.250	U	0.250	1.00
67-66-3	Chloroform	0.200	U	0.200	1.00
74-87-3	Chloromethane	0.200	U	0.200	1.00
124-48-1	Dibromochloromethane	0.200	U	0.200	1.00
75-71-8	Dichlorodifluoromethane	0.200	U	0.200	1.00
100-41-4	Ethylbenzene	0.200	U	0.200	1.00
98-82-8	Isopropylbenzene (Cumene)	0.200	U	0.200	1.00
75-09-2	Methylene chloride	0.200	U	0.200	5.00
100-42-5	Styrene	0.200	U	0.200	1.00
127-18-4	Tetrachloroethene	3.18		0.200	1.00
108-88-3	Toluene	0.200	U	0.200	1.00
79-01-6	Trichloroethene	1.02		0.200	1.00
75-69-4	Trichlorofluoromethane	0.200	U	0.200	1.00
108-05-4	Vinyl acetate	0.200	U	0.200	1.00
75-01-4	Vinyl chloride	0.200	U	0.200	1.00
1330-20-7	Xylene (total)	0.400	U	0.400	3.00
156-59-2	cis-1,2-Dichloroethene	0.200	U	0.200	1.00
10061-01-5	cis-1,3-Dichloropropene	0.200	U	0.200	1.00
108-20-3	diisopropyl Ether (DIPE)	0.500	U	0.500	5.00
136777-61-2	m,p-Xylene	0.200	U	0.200	2.00
104-51-8	n-Butylbenzene	0.200	U	0.200	1.00
103-65-1	n-Propylbenzene	1.00	U	1.00	5.00
95-47-6	o-Xylene	0.200	U	0.200	1.00
135-98-8	sec-Butylbenzene	0.200	U	0.200	1.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200	U	0.200	1.00
98-06-6	tert-Butylbenzene	0.200	U	0.200	1.00
156-60-5	trans-1,2-Dichloroethene	0.200	U	0.200	1.00
10061-02-6	trans-1,3-Dichloropropene	0.200	U	0.200	1.00

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

305-MW4-13

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21510231002

Level: (low/med) Lab File ID: 2151103/g9559

% Moisture: not dec. Date Collected: 10/22/15 Time: 1122

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 10/23/15

Instrument ID: MSV11 Date Analyzed: 11/03/15 Time: 1131

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: LBH

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 571590

Analytical Method: EPA 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	LOQ
71-55-6	1,1,1-Trichloroethane	0.200	U	0.200	1.00
79-34-5	1,1,2,2-Tetrachloroethane	0.200	U	0.200	1.00
79-00-5	1,1,2-Trichloroethane	0.200	U	0.200	1.00
75-34-3	1,1-Dichloroethane	0.200	U	0.200	1.00
75-35-4	1,1-Dichloroethene	0.200	U	0.200	1.00
563-58-6	1,1-Dichloropropene	0.200	U	0.200	1.00
87-61-6	1,2,3-Trichlorobenzene	0.200	U	0.200	1.00
96-18-4	1,2,3-Trichloropropane	0.200	U	0.200	1.00
120-82-1	1,2,4-Trichlorobenzene	0.200	U	0.200	1.00
95-63-6	1,2,4-Trimethylbenzene	0.200	U	0.200	1.00
106-93-4	1,2-Dibromoethane	0.200	U	0.200	1.00
95-50-1	1,2-Dichlorobenzene	0.200	U	0.200	1.00
107-06-2	1,2-Dichloroethane	0.200	U	0.200	1.00
78-87-5	1,2-Dichloropropane	0.200	U	0.200	1.00
108-67-8	1,3,5-Trimethylbenzene	0.200	U	0.200	1.00
541-73-1	1,3-Dichlorobenzene	0.200	U	0.200	1.00
142-28-9	1,3-Dichloropropane	0.200	U	0.200	1.00
106-46-7	1,4-Dichlorobenzene	0.200	U	0.200	1.00
594-20-7	2,2-Dichloropropane	0.200	U	0.200	1.00
78-93-3	2-Butanone	0.200	U	0.200	5.00
95-49-8	2-Chlorotoluene	0.200	U	0.200	1.00
591-78-6	2-Hexanone	0.500	U	0.500	5.00
106-43-4	4-Chlorotoluene	0.200	U	0.200	1.00
99-87-6	4-Isopropyltoluene	0.200	U	0.200	1.00
108-10-1	4-Methyl-2-pentanone	0.200	U	0.200	5.00
67-64-1	Acetone	0.500	U	0.500	5.00
71-43-2	Benzene	0.200	U	0.200	1.00
108-86-1	Bromobenzene	0.200	U	0.200	1.00
74-97-5	Bromochloromethane	0.200	U	0.200	1.00
75-27-4	Bromodichloromethane	0.200	U	0.200	1.00
75-25-2	Bromoform	0.250	U	0.250	1.00

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

305-MW4-13

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21510231002

Level: (low/med) Lab File ID: 2151103/g9559

% Moisture: not dec. Date Collected: 10/22/15 Time: 1122

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 10/23/15

Instrument ID: MSV11 Date Analyzed: 11/03/15 Time: 1131

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: LBH

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 571590

Analytical Method: EPA 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	LOQ
74-83-9	Bromomethane	0.500	U	0.500	1.00
56-23-5	Carbon tetrachloride	0.250	U	0.250	1.00
108-90-7	Chlorobenzene	0.200	U	0.200	1.00
75-00-3	Chloroethane	0.250	U	0.250	1.00
67-66-3	Chloroform	0.200	U	0.200	1.00
74-87-3	Chloromethane	0.200	U	0.200	1.00
124-48-1	Dibromochloromethane	0.200	U	0.200	1.00
75-71-8	Dichlorodifluoromethane	0.200	U	0.200	1.00
100-41-4	Ethylbenzene	0.200	U	0.200	1.00
98-82-8	Isopropylbenzene (Cumene)	0.200	U	0.200	1.00
75-09-2	Methylene chloride	0.200	U	0.200	5.00
100-42-5	Styrene	0.200	U	0.200	1.00
127-18-4	Tetrachloroethene	12.4		0.200	1.00
108-88-3	Toluene	0.200	U	0.200	1.00
79-01-6	Trichloroethene	3.69		0.200	1.00
75-69-4	Trichlorofluoromethane	0.200	U	0.200	1.00
108-05-4	Vinyl acetate	0.200	U	0.200	1.00
75-01-4	Vinyl chloride	0.200	U	0.200	1.00
1330-20-7	Xylene (total)	0.400	U	0.400	3.00
156-59-2	cis-1,2-Dichloroethene	0.600	J	0.200	1.00
10061-01-5	cis-1,3-Dichloropropene	0.200	U	0.200	1.00
108-20-3	diisopropyl Ether (DIPE)	0.500	U	0.500	5.00
136777-61-2	m,p-Xylene	0.200	U	0.200	2.00
104-51-8	n-Butylbenzene	0.200	U	0.200	1.00
103-65-1	n-Propylbenzene	1.00	U	1.00	5.00
95-47-6	o-Xylene	0.200	U	0.200	1.00
135-98-8	sec-Butylbenzene	0.200	U	0.200	1.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200	U	0.200	1.00
98-06-6	tert-Butylbenzene	0.200	U	0.200	1.00
156-60-5	trans-1,2-Dichloroethene	0.200	U	0.200	1.00
10061-02-6	trans-1,3-Dichloropropene	0.200	U	0.200	1.00

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

305-MW4-140

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21510231003

Level: (low/med) Lab File ID: 2151103/g9560

% Moisture: not dec. Date Collected: 10/22/15 Time: 0910

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 10/23/15

Instrument ID: MSV11 Date Analyzed: 11/03/15 Time: 1152

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: LBH

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 571590

Analytical Method: EPA 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	LOQ
71-55-6	1,1,1-Trichloroethane	0.200	U	0.200	1.00
79-34-5	1,1,2,2-Tetrachloroethane	0.200	U	0.200	1.00
79-00-5	1,1,2-Trichloroethane	0.200	U	0.200	1.00
75-34-3	1,1-Dichloroethane	0.200	U	0.200	1.00
75-35-4	1,1-Dichloroethene	0.200	U	0.200	1.00
563-58-6	1,1-Dichloropropene	0.200	U	0.200	1.00
87-61-6	1,2,3-Trichlorobenzene	0.200	U	0.200	1.00
96-18-4	1,2,3-Trichloropropane	0.200	U	0.200	1.00
120-82-1	1,2,4-Trichlorobenzene	0.200	U	0.200	1.00
95-63-6	1,2,4-Trimethylbenzene	0.200	U	0.200	1.00
106-93-4	1,2-Dibromoethane	0.200	U	0.200	1.00
95-50-1	1,2-Dichlorobenzene	0.200	U	0.200	1.00
107-06-2	1,2-Dichloroethane	0.200	U	0.200	1.00
78-87-5	1,2-Dichloropropane	0.200	U	0.200	1.00
108-67-8	1,3,5-Trimethylbenzene	0.200	U	0.200	1.00
541-73-1	1,3-Dichlorobenzene	0.200	U	0.200	1.00
142-28-9	1,3-Dichloropropane	0.200	U	0.200	1.00
106-46-7	1,4-Dichlorobenzene	0.200	U	0.200	1.00
594-20-7	2,2-Dichloropropane	0.200	U	0.200	1.00
78-93-3	2-Butanone	0.200	U	0.200	5.00
95-49-8	2-Chlorotoluene	0.200	U	0.200	1.00
591-78-6	2-Hexanone	0.500	U	0.500	5.00
106-43-4	4-Chlorotoluene	0.200	U	0.200	1.00
99-87-6	4-Isopropyltoluene	0.200	U	0.200	1.00
108-10-1	4-Methyl-2-pentanone	0.200	U	0.200	5.00
67-64-1	Acetone	0.500	U	0.500	5.00
71-43-2	Benzene	0.200	U	0.200	1.00
108-86-1	Bromobenzene	0.200	U	0.200	1.00
74-97-5	Bromochloromethane	0.200	U	0.200	1.00
75-27-4	Bromodichloromethane	0.200	U	0.200	1.00
75-25-2	Bromoform	0.250	U	0.250	1.00

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

305-MW4-140

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21510231003

Level: (low/med) Lab File ID: 2151103/g9560

% Moisture: not dec. Date Collected: 10/22/15 Time: 0910

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 10/23/15

Instrument ID: MSV11 Date Analyzed: 11/03/15 Time: 1152

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: LBH

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 571590

CONCENTRATION UNITS: ug/L Analytical Method: EPA 8260B

CAS NO.	COMPOUND	RESULT	Q	MDL	LOQ
74-83-9	Bromomethane	0.500	U	0.500	1.00
56-23-5	Carbon tetrachloride	0.250	U	0.250	1.00
108-90-7	Chlorobenzene	0.200	U	0.200	1.00
75-00-3	Chloroethane	0.250	U	0.250	1.00
67-66-3	Chloroform	0.200	U	0.200	1.00
74-87-3	Chloromethane	0.200	U	0.200	1.00
124-48-1	Dibromochloromethane	0.200	U	0.200	1.00
75-71-8	Dichlorodifluoromethane	0.200	U	0.200	1.00
100-41-4	Ethylbenzene	0.200	U	0.200	1.00
98-82-8	Isopropylbenzene (Cumene)	0.200	U	0.200	1.00
75-09-2	Methylene chloride	0.200	U	0.200	5.00
100-42-5	Styrene	0.200	U	0.200	1.00
127-18-4	Tetrachloroethene	2.77		0.200	1.00
108-88-3	Toluene	0.200	U	0.200	1.00
79-01-6	Trichloroethene	1.05		0.200	1.00
75-69-4	Trichlorofluoromethane	0.200	U	0.200	1.00
108-05-4	Vinyl acetate	0.200	U	0.200	1.00
75-01-4	Vinyl chloride	0.200	U	0.200	1.00
1330-20-7	Xylene (total)	0.400	U	0.400	3.00
156-59-2	cis-1,2-Dichloroethene	0.200	U	0.200	1.00
10061-01-5	cis-1,3-Dichloropropene	0.200	U	0.200	1.00
108-20-3	diisopropyl Ether (DIPE)	0.500	U	0.500	5.00
136777-61-2	m,p-Xylene	0.200	U	0.200	2.00
104-51-8	n-Butylbenzene	0.200	U	0.200	1.00
103-65-1	n-Propylbenzene	1.00	U	1.00	5.00
95-47-6	o-Xylene	0.200	U	0.200	1.00
135-98-8	sec-Butylbenzene	0.200	U	0.200	1.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200	U	0.200	1.00
98-06-6	tert-Butylbenzene	0.200	U	0.200	1.00
156-60-5	trans-1,2-Dichloroethene	0.200	U	0.200	1.00
10061-02-6	trans-1,3-Dichloropropene	0.200	U	0.200	1.00

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

305-18MW16

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21510231004

Level: (low/med) Lab File ID: 2151103/g9561

% Moisture: not dec. Date Collected: 10/22/15 Time: 1548

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 10/23/15

Instrument ID: MSV11 Date Analyzed: 11/03/15 Time: 1213

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: LBH

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 571590

CONCENTRATION UNITS: ug/L Analytical Method: EPA 8260B

CAS NO.	COMPOUND	RESULT	Q	MDL	LOQ
71-55-6	1,1,1-Trichloroethane	0.200	U	0.200	1.00
79-34-5	1,1,2,2-Tetrachloroethane	0.200	U	0.200	1.00
79-00-5	1,1,2-Trichloroethane	0.200	U	0.200	1.00
75-34-3	1,1-Dichloroethane	0.200	U	0.200	1.00
75-35-4	1,1-Dichloroethene	0.200	U	0.200	1.00
563-58-6	1,1-Dichloropropene	0.200	U	0.200	1.00
87-61-6	1,2,3-Trichlorobenzene	0.200	U	0.200	1.00
96-18-4	1,2,3-Trichloropropane	0.200	U	0.200	1.00
120-82-1	1,2,4-Trichlorobenzene	0.200	U	0.200	1.00
95-63-6	1,2,4-Trimethylbenzene	0.200	U	0.200	1.00
106-93-4	1,2-Dibromoethane	0.200	U	0.200	1.00
95-50-1	1,2-Dichlorobenzene	0.200	U	0.200	1.00
107-06-2	1,2-Dichloroethane	0.200	U	0.200	1.00
78-87-5	1,2-Dichloropropane	0.200	U	0.200	1.00
108-67-8	1,3,5-Trimethylbenzene	0.200	U	0.200	1.00
541-73-1	1,3-Dichlorobenzene	0.200	U	0.200	1.00
142-28-9	1,3-Dichloropropane	0.200	U	0.200	1.00
106-46-7	1,4-Dichlorobenzene	0.200	U	0.200	1.00
594-20-7	2,2-Dichloropropane	0.200	U	0.200	1.00
78-93-3	2-Butanone	0.200	U	0.200	5.00
95-49-8	2-Chlorotoluene	0.200	U	0.200	1.00
591-78-6	2-Hexanone	0.500	U	0.500	5.00
106-43-4	4-Chlorotoluene	0.200	U	0.200	1.00
99-87-6	4-Isopropyltoluene	0.200	U	0.200	1.00
108-10-1	4-Methyl-2-pentanone	0.200	U	0.200	5.00
67-64-1	Acetone	0.500	U	0.500	5.00
71-43-2	Benzene	0.200	U	0.200	1.00
108-86-1	Bromobenzene	0.200	U	0.200	1.00
74-97-5	Bromochloromethane	0.200	U	0.200	1.00
75-27-4	Bromodichloromethane	0.200	U	0.200	1.00
75-25-2	Bromoform	0.250	U	0.250	1.00

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

305-18MW16

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21510231004

Level: (low/med) Lab File ID: 2151103/g9561

% Moisture: not dec. Date Collected: 10/22/15 Time: 1548

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 10/23/15

Instrument ID: MSV11 Date Analyzed: 11/03/15 Time: 1213

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: LBH

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 571590

Analytical Method: EPA 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	LOQ
74-83-9	Bromomethane	0.500	U	0.500	1.00
56-23-5	Carbon tetrachloride	0.250	U	0.250	1.00
108-90-7	Chlorobenzene	0.200	U	0.200	1.00
75-00-3	Chloroethane	0.250	U	0.250	1.00
67-66-3	Chloroform	0.551	J	0.200	1.00
74-87-3	Chloromethane	0.200	U	0.200	1.00
124-48-1	Dibromochloromethane	0.200	U	0.200	1.00
75-71-8	Dichlorodifluoromethane	0.200	U	0.200	1.00
100-41-4	Ethylbenzene	0.200	U	0.200	1.00
98-82-8	Isopropylbenzene (Cumene)	0.200	U	0.200	1.00
75-09-2	Methylene chloride	0.200	U	0.200	5.00
100-42-5	Styrene	0.200	U	0.200	1.00
127-18-4	Tetrachloroethene	0.791	J	0.200	1.00
108-88-3	Toluene	0.200	U	0.200	1.00
79-01-6	Trichloroethene	0.200	U	0.200	1.00
75-69-4	Trichlorofluoromethane	0.200	U	0.200	1.00
108-05-4	Vinyl acetate	0.200	U	0.200	1.00
75-01-4	Vinyl chloride	0.200	U	0.200	1.00
1330-20-7	Xylene (total)	0.400	U	0.400	3.00
156-59-2	cis-1,2-Dichloroethene	0.200	U	0.200	1.00
10061-01-5	cis-1,3-Dichloropropene	0.200	U	0.200	1.00
108-20-3	diisopropyl Ether (DIPE)	0.500	U	0.500	5.00
136777-61-2	m,p-Xylene	0.200	U	0.200	2.00
104-51-8	n-Butylbenzene	0.200	U	0.200	1.00
103-65-1	n-Propylbenzene	1.00	U	1.00	5.00
95-47-6	o-Xylene	0.200	U	0.200	1.00
135-98-8	sec-Butylbenzene	0.200	U	0.200	1.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200	U	0.200	1.00
98-06-6	tert-Butylbenzene	0.200	U	0.200	1.00
156-60-5	trans-1,2-Dichloroethene	0.200	U	0.200	1.00
10061-02-6	trans-1,3-Dichloropropene	0.200	U	0.200	1.00

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

EB-102215-03

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21510231005

Level: (low/med) Lab File ID: 2151102p/g9538

% Moisture: not dec. Date Collected: 10/22/15 Time: 1455

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 10/23/15

Instrument ID: MSV11 Date Analyzed: 11/03/15 Time: 0347

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: LBH

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 571561

CONCENTRATION UNITS: ug/L Analytical Method: EPA 8260B

CAS NO.	COMPOUND	RESULT	Q	MDL	LOQ
71-55-6	1,1,1-Trichloroethane	0.200	U	0.200	1.00
79-34-5	1,1,2,2-Tetrachloroethane	0.200	U	0.200	1.00
79-00-5	1,1,2-Trichloroethane	0.200	U	0.200	1.00
75-34-3	1,1-Dichloroethane	0.200	U	0.200	1.00
75-35-4	1,1-Dichloroethene	0.200	U	0.200	1.00
563-58-6	1,1-Dichloropropene	0.200	U	0.200	1.00
87-61-6	1,2,3-Trichlorobenzene	0.200	U	0.200	1.00
96-18-4	1,2,3-Trichloropropane	0.200	U	0.200	1.00
120-82-1	1,2,4-Trichlorobenzene	0.200	U	0.200	1.00
95-63-6	1,2,4-Trimethylbenzene	0.200	U	0.200	1.00
106-93-4	1,2-Dibromoethane	0.200	U	0.200	1.00
95-50-1	1,2-Dichlorobenzene	0.200	U	0.200	1.00
107-06-2	1,2-Dichloroethane	0.200	U	0.200	1.00
78-87-5	1,2-Dichloropropane	0.200	U	0.200	1.00
108-67-8	1,3,5-Trimethylbenzene	0.200	U	0.200	1.00
541-73-1	1,3-Dichlorobenzene	0.200	U	0.200	1.00
142-28-9	1,3-Dichloropropane	0.200	U	0.200	1.00
106-46-7	1,4-Dichlorobenzene	0.200	U	0.200	1.00
594-20-7	2,2-Dichloropropane	0.200	U	0.200	1.00
78-93-3	2-Butanone	0.200	U	0.200	5.00
95-49-8	2-Chlorotoluene	0.200	U	0.200	1.00
591-78-6	2-Hexanone	0.500	U	0.500	5.00
106-43-4	4-Chlorotoluene	0.200	U	0.200	1.00
99-87-6	4-Isopropyltoluene	0.200	U	0.200	1.00
108-10-1	4-Methyl-2-pentanone	0.200	U	0.200	5.00
67-64-1	Acetone	0.500	U	0.500	5.00
71-43-2	Benzene	0.200	U	0.200	1.00
108-86-1	Bromobenzene	0.200	U	0.200	1.00
74-97-5	Bromochloromethane	0.200	U	0.200	1.00
75-27-4	Bromodichloromethane	0.200	U	0.200	1.00
75-25-2	Bromoform	0.250	U	0.250	1.00

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

EB-102215-03

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21510231005

Level: (low/med) Lab File ID: 2151102p/g9538

% Moisture: not dec. Date Collected: 10/22/15 Time: 1455

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 10/23/15

Instrument ID: MSV11 Date Analyzed: 11/03/15 Time: 0347

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: LBH

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 571561

CONCENTRATION UNITS: ug/L Analytical Method: EPA 8260B

CAS NO.	COMPOUND	RESULT	Q	MDL	LOQ
74-83-9	Bromomethane	0.500	U	0.500	1.00
56-23-5	Carbon tetrachloride	0.250	U	0.250	1.00
108-90-7	Chlorobenzene	0.200	U	0.200	1.00
75-00-3	Chloroethane	0.250	U	0.250	1.00
67-66-3	Chloroform	0.200	U	0.200	1.00
74-87-3	Chloromethane	0.200	U	0.200	1.00
124-48-1	Dibromochloromethane	0.200	U	0.200	1.00
75-71-8	Dichlorodifluoromethane	0.200	U	0.200	1.00
100-41-4	Ethylbenzene	0.200	U	0.200	1.00
98-82-8	Isopropylbenzene (Cumene)	0.200	U	0.200	1.00
75-09-2	Methylene chloride	0.200	U	0.200	5.00
100-42-5	Styrene	0.200	U	0.200	1.00
127-18-4	Tetrachloroethene	0.200	U	0.200	1.00
108-88-3	Toluene	0.200	U	0.200	1.00
79-01-6	Trichloroethene	0.200	U	0.200	1.00
75-69-4	Trichlorofluoromethane	0.200	U	0.200	1.00
108-05-4	Vinyl acetate	0.200	U	0.200	1.00
75-01-4	Vinyl chloride	0.200	U	0.200	1.00
1330-20-7	Xylene (total)	0.400	U	0.400	3.00
156-59-2	cis-1,2-Dichloroethene	0.200	U	0.200	1.00
10061-01-5	cis-1,3-Dichloropropene	0.200	U	0.200	1.00
108-20-3	diisopropyl Ether (DIPE)	0.500	U	0.500	5.00
136777-61-2	m,p-Xylene	0.200	U	0.200	2.00
104-51-8	n-Butylbenzene	0.200	U	0.200	1.00
103-65-1	n-Propylbenzene	1.00	U	1.00	5.00
95-47-6	o-Xylene	0.200	U	0.200	1.00
135-98-8	sec-Butylbenzene	0.200	U	0.200	1.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200	U	0.200	1.00
98-06-6	tert-Butylbenzene	0.200	U	0.200	1.00
156-60-5	trans-1,2-Dichloroethene	0.200	U	0.200	1.00
10061-02-6	trans-1,3-Dichloropropene	0.200	U	0.200	1.00

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

305-MW4-01

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21510231006

Level: (low/med) Lab File ID: 2151102p/g9539

% Moisture: not dec. Date Collected: 10/22/15 Time: 1437

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 10/23/15

Instrument ID: MSV11 Date Analyzed: 11/03/15 Time: 0408

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: LBH

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 571561

CONCENTRATION UNITS: ug/L Analytical Method: EPA 8260B

CAS NO.	COMPOUND	RESULT	Q	MDL	LOQ
71-55-6	1,1,1-Trichloroethane	0.200	U	0.200	1.00
79-34-5	1,1,2,2-Tetrachloroethane	0.200	U	0.200	1.00
79-00-5	1,1,2-Trichloroethane	0.200	U	0.200	1.00
75-34-3	1,1-Dichloroethane	0.200	U	0.200	1.00
75-35-4	1,1-Dichloroethene	0.200	U	0.200	1.00
563-58-6	1,1-Dichloropropene	0.200	U	0.200	1.00
87-61-6	1,2,3-Trichlorobenzene	0.200	U	0.200	1.00
96-18-4	1,2,3-Trichloropropane	0.200	U	0.200	1.00
120-82-1	1,2,4-Trichlorobenzene	0.200	U	0.200	1.00
95-63-6	1,2,4-Trimethylbenzene	0.200	U	0.200	1.00
106-93-4	1,2-Dibromoethane	0.200	U	0.200	1.00
95-50-1	1,2-Dichlorobenzene	0.200	U	0.200	1.00
107-06-2	1,2-Dichloroethane	0.200	U	0.200	1.00
78-87-5	1,2-Dichloropropane	0.200	U	0.200	1.00
108-67-8	1,3,5-Trimethylbenzene	0.200	U	0.200	1.00
541-73-1	1,3-Dichlorobenzene	0.200	U	0.200	1.00
142-28-9	1,3-Dichloropropane	0.200	U	0.200	1.00
106-46-7	1,4-Dichlorobenzene	0.200	U	0.200	1.00
594-20-7	2,2-Dichloropropane	0.200	U	0.200	1.00
78-93-3	2-Butanone	0.200	U	0.200	5.00
95-49-8	2-Chlorotoluene	0.200	U	0.200	1.00
591-78-6	2-Hexanone	0.500	U	0.500	5.00
106-43-4	4-Chlorotoluene	0.200	U	0.200	1.00
99-87-6	4-Isopropyltoluene	0.200	U	0.200	1.00
108-10-1	4-Methyl-2-pentanone	0.200	U	0.200	5.00
67-64-1	Acetone	0.500	U	0.500	5.00
71-43-2	Benzene	7.09		0.200	1.00
108-86-1	Bromobenzene	0.200	U	0.200	1.00
74-97-5	Bromochloromethane	0.200	U	0.200	1.00
75-27-4	Bromodichloromethane	0.200	U	0.200	1.00
75-25-2	Bromoform	0.250	U	0.250	1.00

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

305-MW4-01

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21510231006

Level: (low/med) Lab File ID: 2151102p/g9539

% Moisture: not dec. Date Collected: 10/22/15 Time: 1437

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 10/23/15

Instrument ID: MSV11 Date Analyzed: 11/03/15 Time: 0408

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: LBH

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 571561

CONCENTRATION UNITS: ug/L Analytical Method: EPA 8260B

CAS NO.	COMPOUND	RESULT	Q	MDL	LOQ
74-83-9	Bromomethane	0.500	U	0.500	1.00
56-23-5	Carbon tetrachloride	0.250	U	0.250	1.00
108-90-7	Chlorobenzene	0.200	U	0.200	1.00
75-00-3	Chloroethane	0.250	U	0.250	1.00
67-66-3	Chloroform	0.200	U	0.200	1.00
74-87-3	Chloromethane	0.200	U	0.200	1.00
124-48-1	Dibromochloromethane	0.200	U	0.200	1.00
75-71-8	Dichlorodifluoromethane	0.200	U	0.200	1.00
100-41-4	Ethylbenzene	0.200	U	0.200	1.00
98-82-8	Isopropylbenzene (Cumene)	0.423	J	0.200	1.00
75-09-2	Methylene chloride	0.200	U	0.200	5.00
100-42-5	Styrene	0.200	U	0.200	1.00
127-18-4	Tetrachloroethene	0.845	J	0.200	1.00
108-88-3	Toluene	0.200	U	0.200	1.00
79-01-6	Trichloroethene	0.200	U	0.200	1.00
75-69-4	Trichlorofluoromethane	0.200	U	0.200	1.00
108-05-4	Vinyl acetate	0.200	U	0.200	1.00
75-01-4	Vinyl chloride	0.200	U	0.200	1.00
1330-20-7	Xylene (total)	0.400	U	0.400	3.00
156-59-2	cis-1,2-Dichloroethene	31.2		0.200	1.00
10061-01-5	cis-1,3-Dichloropropene	0.200	U	0.200	1.00
108-20-3	diisopropyl Ether (DIPE)	0.500	U	0.500	5.00
136777-61-2	m,p-Xylene	0.200	U	0.200	2.00
104-51-8	n-Butylbenzene	0.200	U	0.200	1.00
103-65-1	n-Propylbenzene	1.00	U	1.00	5.00
95-47-6	o-Xylene	0.200	U	0.200	1.00
135-98-8	sec-Butylbenzene	0.200	U	0.200	1.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200	U	0.200	1.00
98-06-6	tert-Butylbenzene	0.200	U	0.200	1.00
156-60-5	trans-1,2-Dichloroethene	0.200	U	0.200	1.00
10061-02-6	trans-1,3-Dichloropropene	0.200	U	0.200	1.00

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

TB-102115-03RE

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21510231007RE

Level: (low/med) Lab File ID: 2151103/j3879A

% Moisture: not dec. Date Collected: 10/21/15 Time: 1500

GC Column: RTX-VMS-30 ID: .25 (mm Date Received: 10/23/15

Instrument ID: MSV8 Date Analyzed: 11/03/15 Time: 1353

Soil Extract Volume: (µL Dilution Factor: 1 Analyst: TJB

Soil Aliquot Volume: (µL Prep Batch: Analytical Batch: 571628

CONCENTRATION UNITS: ug/L Analytical Method: EPA 8260B

CAS NO.	COMPOUND	RESULT	Q	MDL	LOQ
71-55-6	1,1,1-Trichloroethane	0.200	U	0.200	1.00
79-34-5	1,1,2,2-Tetrachloroethane	0.200	U	0.200	1.00
79-00-5	1,1,2-Trichloroethane	0.200	U	0.200	1.00
75-34-3	1,1-Dichloroethane	0.200	U	0.200	1.00
75-35-4	1,1-Dichloroethene	0.200	U	0.200	1.00
563-58-6	1,1-Dichloropropene	0.200	U	0.200	1.00
87-61-6	1,2,3-Trichlorobenzene	0.200	U	0.200	1.00
96-18-4	1,2,3-Trichloropropane	0.200	U	0.200	1.00
120-82-1	1,2,4-Trichlorobenzene	0.200	U	0.200	1.00
95-63-6	1,2,4-Trimethylbenzene	0.200	U	0.200	1.00
106-93-4	1,2-Dibromoethane	0.200	U	0.200	1.00
95-50-1	1,2-Dichlorobenzene	0.200	U	0.200	1.00
107-06-2	1,2-Dichloroethane	0.200	U	0.200	1.00
78-87-5	1,2-Dichloropropane	0.200	U	0.200	1.00
108-67-8	1,3,5-Trimethylbenzene	0.200	U	0.200	1.00
541-73-1	1,3-Dichlorobenzene	0.200	U	0.200	1.00
142-28-9	1,3-Dichloropropane	0.200	U	0.200	1.00
106-46-7	1,4-Dichlorobenzene	0.200	U	0.200	1.00
594-20-7	2,2-Dichloropropane	0.200	U	0.200	1.00
78-93-3	2-Butanone	0.200	U	0.200	5.00
95-49-8	2-Chlorotoluene	0.200	U	0.200	1.00
591-78-6	2-Hexanone	0.500	U	0.500	5.00
106-43-4	4-Chlorotoluene	0.200	U	0.200	1.00
99-87-6	4-Isopropyltoluene	0.200	U	0.200	1.00
108-10-1	4-Methyl-2-pentanone	0.200	U	0.200	5.00
71-43-2	Benzene	0.200	U	0.200	1.00
108-86-1	Bromobenzene	0.200	U	0.200	1.00
74-97-5	Bromochloromethane	0.200	U	0.200	1.00
75-27-4	Bromodichloromethane	0.200	U	0.200	1.00
75-25-2	Bromoform	0.250	U	0.250	1.00
74-83-9	Bromomethane	0.500	U	0.500	1.00

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

TB-102115-03RE

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21510231007RE

Level: (low/med) Lab File ID: 2151103/j3879A

% Moisture: not dec. Date Collected: 10/21/15 Time: 1500

GC Column: RTX-VMS-30 ID: .25 (mm Date Received: 10/23/15

Instrument ID: MSV8 Date Analyzed: 11/03/15 Time: 1353

Soil Extract Volume: (µL Dilution Factor: 1 Analyst: TJB

Soil Aliquot Volume: (µL Prep Batch: Analytical Batch: 571628

CONCENTRATION UNITS: ug/L Analytical Method: EPA 8260B

CAS NO.	COMPOUND	RESULT	Q	MDL	LOQ
56-23-5	Carbon tetrachloride	0.250	U	0.250	1.00
108-90-7	Chlorobenzene	0.200	U	0.200	1.00
75-00-3	Chloroethane	0.250	U	0.250	1.00
67-66-3	Chloroform	0.200	U	0.200	1.00
74-87-3	Chloromethane	0.200	U	0.200	1.00
124-48-1	Dibromochloromethane	0.200	U	0.200	1.00
75-71-8	Dichlorodifluoromethane	0.200	U	0.200	1.00
100-41-4	Ethylbenzene	0.200	U	0.200	1.00
98-82-8	Isopropylbenzene (Cumene)	0.200	U	0.200	1.00
75-09-2	Methylene chloride	0.200	U	0.200	5.00
100-42-5	Styrene	0.200	U	0.200	1.00
127-18-4	Tetrachloroethene	0.200	U	0.200	1.00
108-88-3	Toluene	0.200	U	0.200	1.00
79-01-6	Trichloroethene	0.200	U	0.200	1.00
75-69-4	Trichlorofluoromethane	0.200	U	0.200	1.00
75-01-4	Vinyl chloride	0.200	U	0.200	1.00
1330-20-7	Xylene (total)	0.400	U	0.400	3.00
156-59-2	cis-1,2-Dichloroethene	0.200	U	0.200	1.00
10061-01-5	cis-1,3-Dichloropropene	0.200	U	0.200	1.00
108-20-3	diisopropyl Ether (DIPE)	0.500	U	0.500	5.00
136777-61-2	m,p-Xylene	0.200	U	0.200	2.00
104-51-8	n-Butylbenzene	0.200	U	0.200	1.00
103-65-1	n-Propylbenzene	1.00	U	1.00	5.00
95-47-6	o-Xylene	0.200	U	0.200	1.00
135-98-8	sec-Butylbenzene	0.200	U	0.200	1.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200	U	0.200	1.00
98-06-6	tert-Butylbenzene	0.200	U	0.200	1.00
156-60-5	trans-1,2-Dichloroethene	0.200	U	0.200	1.00
10061-02-6	trans-1,3-Dichloropropene	0.200	U	0.200	1.00

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

TB-102115-03

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21510231007

Level: (low/med) Lab File ID: 2151102/k7925a

% Moisture: not dec. Date Collected: 10/21/15 Time: 1500

GC Column: RTX-VMS-30 ID: .25 (mm Date Received: 10/23/15

Instrument ID: MSV9 Date Analyzed: 11/02/15 Time: 1703

Soil Extract Volume: (µL Dilution Factor: 1 Analyst: TJB

Soil Aliquot Volume: (µL Prep Batch: Analytical Batch: 571544

Analytical Method: EPA 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	LOQ
67-64-1	Acetone	0.500	U	0.500	5.00
108-05-4	Vinyl acetate	0.200	U	0.200	1.00

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MB1505250

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 1505250

Level: (low/med) Lab File ID: 2151102/k7924

% Moisture: not dec. Date Collected: Time:

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received:

Instrument ID: MSV9 Date Analyzed: 11/02/15 Time: 1643

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: TJB

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 571544

CONCENTRATION UNITS: ug/L

Analytical Method: EPA 8260B

CAS NO.	COMPOUND	RESULT	Q	MDL	LOQ
108-05-4	Vinyl acetate	0.200	U	0.200	1.00

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MB1505316

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 1505316

Level: (low/med) Lab File ID: 2151102p/g9529

% Moisture: not dec. Date Collected: Time:

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received:

Instrument ID: MSV11 Date Analyzed: 11/03/15 Time: 0036

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: LBH

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 571561

CONCENTRATION UNITS: ug/L Analytical Method: EPA 8260B

CAS NO.	COMPOUND	RESULT	Q	MDL	LOQ
67-64-1	Acetone	0.500	U	0.500	5.00
74-97-5	Bromochloromethane	0.200	U	0.200	1.00
75-27-4	Bromodichloromethane	0.200	U	0.200	1.00
75-25-2	Bromoform	0.250	U	0.250	1.00
74-83-9	Bromomethane	0.500	U	0.500	1.00
56-23-5	Carbon tetrachloride	0.250	U	0.250	1.00
75-00-3	Chloroethane	0.250	U	0.250	1.00
136777-61-2	m,p-Xylene	0.200	U	0.200	2.00
67-66-3	Chloroform	0.200	U	0.200	1.00
74-87-3	Chloromethane	0.200	U	0.200	1.00
124-48-1	Dibromochloromethane	0.200	U	0.200	1.00
75-71-8	Dichlorodifluoromethane	0.200	U	0.200	1.00
75-34-3	1,1-Dichloroethane	0.200	U	0.200	1.00
107-06-2	1,2-Dichloroethane	0.200	U	0.200	1.00
156-59-2	cis-1,2-Dichloroethene	0.200	U	0.200	1.00
156-60-5	trans-1,2-Dichloroethene	0.200	U	0.200	1.00
75-09-2	Methylene chloride	0.200	U	0.200	5.00
78-87-5	1,2-Dichloropropane	0.200	U	0.200	1.00
10061-01-5	cis-1,3-Dichloropropene	0.200	U	0.200	1.00
10061-02-6	trans-1,3-Dichloropropene	0.200	U	0.200	1.00
100-41-4	Ethylbenzene	0.200	U	0.200	1.00
591-78-6	2-Hexanone	0.500	U	0.500	5.00
98-82-8	Isopropylbenzene (Cumene)	0.200	U	0.200	1.00
78-93-3	2-Butanone	0.200	U	0.200	5.00
108-10-1	4-Methyl-2-pentanone	0.200	U	0.200	5.00
103-65-1	n-Propylbenzene	1.00	U	1.00	5.00
100-42-5	Styrene	0.200	U	0.200	1.00
127-18-4	Tetrachloroethene	0.200	U	0.200	1.00
79-34-5	1,1,2,2-Tetrachloroethane	0.200	U	0.200	1.00
120-82-1	1,2,4-Trichlorobenzene	0.200	U	0.200	1.00
71-55-6	1,1,1-Trichloroethane	0.200	U	0.200	1.00

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MB1505316

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 1505316

Level: (low/med) Lab File ID: 2151102p/g9529

% Moisture: not dec. Date Collected: Time:

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received:

Instrument ID: MSV11 Date Analyzed: 11/03/15 Time: 0036

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: LBH

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 571561

CONCENTRATION UNITS: ug/L Analytical Method: EPA 8260B

CAS NO.	COMPOUND	RESULT	Q	MDL	LOQ
79-00-5	1,1,2-Trichloroethane	0.200	U	0.200	1.00
75-69-4	Trichlorofluoromethane	0.200	U	0.200	1.00
96-18-4	1,2,3-Trichloropropane	0.200	U	0.200	1.00
95-63-6	1,2,4-Trimethylbenzene	0.200	U	0.200	1.00
108-67-8	1,3,5-Trimethylbenzene	0.200	U	0.200	1.00
75-01-4	Vinyl chloride	0.200	U	0.200	1.00
95-47-6	o-Xylene	0.200	U	0.200	1.00
106-93-4	1,2-Dibromoethane	0.200	U	0.200	1.00
108-05-4	Vinyl acetate	0.200	U	0.200	1.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200	U	0.200	1.00
99-87-6	4-Isopropyltoluene	0.200	U	0.200	1.00
1330-20-7	Xylene (total)	0.400	U	0.400	3.00
594-20-7	2,2-Dichloropropane	0.200	U	0.200	1.00
563-58-6	1,1-Dichloropropene	0.200	U	0.200	1.00
142-28-9	1,3-Dichloropropane	0.200	U	0.200	1.00
108-86-1	Bromobenzene	0.200	U	0.200	1.00
95-49-8	2-Chlorotoluene	0.200	U	0.200	1.00
106-43-4	4-Chlorotoluene	0.200	U	0.200	1.00
98-06-6	tert-Butylbenzene	0.200	U	0.200	1.00
135-98-8	sec-Butylbenzene	0.200	U	0.200	1.00
541-73-1	1,3-Dichlorobenzene	0.200	U	0.200	1.00
106-46-7	1,4-Dichlorobenzene	0.200	U	0.200	1.00
104-51-8	n-Butylbenzene	0.200	U	0.200	1.00
95-50-1	1,2-Dichlorobenzene	0.200	U	0.200	1.00
87-61-6	1,2,3-Trichlorobenzene	0.200	U	0.200	1.00
108-20-3	diisopropyl Ether (DIPE)	0.500	U	0.500	5.00
75-35-4	1,1-Dichloroethene	0.200	U	0.200	1.00
71-43-2	Benzene	0.200	U	0.200	1.00
79-01-6	Trichloroethene	0.200	U	0.200	1.00
108-88-3	Toluene	0.200	U	0.200	1.00
108-90-7	Chlorobenzene	0.200	U	0.200	1.00

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MB1505413

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 1505413

Level: (low/med) Lab File ID: 2151103/g9556

% Moisture: not dec. Date Collected: Time:

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received:

Instrument ID: MSV11 Date Analyzed: 11/03/15 Time: 1025

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: LBH

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 571590

Analytical Method: EPA 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	LOQ
67-64-1	Acetone	0.500	U	0.500	5.00
74-97-5	Bromochloromethane	0.200	U	0.200	1.00
75-27-4	Bromodichloromethane	0.200	U	0.200	1.00
75-25-2	Bromoform	0.250	U	0.250	1.00
74-83-9	Bromomethane	0.500	U	0.500	1.00
56-23-5	Carbon tetrachloride	0.250	U	0.250	1.00
75-00-3	Chloroethane	0.250	U	0.250	1.00
136777-61-2	m,p-Xylene	0.200	U	0.200	2.00
67-66-3	Chloroform	0.200	U	0.200	1.00
74-87-3	Chloromethane	0.200	U	0.200	1.00
124-48-1	Dibromochloromethane	0.200	U	0.200	1.00
75-71-8	Dichlorodifluoromethane	0.200	U	0.200	1.00
75-34-3	1,1-Dichloroethane	0.200	U	0.200	1.00
107-06-2	1,2-Dichloroethane	0.200	U	0.200	1.00
156-59-2	cis-1,2-Dichloroethene	0.200	U	0.200	1.00
156-60-5	trans-1,2-Dichloroethene	0.200	U	0.200	1.00
75-09-2	Methylene chloride	0.200	U	0.200	5.00
78-87-5	1,2-Dichloropropane	0.200	U	0.200	1.00
10061-01-5	cis-1,3-Dichloropropene	0.200	U	0.200	1.00
10061-02-6	trans-1,3-Dichloropropene	0.200	U	0.200	1.00
100-41-4	Ethylbenzene	0.200	U	0.200	1.00
591-78-6	2-Hexanone	0.500	U	0.500	5.00
98-82-8	Isopropylbenzene (Cumene)	0.200	U	0.200	1.00
78-93-3	2-Butanone	0.200	U	0.200	5.00
108-10-1	4-Methyl-2-pentanone	0.200	U	0.200	5.00
103-65-1	n-Propylbenzene	1.00	U	1.00	5.00
100-42-5	Styrene	0.200	U	0.200	1.00
127-18-4	Tetrachloroethene	0.200	U	0.200	1.00
79-34-5	1,1,2,2-Tetrachloroethane	0.200	U	0.200	1.00
120-82-1	1,2,4-Trichlorobenzene	0.200	U	0.200	1.00
71-55-6	1,1,1-Trichloroethane	0.200	U	0.200	1.00

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MB1505413

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 1505413

Level: (low/med) Lab File ID: 2151103/g9556

% Moisture: not dec. Date Collected: Time:

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received:

Instrument ID: MSV11 Date Analyzed: 11/03/15 Time: 1025

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: LBH

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 571590

CONCENTRATION UNITS: ug/L Analytical Method: EPA 8260B

CAS NO.	COMPOUND	RESULT	Q	MDL	LOQ
79-00-5	1,1,2-Trichloroethane	0.200	U	0.200	1.00
75-69-4	Trichlorofluoromethane	0.200	U	0.200	1.00
96-18-4	1,2,3-Trichloropropane	0.200	U	0.200	1.00
95-63-6	1,2,4-Trimethylbenzene	0.200	U	0.200	1.00
108-67-8	1,3,5-Trimethylbenzene	0.200	U	0.200	1.00
75-01-4	Vinyl chloride	0.200	U	0.200	1.00
95-47-6	o-Xylene	0.200	U	0.200	1.00
106-93-4	1,2-Dibromoethane	0.200	U	0.200	1.00
108-05-4	Vinyl acetate	0.200	U	0.200	1.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200	U	0.200	1.00
99-87-6	4-Isopropyltoluene	0.200	U	0.200	1.00
1330-20-7	Xylene (total)	0.400	U	0.400	3.00
594-20-7	2,2-Dichloropropane	0.200	U	0.200	1.00
563-58-6	1,1-Dichloropropene	0.200	U	0.200	1.00
142-28-9	1,3-Dichloropropane	0.200	U	0.200	1.00
108-86-1	Bromobenzene	0.200	U	0.200	1.00
95-49-8	2-Chlorotoluene	0.200	U	0.200	1.00
106-43-4	4-Chlorotoluene	0.200	U	0.200	1.00
98-06-6	tert-Butylbenzene	0.200	U	0.200	1.00
135-98-8	sec-Butylbenzene	0.200	U	0.200	1.00
541-73-1	1,3-Dichlorobenzene	0.200	U	0.200	1.00
106-46-7	1,4-Dichlorobenzene	0.200	U	0.200	1.00
104-51-8	n-Butylbenzene	0.200	U	0.200	1.00
95-50-1	1,2-Dichlorobenzene	0.200	U	0.200	1.00
87-61-6	1,2,3-Trichlorobenzene	0.200	U	0.200	1.00
108-20-3	diisopropyl Ether (DIPE)	0.500	U	0.500	5.00
75-35-4	1,1-Dichloroethene	0.200	U	0.200	1.00
71-43-2	Benzene	0.200	U	0.200	1.00
79-01-6	Trichloroethene	0.200	U	0.200	1.00
108-88-3	Toluene	0.200	U	0.200	1.00
108-90-7	Chlorobenzene	0.200	U	0.200	1.00

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MB1505555

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 1505555

Level: (low/med) Lab File ID: 2151103/j3878d

% Moisture: not dec. Date Collected: Time:

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received:

Instrument ID: MSV8 Date Analyzed: 11/03/15 Time: 1333

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: TJB

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 571628

CONCENTRATION UNITS: ug/L Analytical Method: EPA 8260B

CAS NO.	COMPOUND	RESULT	Q	MDL	LOQ
74-97-5	Bromochloromethane	0.200	U	0.200	1.00
75-27-4	Bromodichloromethane	0.200	U	0.200	1.00
75-25-2	Bromoform	0.250	U	0.250	1.00
74-83-9	Bromomethane	0.500	U	0.500	1.00
56-23-5	Carbon tetrachloride	0.250	U	0.250	1.00
75-00-3	Chloroethane	0.250	U	0.250	1.00
136777-61-2	m,p-Xylene	0.200	U	0.200	2.00
67-66-3	Chloroform	0.200	U	0.200	1.00
74-87-3	Chloromethane	0.200	U	0.200	1.00
124-48-1	Dibromochloromethane	0.200	U	0.200	1.00
75-71-8	Dichlorodifluoromethane	0.200	U	0.200	1.00
75-34-3	1,1-Dichloroethane	0.200	U	0.200	1.00
107-06-2	1,2-Dichloroethane	0.200	U	0.200	1.00
156-59-2	cis-1,2-Dichloroethene	0.200	U	0.200	1.00
156-60-5	trans-1,2-Dichloroethene	0.200	U	0.200	1.00
75-09-2	Methylene chloride	0.551	J	0.200	5.00
78-87-5	1,2-Dichloropropane	0.200	U	0.200	1.00
10061-01-5	cis-1,3-Dichloropropene	0.200	U	0.200	1.00
10061-02-6	trans-1,3-Dichloropropene	0.200	U	0.200	1.00
100-41-4	Ethylbenzene	0.200	U	0.200	1.00
591-78-6	2-Hexanone	0.500	U	0.500	5.00
98-82-8	Isopropylbenzene (Cumene)	0.200	U	0.200	1.00
78-93-3	2-Butanone	0.200	U	0.200	5.00
108-10-1	4-Methyl-2-pentanone	0.200	U	0.200	5.00
103-65-1	n-Propylbenzene	1.00	U	1.00	5.00
100-42-5	Styrene	0.200	U	0.200	1.00
127-18-4	Tetrachloroethene	0.200	U	0.200	1.00
79-34-5	1,1,2,2-Tetrachloroethane	0.200	U	0.200	1.00
120-82-1	1,2,4-Trichlorobenzene	0.200	U	0.200	1.00
71-55-6	1,1,1-Trichloroethane	0.200	U	0.200	1.00
79-00-5	1,1,2-Trichloroethane	0.200	U	0.200	1.00

FORM I VOA

Revision 1

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MB1505555

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 1505555

Level: (low/med) Lab File ID: 2151103/j3878d

% Moisture: not dec. Date Collected: Time:

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received:

Instrument ID: MSV8 Date Analyzed: 11/03/15 Time: 1333

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: TJB

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 571628

Analytical Method: EPA 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	LOQ
75-69-4	Trichlorofluoromethane	0.200	U	0.200	1.00
96-18-4	1,2,3-Trichloropropane	0.200	U	0.200	1.00
95-63-6	1,2,4-Trimethylbenzene	0.200	U	0.200	1.00
108-67-8	1,3,5-Trimethylbenzene	0.200	U	0.200	1.00
75-01-4	Vinyl chloride	0.200	U	0.200	1.00
95-47-6	o-Xylene	0.200	U	0.200	1.00
106-93-4	1,2-Dibromoethane	0.200	U	0.200	1.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200	U	0.200	1.00
99-87-6	4-Isopropyltoluene	0.200	U	0.200	1.00
1330-20-7	Xylene (total)	0.400	U	0.400	3.00
594-20-7	2,2-Dichloropropane	0.200	U	0.200	1.00
563-58-6	1,1-Dichloropropene	0.200	U	0.200	1.00
142-28-9	1,3-Dichloropropane	0.200	U	0.200	1.00
108-86-1	Bromobenzene	0.200	U	0.200	1.00
95-49-8	2-Chlorotoluene	0.200	U	0.200	1.00
106-43-4	4-Chlorotoluene	0.200	U	0.200	1.00
98-06-6	tert-Butylbenzene	0.200	U	0.200	1.00
135-98-8	sec-Butylbenzene	0.200	U	0.200	1.00
541-73-1	1,3-Dichlorobenzene	0.200	U	0.200	1.00
106-46-7	1,4-Dichlorobenzene	0.200	U	0.200	1.00
104-51-8	n-Butylbenzene	0.200	U	0.200	1.00
95-50-1	1,2-Dichlorobenzene	0.200	U	0.200	1.00
87-61-6	1,2,3-Trichlorobenzene	0.200	U	0.200	1.00
108-20-3	diisopropyl Ether (DIPE)	0.500	U	0.500	5.00
75-35-4	1,1-Dichloroethene	0.200	U	0.200	1.00
71-43-2	Benzene	0.200	U	0.200	1.00
79-01-6	Trichloroethene	0.200	U	0.200	1.00
108-88-3	Toluene	0.200	U	0.200	1.00
108-90-7	Chlorobenzene	0.200	U	0.200	1.00

FORM I VOA

Revision 1

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Method: EPA 8260B

	SAMPLE NO.	SMC1	#	SMC2	#	SMC3	#	SMC4	#	TOT OUT
1 .	305-MW4-14	94		103		102		99		0
2 .	LCS1505251	103		102		99		101		0
3 .	LCSD1505252	103		102		100		102		0
4 .	MB1505316	95		104		103		101		0
5 .	LCS1505317	103		103		101		100		0
6 .	LCSD1505318	101		102		100		98		0
7 .	MB1505413	97		102		103		101		0
8 .	LCS1505414	102		103		97		99		0
9 .	LCSD1505415	103		101		99		99		0
10 .	MB1505555	91		99		101		104		0
11 .	LCS1505556	93		99		97		104		0
12 .	305-MW4-13	94		104		102		104		0
13 .	LCSD1505557	93		99		98		103		0
14 .	305-MW4-140	100		101		102		102		0
15 .	305-18MW16	98		106		105		103		0
16 .	EB-102215-03	99		103		103		101		0
17 .	305-MW4-01	96		101		103		101		0
18 .	TB-102115-03RE	88		100		101		104		0
19 .	TB-102115-03	89		101		102		104		0
20 .	MB1505250	87		100		101		104		0

		QC LIMITS
SMC 1	4-Bromofluorobenzene	75 - 120
SMC 2	Dibromofluoromethane	85 - 115
SMC 3	Toluene-d8	85 - 120
SMC 4	1,2-Dichloroethane-d4	70 - 120

Column to be used to flag recovery values

* Values outside of contract required QC limits

FORM II VOA-1

Revision 1

3A

WATER VOLATILE LCS/LCSD RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Analytical Batch: 571628

SAMPLE NO. : 1505556

COMPOUND	*UNITS*	*SPIKE ADDED*	*SAMPLE CONCENTRATION*	*LCS CONCENTRATION*	*LCS % REC*	*#*	*QC. LIMITS*
1,1,1-Trichloroethane	ug/L	50	0	48.1	96		65 - 130
1,1,2,2-Tetrachloroethane	ug/L	50	0	51.4	103		65 - 130
1,1,2-Trichloroethane	ug/L	50	0	47.7	95		75 - 125
1,1-Dichloroethane	ug/L	50	0	48.9	98		70 - 135
1,1-Dichloroethene	ug/L	50	0	45.8	92		70 - 130
1,1-Dichloropropene	ug/L	50	0	48.8	98		75 - 130
1,2,3-Trichlorobenzene	ug/L	50	0	53.3	107		55 - 140
1,2,3-Trichloropropane	ug/L	50	0	50.9	102		75 - 125
1,2,4-Trichlorobenzene	ug/L	50	0	51.9	104		65 - 135
1,2,4-Trimethylbenzene	ug/L	50	0	51.5	103		75 - 130
1,2-Dibromoethane	ug/L	50	0	46.5	93		80 - 120
1,2-Dichlorobenzene	ug/L	50	0	48.2	96		70 - 120
1,2-Dichloroethane	ug/L	50	0	48.4	97		70 - 130
1,2-Dichloropropane	ug/L	50	0	51	102		75 - 125
1,3,5-Trimethylbenzene	ug/L	50	0	50.8	102		75 - 130
1,3-Dichlorobenzene	ug/L	50	0	47.7	95		75 - 125
1,3-Dichloropropane	ug/L	50	0	48.4	97		75 - 125
1,4-Dichlorobenzene	ug/L	50	0	46.6	93		75 - 125
2,2-Dichloropropane	ug/L	50	0	49	98		70 - 135
2-Butanone	ug/L	50	0	52.7	105		30 - 150
2-Chlorotoluene	ug/L	50	0	50.3	101		75 - 125
2-Hexanone	ug/L	50	0	52.7	105		55 - 130
4-Chlorotoluene	ug/L	50	0	51.4	103		75 - 130
4-Isopropyltoluene	ug/L	50	0	51.3	103		75 - 130
4-Methyl-2-pentanone	ug/L	50	0	51	102		60 - 135
Benzene	ug/L	50	0	47	94		80 - 120
Bromobenzene	ug/L	50	0	50.6	101		75 - 125
Bromochloromethane	ug/L	50	0	45.4	91		65 - 130
Bromodichloromethane	ug/L	50	0	49.8	100		75 - 120
Bromoform	ug/L	50	0	44.9	90		70 - 130
Bromomethane	ug/L	50	0	47.8	96		30 - 145
Carbon tetrachloride	ug/L	50	0	47.8	96		65 - 140
Chlorobenzene	ug/L	50	0	44.5	89		80 - 120
Chloroethane	ug/L	50	0	47.3	95		60 - 135
Chloroform	ug/L	50	0	48.1	96		65 - 135

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD : 0 out of 60 outside limits

Spike Recovery: 0 out of 120 outside limits

FORM III VOA-1

Revision 1

3A

WATER VOLATILE LCS/LCSD RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Analytical Batch: 571628

Chloromethane	ug/L	50	0	46.5	93		40 - 125
Dibromochloromethane	ug/L	50	0	46.9	94		60 - 135
Dichlorodifluoromethane	ug/L	50	0	49.1	98		30 - 155
Ethylbenzene	ug/L	50	0	46.1	92		75 - 125
Isopropylbenzene (Cumene)	ug/L	50	0	48.5	97		75 - 125
Methylene chloride	ug/L	50	0	48.4	97		55 - 140
Styrene	ug/L	50	0	48.8	98		65 - 135
Tetrachloroethene	ug/L	50	0	42	84		45 - 150
Toluene	ug/L	50	0	45.3	91		75 - 120
Trichloroethene	ug/L	50	0	44.5	89		70 - 125
Trichlorofluoromethane	ug/L	50	0	44.9	90		60 - 145
Vinyl chloride	ug/L	50	0	48.8	98		50 - 145
Xylene (total)	ug/L	150	0	142	95		75 - 130
cis-1,2-Dichloroethene	ug/L	50	0	48.8	98		70 - 125
cis-1,3-Dichloropropene	ug/L	50	0	50.8	102		70 - 130
diisopropyl Ether (DIPE)	ug/L	50	0	56.5	113		60 - 140
m,p-Xylene	ug/L	100	0	94.8	95		75 - 130
n-Butylbenzene	ug/L	50	0	54.1	108		70 - 135
n-Propylbenzene	ug/L	50	0	51.4	103		70 - 130
o-Xylene	ug/L	50	0	47	94		80 - 120
sec-Butylbenzene	ug/L	50	0	51.3	103		70 - 125
tert-Butyl methyl ether (MTBE)	ug/L	50	0	48.9	98		65 - 125
tert-Butylbenzene	ug/L	50	0	52.1	104		70 - 130
trans-1,2-Dichloroethene	ug/L	50	0	48.5	97		60 - 140
trans-1,3-Dichloropropene	ug/L	50	0	51.3	103		55 - 140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD : 0 out of 60 outside limits

Spike Recovery: 0 out of 120 outside limits

FORM III VOA-1

3A

WATER VOLATILE LCS/LCSD RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Analytical Batch: 571628

SAMPLE NO. : 1505557

COMPOUND	UNITS	SPIKE ADDED	LCSD CONC.	LCSD % REC	#	% RPD	#	QC. LIMITS REC	QC. LIMITS RPD
1,1,1-Trichloroethane	ug/L	50	45.6	91		5		65 - 130	0 - 30
1,1,2,2-Tetrachloroethane	ug/L	50	51.1	102		.6		65 - 130	0 - 30
1,1,2-Trichloroethane	ug/L	50	46.9	94		2		75 - 125	0 - 30
1,1-Dichloroethane	ug/L	50	47.2	94		4		70 - 135	0 - 30
1,1-Dichloroethene	ug/L	50	43.6	87		5		70 - 130	0 - 30
1,1-Dichloropropene	ug/L	50	46.5	93		5		75 - 130	0 - 30
1,2,3-Trichlorobenzene	ug/L	50	53	106		.6		55 - 140	0 - 30
1,2,3-Trichloropropane	ug/L	50	51.2	102		.6		75 - 125	0 - 30
1,2,4-Trichlorobenzene	ug/L	50	50.6	101		3		65 - 135	0 - 30
1,2,4-Trimethylbenzene	ug/L	50	49.6	99		4		75 - 130	0 - 30
1,2-Dibromoethane	ug/L	50	46.6	93		.2		80 - 120	0 - 30
1,2-Dichlorobenzene	ug/L	50	48	96		.4		70 - 120	0 - 30
1,2-Dichloroethane	ug/L	50	47.9	96		1		70 - 130	0 - 30
1,2-Dichloropropane	ug/L	50	48.8	98		4		75 - 125	0 - 30
1,3,5-Trimethylbenzene	ug/L	50	49.4	99		3		75 - 130	0 - 30
1,3-Dichlorobenzene	ug/L	50	46.8	94		2		75 - 125	0 - 30
1,3-Dichloropropane	ug/L	50	48.5	97		.2		75 - 125	0 - 30
1,4-Dichlorobenzene	ug/L	50	45.9	92		2		75 - 125	0 - 30
2,2-Dichloropropane	ug/L	50	45.6	91		7		70 - 135	0 - 30
2-Butanone	ug/L	50	53.1	106		.8		30 - 150	0 - 30
2-Chlorotoluene	ug/L	50	48.8	98		3		75 - 125	0 - 30
2-Hexanone	ug/L	50	53.8	108		2		55 - 130	0 - 30
4-Chlorotoluene	ug/L	50	50.1	100		3		75 - 130	0 - 30
4-Isopropyltoluene	ug/L	50	49.4	99		4		75 - 130	0 - 30
4-Methyl-2-pentanone	ug/L	50	52.5	105		3		60 - 135	0 - 30
Benzene	ug/L	50	45.8	92		3		80 - 120	0 - 30
Bromobenzene	ug/L	50	49.4	99		2		75 - 125	0 - 30
Bromochloromethane	ug/L	50	45.1	90		.7		65 - 130	0 - 30
Bromodichloromethane	ug/L	50	48.3	97		3		75 - 120	0 - 30
Bromoform	ug/L	50	45	90		.2		70 - 130	0 - 30
Bromomethane	ug/L	50	44.2	88		8		30 - 145	0 - 30
Carbon tetrachloride	ug/L	50	45.9	92		4		65 - 140	0 - 30
Chlorobenzene	ug/L	50	43.4	87		3		80 - 120	0 - 30
Chloroethane	ug/L	50	44.8	90		5		60 - 135	0 - 30
Chloroform	ug/L	50	46.6	93		3		65 - 135	0 - 30

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD : 0 out of 60 outside limits

Spike Recovery: 0 out of 120 outside limits

FORM III VOA-1

Revision 1

3A

WATER VOLATILE LCS/LCSD RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Analytical Batch: 571628

Chloromethane	ug/L	50	43.4	87		7		40 - 125	0 - 30
Dibromochloromethane	ug/L	50	46.5	93		.9		60 - 135	0 - 30
Dichlorodifluoromethane	ug/L	50	47	94		4		30 - 155	0 - 30
Ethylbenzene	ug/L	50	44.4	89		4		75 - 125	0 - 30
Isopropylbenzene (Cumene)	ug/L	50	46.3	93		5		75 - 125	0 - 30
Methylene chloride	ug/L	50	47.6	95		2		55 - 140	0 - 30
Styrene	ug/L	50	47.5	95		3		65 - 135	0 - 30
Tetrachloroethene	ug/L	50	40.5	81		4		45 - 150	0 - 30
Toluene	ug/L	50	44	88		3		75 - 120	0 - 30
Trichloroethene	ug/L	50	43.4	87		3		70 - 125	0 - 30
Trichlorofluoromethane	ug/L	50	42	84		7		60 - 145	0 - 30
Vinyl chloride	ug/L	50	46.1	92		6		50 - 145	0 - 30
Xylene (total)	ug/L	150	136	91		4		75 - 130	0 - 30
cis-1,2-Dichloroethene	ug/L	50	47.9	96		2		70 - 125	0 - 30
cis-1,3-Dichloropropene	ug/L	50	49.3	99		3		70 - 130	0 - 30
diisopropyl Ether (DIPE)	ug/L	50	55.4	111		2		60 - 140	0 - 30
m,p-Xylene	ug/L	100	90.6	91		5		75 - 130	0 - 30
n-Butylbenzene	ug/L	50	52.2	104		4		70 - 135	0 - 30
n-Propylbenzene	ug/L	50	49.3	99		4		70 - 130	0 - 30
o-Xylene	ug/L	50	45.5	91		3		80 - 120	0 - 30
sec-Butylbenzene	ug/L	50	49.7	99		3		70 - 125	0 - 30
tert-Butyl methyl ether (MTBE)	ug/L	50	48.8	98		.2		65 - 125	0 - 30
tert-Butylbenzene	ug/L	50	50.1	100		4		70 - 130	0 - 30
trans-1,2-Dichloroethene	ug/L	50	46.5	93		4		60 - 140	0 - 30
trans-1,3-Dichloropropene	ug/L	50	50.3	101		2		55 - 140	0 - 30

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD : 0 out of 60 outside limits

Spike Recovery: 0 out of 120 outside limits

FORM III VOA-1

Revision 1

3A

WATER VOLATILE LCS/LCSD RECOVERY

Report No: 215102310

Analytical Method: EPA 8260B

Analytical Batch: 571590

GCAL QC ID: 1505414

ANALYTE	UNITS	SPIKE ADDED	SAMPLE RESULT	LCS RESULT	LCS % REC	#	QC LIMITS
1,1,1-Trichloroethane	ug/L	50	0	47.8	96		65 - 130
1,1,2,2-Tetrachloroethane	ug/L	50	0	50.7	101		65 - 130
1,1,2-Trichloroethane	ug/L	50	0	52.4	105		75 - 125
1,1-Dichloroethane	ug/L	50	0	49.9	100		70 - 135
1,1-Dichloroethene	ug/L	50	0	47.8	96		70 - 130
1,1-Dichloropropene	ug/L	50	0	48.3	97		75 - 130
1,2,3-Trichlorobenzene	ug/L	50	0	55.1	110		55 - 140
1,2,3-Trichloropropane	ug/L	50	0	50.2	100		75 - 125
1,2,4-Trichlorobenzene	ug/L	50	0	55.9	112		65 - 135
1,2,4-Trimethylbenzene	ug/L	50	0	55.2	110		75 - 130
1,2-Dibromoethane	ug/L	50	0	53.9	108		80 - 120
1,2-Dichlorobenzene	ug/L	50	0	53.2	106		70 - 120
1,2-Dichloroethane	ug/L	50	0	50.4	101		70 - 130
1,2-Dichloropropane	ug/L	50	0	52.8	106		75 - 125
1,3,5-Trimethylbenzene	ug/L	50	0	53.7	107		75 - 130
1,3-Dichlorobenzene	ug/L	50	0	54	108		75 - 125
1,3-Dichloropropane	ug/L	50	0	54.5	109		75 - 125
1,4-Dichlorobenzene	ug/L	50	0	52.3	105		75 - 125
2,2-Dichloropropane	ug/L	50	0	48.6	97		70 - 135
2-Butanone	ug/L	50	0	48	96		30 - 150
2-Chlorotoluene	ug/L	50	0	52.7	105		75 - 125
2-Hexanone	ug/L	50	0	49.8	100		55 - 130
4-Chlorotoluene	ug/L	50	0	52.8	106		75 - 130
4-Isopropyltoluene	ug/L	50	0	53	106		75 - 130
4-Methyl-2-pentanone	ug/L	50	0	50.5	101		60 - 135
Acetone	ug/L	50	0	49.5	99		40 - 140
Benzene	ug/L	50	0	51.4	103		80 - 120
Bromobenzene	ug/L	50	0	50.9	102		75 - 125
Bromochloromethane	ug/L	50	0	52.5	105		65 - 130
Bromodichloromethane	ug/L	50	0	53.3	107		75 - 120
Bromoform	ug/L	50	0	54.5	109		70 - 130
Bromomethane	ug/L	50	0	46.5	93		30 - 145
Carbon tetrachloride	ug/L	50	0	49.1	98		65 - 140
Chlorobenzene	ug/L	50	0	52.6	105		80 - 120
Chloroethane	ug/L	50	0	48.7	97		60 - 135
Chloroform	ug/L	50	0	51.1	102		65 - 135
Chloromethane	ug/L	50	0	43.5	87		40 - 125
Dibromochloromethane	ug/L	50	0	54.1	108		60 - 135
Dichlorodifluoromethane	ug/L	50	0	43.3	87		30 - 155

RPD : 0 out of 62 outside limits

Spike Recovery: 0 out of 124 outside limits

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM III VOA-1

Revision 1

3A

WATER VOLATILE LCS/LCSD RECOVERY

Report No: 215102310

Analytical Method: EPA 8260B

Analytical Batch: 571590

Ethylbenzene	ug/L	50	0	52.9	106		75 - 125
Isopropylbenzene (Cumene)	ug/L	50	0	54.5	109		75 - 125
Methylene chloride	ug/L	50	0	50.5	101		55 - 140
Styrene	ug/L	50	0	57.5	115		65 - 135
Tetrachloroethene	ug/L	50	0	49.4	99		45 - 150
Toluene	ug/L	50	0	52.4	105		75 - 120
Trichloroethene	ug/L	50	0	50.9	102		70 - 125
Trichlorofluoromethane	ug/L	50	0	47.1	94		60 - 145
Vinyl acetate	ug/L	50	0	54.3	109		66 - 145
Vinyl chloride	ug/L	50	0	43.6	87		50 - 145
Xylene (total)	ug/L	150	0	162	108		75 - 130
cis-1,2-Dichloroethene	ug/L	50	0	50.5	101		70 - 125
cis-1,3-Dichloropropene	ug/L	50	0	54	108		70 - 130
diisopropyl Ether (DIPE)	ug/L	50	0	48.8	98		60 - 140
m,p-Xylene	ug/L	100	0	109	109		75 - 130
n-Butylbenzene	ug/L	50	0	54.5	109		70 - 135
n-Propylbenzene	ug/L	50	0	52.7	105		70 - 130
o-Xylene	ug/L	50	0	53	106		80 - 120
sec-Butylbenzene	ug/L	50	0	53.1	106		70 - 125
tert-Butyl methyl ether (MTBE)	ug/L	50	0	50	100		65 - 125
tert-Butylbenzene	ug/L	50	0	50.3	101		70 - 130
trans-1,2-Dichloroethene	ug/L	50	0	50.6	101		60 - 140
trans-1,3-Dichloropropene	ug/L	50	0	55.7	111		55 - 140

RPD : 0 out of 62 outside limits

Spike Recovery: 0 out of 124 outside limits

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM III VOA-1

Revision 1

3A

WATER VOLATILE LCS/LCSD RECOVERY

Report No: 215102310

Analytical Method: EPA 8260B

Analytical Batch: 571590

GCAL QC ID: 1505415

ANALYTE	UNITS	SPIKE ADDED	LCSD RESULT	LCSD % REC	#	% RPD	#	QC LIMITS REC	QC LIMITS RPD
1,1,1-Trichloroethane	ug/L	50	46.5	93		3		65 - 130	0 - 30
1,1,2,2-Tetrachloroethane	ug/L	50	50.9	102		.4		65 - 130	0 - 30
1,1,2-Trichloroethane	ug/L	50	52.6	105		.4		75 - 125	0 - 30
1,1-Dichloroethane	ug/L	50	49.1	98		2		70 - 135	0 - 30
1,1-Dichloroethene	ug/L	50	47.5	95		.6		70 - 130	0 - 30
1,1-Dichloropropene	ug/L	50	47.2	94		2		75 - 130	0 - 30
1,2,3-Trichlorobenzene	ug/L	50	54.5	109		1		55 - 140	0 - 30
1,2,3-Trichloropropane	ug/L	50	52.1	104		4		75 - 125	0 - 30
1,2,4-Trichlorobenzene	ug/L	50	54.3	109		3		65 - 135	0 - 30
1,2,4-Trimethylbenzene	ug/L	50	53.8	108		3		75 - 130	0 - 30
1,2-Dibromoethane	ug/L	50	54.3	109		.7		80 - 120	0 - 30
1,2-Dichlorobenzene	ug/L	50	52.7	105		.9		70 - 120	0 - 30
1,2-Dichloroethane	ug/L	50	50.4	101		0		70 - 130	0 - 30
1,2-Dichloropropane	ug/L	50	53.2	106		.8		75 - 125	0 - 30
1,3,5-Trimethylbenzene	ug/L	50	51.6	103		4		75 - 130	0 - 30
1,3-Dichlorobenzene	ug/L	50	52.7	105		2		75 - 125	0 - 30
1,3-Dichloropropane	ug/L	50	53.7	107		1		75 - 125	0 - 30
1,4-Dichlorobenzene	ug/L	50	51.3	103		2		75 - 125	0 - 30
2,2-Dichloropropane	ug/L	50	47	94		3		70 - 135	0 - 30
2-Butanone	ug/L	50	52.4	105		9		30 - 150	0 - 30
2-Chlorotoluene	ug/L	50	50.9	102		3		75 - 125	0 - 30
2-Hexanone	ug/L	50	51.9	104		4		55 - 130	0 - 30
4-Chlorotoluene	ug/L	50	50.9	102		4		75 - 130	0 - 30
4-Isopropyltoluene	ug/L	50	50.4	101		5		75 - 130	0 - 30
4-Methyl-2-pentanone	ug/L	50	52.4	105		4		60 - 135	0 - 30
Acetone	ug/L	50	51.9	104		5		40 - 140	0 - 30
Benzene	ug/L	50	50.3	101		2		80 - 120	0 - 30
Bromobenzene	ug/L	50	50	100		2		75 - 125	0 - 30
Bromochloromethane	ug/L	50	52	104		1		65 - 130	0 - 30
Bromodichloromethane	ug/L	50	52.5	105		2		75 - 120	0 - 30
Bromoform	ug/L	50	53.6	107		2		70 - 130	0 - 30
Bromomethane	ug/L	50	52.3	105		12		30 - 145	0 - 30
Carbon tetrachloride	ug/L	50	47.6	95		3		65 - 140	0 - 30
Chlorobenzene	ug/L	50	51.8	104		2		80 - 120	0 - 30
Chloroethane	ug/L	50	49.7	99		2		60 - 135	0 - 30
Chloroform	ug/L	50	50.6	101		1		65 - 135	0 - 30
Chloromethane	ug/L	50	48.6	97		11		40 - 125	0 - 30
Dibromochloromethane	ug/L	50	53.9	108		.4		60 - 135	0 - 30

RPD : 0 out of 62 outside limits

Spike Recovery: 0 out of 124 outside limits

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM III VOA-1

Revision 1

3A

WATER VOLATILE LCS/LCSD RECOVERY

Report No: 215102310

Analytical Method: EPA 8260B

Analytical Batch: 571590

Dichlorodifluoromethane	ug/L	50	41.6	83		4		30 - 155	0 - 30
Ethylbenzene	ug/L	50	51.7	103		2		75 - 125	0 - 30
Isopropylbenzene (Cumene)	ug/L	50	52.4	105		4		75 - 125	0 - 30
Methylene chloride	ug/L	50	47.5	95		6		55 - 140	0 - 30
Styrene	ug/L	50	56.4	113		2		65 - 135	0 - 30
Tetrachloroethene	ug/L	50	47.5	95		4		45 - 150	0 - 30
Toluene	ug/L	50	50.5	101		4		75 - 120	0 - 30
Trichloroethene	ug/L	50	49.8	100		2		70 - 125	0 - 30
Trichlorofluoromethane	ug/L	50	47.7	95		1		60 - 145	0 - 30
Vinyl acetate	ug/L	50	51.8	104		5		66 - 145	0 - 30
Vinyl chloride	ug/L	50	49.8	100		13		50 - 145	0 - 30
Xylene (total)	ug/L	150	157	105		3		75 - 130	0 - 30
cis-1,2-Dichloroethene	ug/L	50	50	100		1		70 - 125	0 - 30
cis-1,3-Dichloropropene	ug/L	50	54.5	109		.9		70 - 130	0 - 30
diisopropyl Ether (DIPE)	ug/L	50	48.4	97		.8		60 - 140	0 - 30
m,p-Xylene	ug/L	100	106	106		3		75 - 130	0 - 30
n-Butylbenzene	ug/L	50	50.4	101		8		70 - 135	0 - 30
n-Propylbenzene	ug/L	50	49.7	99		6		70 - 130	0 - 30
o-Xylene	ug/L	50	51.7	103		2		80 - 120	0 - 30
sec-Butylbenzene	ug/L	50	50.4	101		5		70 - 125	0 - 30
tert-Butyl methyl ether (MTBE)	ug/L	50	51.7	103		3		65 - 125	0 - 30
tert-Butylbenzene	ug/L	50	48.7	97		3		70 - 130	0 - 30
trans-1,2-Dichloroethene	ug/L	50	48.6	97		4		60 - 140	0 - 30
trans-1,3-Dichloropropene	ug/L	50	56.5	113		1		55 - 140	0 - 30

RPD : 0 out of 62 outside limits

Spike Recovery: 0 out of 124 outside limits

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM III VOA-1

Revision 1

3A

WATER VOLATILE LCS/LCSD RECOVERY

Report No: 215102310

Analytical Method: EPA 8260B

Analytical Batch: 571561

GCAL QC ID: 1505317

ANALYTE	UNITS	SPIKE ADDED	SAMPLE RESULT	LCS RESULT	LCS % REC	#	QC LIMITS
1,1,1-Trichloroethane	ug/L	50	0	47.3	95		65 - 130
1,1,2,2-Tetrachloroethane	ug/L	50	0	44.6	89		65 - 130
1,1,2-Trichloroethane	ug/L	50	0	48.1	96		75 - 125
1,1-Dichloroethane	ug/L	50	0	48.4	97		70 - 135
1,1-Dichloroethene	ug/L	50	0	48.1	96		70 - 130
1,1-Dichloropropene	ug/L	50	0	48.7	97		75 - 130
1,2,3-Trichlorobenzene	ug/L	50	0	52	104		55 - 140
1,2,3-Trichloropropane	ug/L	50	0	44.9	90		75 - 125
1,2,4-Trichlorobenzene	ug/L	50	0	52.8	106		65 - 135
1,2,4-Trimethylbenzene	ug/L	50	0	52.4	105		75 - 130
1,2-Dibromoethane	ug/L	50	0	51.4	103		80 - 120
1,2-Dichlorobenzene	ug/L	50	0	50	100		70 - 120
1,2-Dichloroethane	ug/L	50	0	46.6	93		70 - 130
1,2-Dichloropropane	ug/L	50	0	49.7	99		75 - 125
1,3,5-Trimethylbenzene	ug/L	50	0	51.7	103		75 - 130
1,3-Dichlorobenzene	ug/L	50	0	50.9	102		75 - 125
1,3-Dichloropropane	ug/L	50	0	49.6	99		75 - 125
1,4-Dichlorobenzene	ug/L	50	0	49.6	99		75 - 125
2,2-Dichloropropane	ug/L	50	0	48	96		70 - 135
2-Butanone	ug/L	50	0	42.2	84		30 - 150
2-Chlorotoluene	ug/L	50	0	50.2	100		75 - 125
2-Hexanone	ug/L	50	0	44.5	89		55 - 130
4-Chlorotoluene	ug/L	50	0	50.4	101		75 - 130
4-Isopropyltoluene	ug/L	50	0	52.4	105		75 - 130
4-Methyl-2-pentanone	ug/L	50	0	44.8	90		60 - 135
Acetone	ug/L	50	0	43.6	87		40 - 140
Benzene	ug/L	50	0	49.5	99		80 - 120
Bromobenzene	ug/L	50	0	47.3	95		75 - 125
Bromochloromethane	ug/L	50	0	50.6	101		65 - 130
Bromodichloromethane	ug/L	50	0	50	100		75 - 120
Bromoform	ug/L	50	0	48.8	98		70 - 130
Bromomethane	ug/L	50	0	52.9	106		30 - 145
Carbon tetrachloride	ug/L	50	0	48.3	97		65 - 140
Chlorobenzene	ug/L	50	0	49.3	99		80 - 120
Chloroethane	ug/L	50	0	56.3	113		60 - 135
Chloroform	ug/L	50	0	48.7	97		65 - 135
Chloromethane	ug/L	50	0	54.3	109		40 - 125
Dibromochloromethane	ug/L	50	0	50.3	101		60 - 135
Dichlorodifluoromethane	ug/L	50	0	44.9	90		30 - 155

RPD : 0 out of 62 outside limits

Spike Recovery: 0 out of 124 outside limits

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM III VOA-1

Revision 1

3A

WATER VOLATILE LCS/LCSD RECOVERY

Report No: 215102310

Analytical Method: EPA 8260B

Analytical Batch: 571561

Ethylbenzene	ug/L	50	0	52.9	106		75 - 125
Isopropylbenzene (Cumene)	ug/L	50	0	53.8	108		75 - 125
Methylene chloride	ug/L	50	0	49.3	99		55 - 140
Styrene	ug/L	50	0	54.2	108		65 - 135
Tetrachloroethene	ug/L	50	0	49.6	99		45 - 150
Toluene	ug/L	50	0	50.3	101		75 - 120
Trichloroethene	ug/L	50	0	49.4	99		70 - 125
Trichlorofluoromethane	ug/L	50	0	48.9	98		60 - 145
Vinyl acetate	ug/L	50	0	56.5	113		66 - 145
Vinyl chloride	ug/L	50	0	51.3	103		50 - 145
Xylene (total)	ug/L	150	0	157	105		75 - 130
cis-1,2-Dichloroethene	ug/L	50	0	48.1	96		70 - 125
cis-1,3-Dichloropropene	ug/L	50	0	51.9	104		70 - 130
diisopropyl Ether (DIPE)	ug/L	50	0	47	94		60 - 140
m,p-Xylene	ug/L	100	0	106	106		75 - 130
n-Butylbenzene	ug/L	50	0	52.5	105		70 - 135
n-Propylbenzene	ug/L	50	0	51.2	102		70 - 130
o-Xylene	ug/L	50	0	51	102		80 - 120
sec-Butylbenzene	ug/L	50	0	52	104		70 - 125
tert-Butyl methyl ether (MTBE)	ug/L	50	0	47.2	94		65 - 125
tert-Butylbenzene	ug/L	50	0	50.3	101		70 - 130
trans-1,2-Dichloroethene	ug/L	50	0	49.7	99		60 - 140
trans-1,3-Dichloropropene	ug/L	50	0	53.5	107		55 - 140

RPD : 0 out of 62 outside limits

Spike Recovery: 0 out of 124 outside limits

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM III VOA-1

Revision 1

3A

WATER VOLATILE LCS/LCSD RECOVERY

Report No: 215102310

Analytical Method: EPA 8260B

Analytical Batch: 571561

GCAL QC ID: 1505318

ANALYTE	UNITS	SPIKE ADDED	LCSD RESULT	LCSD % REC	#	% RPD	#	QC LIMITS REC	QC LIMITS RPD
1,1,1-Trichloroethane	ug/L	50	43.1	86		9		65 - 130	0 - 30
1,1,2,2-Tetrachloroethane	ug/L	50	45	90		.9		65 - 130	0 - 30
1,1,2-Trichloroethane	ug/L	50	47.1	94		2		75 - 125	0 - 30
1,1-Dichloroethane	ug/L	50	44.5	89		8		70 - 135	0 - 30
1,1-Dichloroethene	ug/L	50	44.4	89		8		70 - 130	0 - 30
1,1-Dichloropropene	ug/L	50	44.5	89		9		75 - 130	0 - 30
1,2,3-Trichlorobenzene	ug/L	50	48.7	97		7		55 - 140	0 - 30
1,2,3-Trichloropropane	ug/L	50	46.2	92		3		75 - 125	0 - 30
1,2,4-Trichlorobenzene	ug/L	50	48.6	97		8		65 - 135	0 - 30
1,2,4-Trimethylbenzene	ug/L	50	48.4	97		8		75 - 130	0 - 30
1,2-Dibromoethane	ug/L	50	48.4	97		6		80 - 120	0 - 30
1,2-Dichlorobenzene	ug/L	50	47.2	94		6		70 - 120	0 - 30
1,2-Dichloroethane	ug/L	50	43.8	88		6		70 - 130	0 - 30
1,2-Dichloropropane	ug/L	50	47.8	96		4		75 - 125	0 - 30
1,3,5-Trimethylbenzene	ug/L	50	48.5	97		6		75 - 130	0 - 30
1,3-Dichlorobenzene	ug/L	50	46.8	94		8		75 - 125	0 - 30
1,3-Dichloropropane	ug/L	50	47.9	96		3		75 - 125	0 - 30
1,4-Dichlorobenzene	ug/L	50	45.8	92		8		75 - 125	0 - 30
2,2-Dichloropropane	ug/L	50	44.6	89		7		70 - 135	0 - 30
2-Butanone	ug/L	50	43.1	86		2		30 - 150	0 - 30
2-Chlorotoluene	ug/L	50	47	94		7		75 - 125	0 - 30
2-Hexanone	ug/L	50	43.7	87		2		55 - 130	0 - 30
4-Chlorotoluene	ug/L	50	46.8	94		7		75 - 130	0 - 30
4-Isopropyltoluene	ug/L	50	47.7	95		9		75 - 130	0 - 30
4-Methyl-2-pentanone	ug/L	50	45.2	90		.9		60 - 135	0 - 30
Acetone	ug/L	50	40.9	82		6		40 - 140	0 - 30
Benzene	ug/L	50	46.4	93		6		80 - 120	0 - 30
Bromobenzene	ug/L	50	44.9	90		5		75 - 125	0 - 30
Bromochloromethane	ug/L	50	46.1	92		9		65 - 130	0 - 30
Bromodichloromethane	ug/L	50	47.2	94		6		75 - 120	0 - 30
Bromoform	ug/L	50	46.8	94		4		70 - 130	0 - 30
Bromomethane	ug/L	50	45.7	91		15		30 - 145	0 - 30
Carbon tetrachloride	ug/L	50	44	88		9		65 - 140	0 - 30
Chlorobenzene	ug/L	50	46.3	93		6		80 - 120	0 - 30
Chloroethane	ug/L	50	45.5	91		21		60 - 135	0 - 30
Chloroform	ug/L	50	45.7	91		6		65 - 135	0 - 30
Chloromethane	ug/L	50	46.1	92		16		40 - 125	0 - 30
Dibromochloromethane	ug/L	50	47.7	95		5		60 - 135	0 - 30

RPD : 0 out of 62 outside limits

Spike Recovery: 0 out of 124 outside limits

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM III VOA-1

Revision 1

3A

WATER VOLATILE LCS/LCSD RECOVERY

Report No: 215102310

Analytical Method: EPA 8260B

Analytical Batch: 571561

Dichlorodifluoromethane	ug/L	50	39.4	79		13		30 - 155	0 - 30
Ethylbenzene	ug/L	50	47.3	95		11		75 - 125	0 - 30
Isopropylbenzene (Cumene)	ug/L	50	48.8	98		10		75 - 125	0 - 30
Methylene chloride	ug/L	50	41.4	83		17		55 - 140	0 - 30
Styrene	ug/L	50	49.8	100		8		65 - 135	0 - 30
Tetrachloroethene	ug/L	50	45.9	92		8		45 - 150	0 - 30
Toluene	ug/L	50	46.4	93		8		75 - 120	0 - 30
Trichloroethene	ug/L	50	46.3	93		6		70 - 125	0 - 30
Trichlorofluoromethane	ug/L	50	41.6	83		16		60 - 145	0 - 30
Vinyl acetate	ug/L	50	53.6	107		5		66 - 145	0 - 30
Vinyl chloride	ug/L	50	42.5	85		19		50 - 145	0 - 30
Xylene (total)	ug/L	150	143	95		9		75 - 130	0 - 30
cis-1,2-Dichloroethene	ug/L	50	45.9	92		5		70 - 125	0 - 30
cis-1,3-Dichloropropene	ug/L	50	48.7	97		6		70 - 130	0 - 30
diisopropyl Ether (DIPE)	ug/L	50	43.2	86		8		60 - 140	0 - 30
m,p-Xylene	ug/L	100	96.2	96		10		75 - 130	0 - 30
n-Butylbenzene	ug/L	50	47.3	95		10		70 - 135	0 - 30
n-Propylbenzene	ug/L	50	47.4	95		8		70 - 130	0 - 30
o-Xylene	ug/L	50	46.4	93		9		80 - 120	0 - 30
sec-Butylbenzene	ug/L	50	47.3	95		9		70 - 125	0 - 30
tert-Butyl methyl ether (MTBE)	ug/L	50	44.7	89		5		65 - 125	0 - 30
tert-Butylbenzene	ug/L	50	46.4	93		8		70 - 130	0 - 30
trans-1,2-Dichloroethene	ug/L	50	44.1	88		12		60 - 140	0 - 30
trans-1,3-Dichloropropene	ug/L	50	49.3	99		8		55 - 140	0 - 30

RPD : 0 out of 62 outside limits

Spike Recovery: 0 out of 124 outside limits

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM III VOA-1

Revision 1

3A

WATER VOLATILE LCS/LCSD RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Analytical Batch: 571544

SAMPLE NO. : 1505251

COMPOUND	UNITS	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS % REC	#	QC. LIMITS
Acetone	ug/L	50	0	45	90		40 - 140
Vinyl acetate	ug/L	50	0	69.3	139		66 - 145

SAMPLE NO. : 1505252

COMPOUND	UNITS	SPIKE ADDED	LCSD CONC.	LCSD % REC	#	% RPD	#	QC. LIMITS REC	QC. LIMITS RPD
Acetone	ug/L	50	45.1	90		.2		40 - 140	0 - 30
Vinyl acetate	ug/L	50	66.6	133		4		66 - 145	0 - 30

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD : 0 out of 2 outside limits

Spike Recovery: 0 out of 4 outside limits

FORM III VOA-1

4A

VOLATILE METHOD BLANK SUMMARY

SAMPLE NO.

MB1505250

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 215102310

Lab File ID: 2151102/k7924

Lab Sample ID: 1505250 Date Extracted:

GC Column: RTX-VMS-30 ID: .25 (mm)

Date Analyzed: 11/02/15 Time: 1643

Instrument ID: MSV9 Matrix: Water

Heated Purge: N

Level:

Prep Batch: Analytical Batch: 571544

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	LCS1505251	1505251	2151102/k7920	11/02/15	1522
2.	LCSD1505252	1505252	2151102/k7921	11/02/15	1542
3.	TB-102115-03	21510231007	2151102/k7925a	11/02/15	1703

FORM IV VOA

Revision 1

4A

VOLATILE METHOD BLANK SUMMARY

SAMPLE NO.

MB1505316

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 215102310

Lab File ID: 2151102p/g9529

Lab Sample ID: 1505316 Date Extracted:

GC Column: RTX-VMS-30 ID: .25 (mm)

Date Analyzed: 11/03/15 Time: 0036

Instrument ID: MSV11 Matrix: Water

Heated Purge: N

Level:

Prep Batch: Analytical Batch: 571561

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	LCS1505317	1505317	2151102p/g9525	11/02/15	2245
2.	LCSD1505318	1505318	2151102p/g9526	11/02/15	2306
3.	EB-102215-03	21510231005	2151102p/g9538	11/03/15	0347
4.	305-MW4-01	21510231006	2151102p/g9539	11/03/15	0408

FORM IV VOA

Revision 1

4A

VOLATILE METHOD BLANK SUMMARY

SAMPLE NO.

MB1505413

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 215102310

Lab File ID: 2151103/g9556

Lab Sample ID: 1505413 Date Extracted:

GC Column: RTX-VMS-30 ID: .25 (mm)

Date Analyzed: 11/03/15 Time: 1025

Instrument ID: MSV11 Matrix: Water

Heated Purge: N

Level:

Prep Batch: Analytical Batch: 571590

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	LCS1505414	1505414	2151103/g9552L	11/03/15	0900
2.	LCSD1505415	1505415	2151103/g9553	11/03/15	0922
3.	305-MW4-14	21510231001	2151103/g9558	11/03/15	1110
4.	305-MW4-13	21510231002	2151103/g9559	11/03/15	1131
5.	305-MW4-140	21510231003	2151103/g9560	11/03/15	1152
6.	305-18MW16	21510231004	2151103/g9561	11/03/15	1213

FORM IV VOA

Revision 1

4A

VOLATILE METHOD BLANK SUMMARY

SAMPLE NO.

MB1505555

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 215102310

Lab File ID: 2151103/j3878d

Lab Sample ID: 1505555 Date Extracted:

GC Column: RTX-VMS-30 ID: .25 (mm

Date Analyzed: 11/03/15 Time: 1333

Instrument ID: MSV8 Matrix: Water

Heated Purge: N

Level:

Prep Batch: Analytical Batch: 571628

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	LCS1505556	1505556	2151103/j3874d	11/03/15	1209
2.	LCSD1505557	1505557	2151103/j3875d	11/03/15	1235
3.	TB-102115-03RE	21510231007RE	2151103/j3879A	11/03/15	1353

FORM IV VOA

Revision 1

5A

VOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 215102310

Lab File ID: 2151030/j3672D

BFB Injection Date: 10/30/15

Instrument ID: MSV8

BFB Injection Time: 1135

GC Column: RTX-VMS-30 ID: .25 (mm)

Analytical Batch: 571437

m / e	ION ABUNDANCE CRITERIA	% Relative Abundance			
50	15.0 - 40.0% of mass 95	24.2	(	)	
75	30.0 - 60.0% of mass 95	54.09	(	)	
95	Base Peak, 100% relative abundance	100	(	)	
96	5.0 -9.0% of mass 95	6.14	(	)	
173	Less than 2.0% of mass 174	0	(0	)	1
174	50.0 - 120.0% of mass 95	70.66	(	)	
175	5.0 - 9.0% of mass 174	5.54	(7.85	)	1
176	95.0 - 101.0% of mass 174	68.52	(96.98	)	1
177	5.0 - 9.0% of mass 176	4.43	(6.47	)	2

1- Value is % mass 174

2- Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	V8STD001	1203	2151030/j3675D	10/30/15	1308
2.	V8STD005	1204	2151030/j3676D	10/30/15	1328
3.	V8STD010	1205	2151030/j3677D	10/30/15	1347
4.	V8STD020	1206	2151030/j3678D	10/30/15	1407
5.	V8STD050	1207	2151030/j3679D	10/30/15	1426
6.	V8STD100	1208	2151030/j3681D	10/30/15	1505
7.	V8STD200	1209	2151030/j3683D	10/30/15	1544
8.	V8ICV050	1600	2151030/j3686D	10/30/15	1711

FORM V VOA

Revision 1

5A

VOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 215102310

Lab File ID: 2151103/j3870d

BFB Injection Date: 11/03/15

Instrument ID: MSV8

BFB Injection Time: 0938

GC Column: RTX-VMS-30 ID: .25 (mm

Analytical Batch: 571628

m / e	*ION ABUNDANCE CRITERIA*	*% Relative Abundance*			
50	15.0 - 40.0% of mass 95	25.22	(	)	
75	30.0 - 60.0% of mass 95	54.92	(	)	
95	Base Peak, 100% relative abundance	100	(	)	
96	5.0 -9.0% of mass 95	6.44	(	)	
173	Less than 2.0% of mass 174	.51	(.78	)	1
174	50.0 - 120.0% of mass 95	66.04	(	)	
175	5.0 - 9.0% of mass 174	5.23	(7.92	)	1
176	95.0 - 101.0% of mass 174	63.5	(96.16	)	1
177	5.0 - 9.0% of mass 176	4.1	(6.47	)	2

1- Value is % mass 174 2- Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	SAMPLE NO.	*LAB SAMPLE ID*	*LAB FILE ID*	*DATE ANALYZED*	*TIME ANALYZED*
1.	V8STD050	1400	2151103/j3873d	11/03/15	1149
2.	LCS1505556	1505556	2151103/j3874d	11/03/15	1209
3.	LCSD1505557	1505557	2151103/j3875d	11/03/15	1235
4.	MB1505555	1505555	2151103/j3878d	11/03/15	1333
5.	TB-102115-03RE	21510231007RE	2151103/j3879A	11/03/15	1353

FORM V VOA

Revision 1

5A

VOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 215102310

Lab File ID: 2151102/k7905b

BFB Injection Date: 11/02/15

Instrument ID: MSV9

BFB Injection Time: 0906

GC Column: RTX-VMS-30 ID: .25 (mm)

Analytical Batch: 571544

m / e	ION ABUNDANCE CRITERIA	% Relative Abundance			
50	15.0 - 40.0% of mass 95	20.51	(	)	
75	30.0 - 60.0% of mass 95	48.72	(	)	
95	Base Peak, 100% relative abundance	100	(	)	
96	5.0 -9.0% of mass 95	6.73	(	)	
173	Less than 2.0% of mass 174	.26	(.35	)	1
174	50.0 - 120.0% of mass 95	75.04	(	)	
175	5.0 - 9.0% of mass 174	5.68	(7.57	)	1
176	95.0 - 101.0% of mass 174	74.22	(98.91	)	1
177	5.0 - 9.0% of mass 176	4.87	(6.57	)	2

1- Value is % mass 174 2- Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	V9STD001	1203	2151102/k7908d	11/02/15	1053
2.	V9STD005	1204	2151102/k7910d	11/02/15	1133
3.	V9STD010	1205	2151102/k7911d	11/02/15	1153
4.	V9STD020	1206	2151102/k7912d	11/02/15	1213
5.	V9STD050	1207	2151102/k7913d	11/02/15	1234
6.	V9STD100	1208	2151102/k7915d	11/02/15	1314
7.	V9STD200	1209	2151102/k7917d	11/02/15	1354
8.	ICV050	1600	2151102/k7919d	11/02/15	1434
9.	LCS1505251	1505251	2151102/k7920	11/02/15	1522
10.	LCSD1505252	1505252	2151102/k7921	11/02/15	1542
11.	MB1505250	1505250	2151102/k7924	11/02/15	1643
12.	TB-102115-03	21510231007	2151102/k7925a	11/02/15	1703

FORM V VOA

Revision 1

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VOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 215102310

Lab File ID: 2151101/g9454d

BFB Injection Date: 11/01/15

Instrument ID: MSV11

BFB Injection Time: 1153

GC Column: RTX-VMS-30 ID: .25 (mm)

Analytical Batch: 571466

m / e	*ION ABUNDANCE CRITERIA*	*% Relative Abundance*			
50	15.0 - 40.0% of mass 95	18.93	(	)	
75	30.0 - 60.0% of mass 95	52.26	(	)	
95	Base Peak, 100% relative abundance	100	(	)	
96	5.0 -9.0% of mass 95	7.2	(	)	
173	Less than 2.0% of mass 174	.88	(.93	)	1
174	50.0 - 120.0% of mass 95	95.22	(	)	
175	5.0 - 9.0% of mass 174	7.62	(8.01	)	1
176	95.0 - 101.0% of mass 174	90.85	(95.42	)	1
177	5.0 - 9.0% of mass 176	5.67	(6.25	)	2

1- Value is % mass 174 2- Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	SAMPLE NO.	*LAB SAMPLE ID*	*LAB FILE ID*	*DATE ANALYZED*	*TIME ANALYZED*
1.	V11STD001	1203	2151101/g9455d	11/01/15	1246
2.	V11STD005	1204	2151101/g9456d	11/01/15	1307
3.	V11STD010	1205	2151101/g9457d	11/01/15	1328
4.	V11STD020	1206	2151101/g9458d	11/01/15	1349
5.	V11STD050	1207	2151101/g9459d	11/01/15	1410
6.	V11STD100	1208	2151101/g9461d	11/01/15	1453
7.	V11STD200	1209	2151101/g9463d	11/01/15	1535
8.	ICV050	1600	2151101/g9465d	11/01/15	1617

FORM V VOA

Revision 1

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VOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 215102310

Lab File ID: 2151102p/g9521

BFB Injection Date: 11/02/15

Instrument ID: MSV11

BFB Injection Time: 1938

GC Column: RTX-VMS-30 ID: .25 (mm)

Analytical Batch: 571561

m / e	ION ABUNDANCE CRITERIA	% Relative Abundance			
50	15.0 - 40.0% of mass 95	19.32	(	)	
75	30.0 - 60.0% of mass 95	49.94	(	)	
95	Base Peak, 100% relative abundance	100	(	)	
96	5.0 -9.0% of mass 95	7.19	(	)	
173	Less than 2.0% of mass 174	1.25	(1.32	)	1
174	50.0 - 120.0% of mass 95	94.92	(	)	
175	5.0 - 9.0% of mass 174	7.42	(7.82	)	1
176	95.0 - 101.0% of mass 174	91.27	(96.16	)	1
177	5.0 - 9.0% of mass 176	6.09	(6.68	)	2

1- Value is % mass 174

2- Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	LCS1505317	1505317	2151102p/g9525	11/02/15	2245
2.	V11STD050	1400	2151102p/g9525	11/02/15	2245
3.	LCSD1505318	1505318	2151102p/g9526	11/02/15	2306
4.	MB1505316	1505316	2151102p/g9529	11/03/15	0036
5.	EB-102215-03	21510231005	2151102p/g9538	11/03/15	0347
6.	305-MW4-01	21510231006	2151102p/g9539	11/03/15	0408

FORM V VOA

Revision 1

5A

VOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 215102310

Lab File ID: 2151103/g9551

BFB Injection Date: 11/03/15

Instrument ID: MSV11

BFB Injection Time: 0822

GC Column: RTX-VMS-30 ID: .25 (mm)

Analytical Batch: 571590

m / e	ION ABUNDANCE CRITERIA	% Relative Abundance			
50	15.0 - 40.0% of mass 95	17.93	(	)	
75	30.0 - 60.0% of mass 95	51.34	(	)	
95	Base Peak, 100% relative abundance	100	(	)	
96	5.0 -9.0% of mass 95	6	(	)	
173	Less than 2.0% of mass 174	1.36	(1.42	)	1
174	50.0 - 120.0% of mass 95	95.9	(	)	
175	5.0 - 9.0% of mass 174	6.67	(6.96	)	1
176	95.0 - 101.0% of mass 174	91.51	(95.43	)	1
177	5.0 - 9.0% of mass 176	5.93	(6.49	)	2

1- Value is % mass 174 2- Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	LCS1505414	1505414	2151103/g9552L	11/03/15	0900
2.	V11STD050	1400	2151103/g9552	11/03/15	0900
3.	LCSD1505415	1505415	2151103/g9553	11/03/15	0922
4.	MB1505413	1505413	2151103/g9556	11/03/15	1025
5.	305-MW4-14	21510231001	2151103/g9558	11/03/15	1110
6.	305-MW4-13	21510231002	2151103/g9559	11/03/15	1131
7.	305-MW4-140	21510231003	2151103/g9560	11/03/15	1152
8.	305-18MW16	21510231004	2151103/g9561	11/03/15	1213

FORM V VOA

Revision 1

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 30-OCT-2015 13:08
End Cal Date : 30-OCT-2015 15:44
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv8.i/2151030.s.b/8260dodw8.m
Cal Date : 05-Nov-2015 10:06 rbm

Calibration File Names:
Level 3: /var/chem/msv8.i/2151030.s.b/j3675D.d
Level 4: /var/chem/msv8.i/2151030.s.b/j3676D.d
Level 5: /var/chem/msv8.i/2151030.s.b/j3677D.d
Level 6: /var/chem/msv8.i/2151030.s.b/j3678D.d
Level 7: /var/chem/msv8.i/2151030.s.b/j3679D.d
Level 8: /var/chem/msv8.i/2151030.s.b/j3681D.d
Level 9: /var/chem/msv8.i/2151030.s.b/j3683D.d

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
1 Dichlorodifluoromethane	0.20453	0.25329	0.25586	0.24080	0.25207	0.24882						
	0.24137						AVRG		0.24239		7.28691	
2 Chloromethane ++	0.35446	0.31395	0.31716	0.30084	0.30627	0.28423						
	0.29238						AVRG		0.30990		7.35358	
3 1-3 Butadiene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
4 Vinyl Chloride +	0.36264	0.32109	0.34743	0.32120	0.34839	0.33671						
	0.33211						AVRG		0.33851		4.52304	

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 30-OCT-2015 13:08
End Cal Date : 30-OCT-2015 15:44
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv8.i/2151030.s.b/8260dodw8.m
Cal Date : 05-Nov-2015 10:06 rbm

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
5 Bromomethane	0.12213 0.14346	0.10225	0.10563	0.10883	0.11993	0.13006	AVRG		0.11890		12.35199	
6 Chloroethane	0.22821 0.16192	0.21379	0.21708	0.20286	0.22088	0.21799	AVRG		0.20896		10.58084	
9 Trichlorofluoromethane	0.33700 0.32725	0.34030	0.33316	0.31344	0.32602	0.33023	AVRG		0.32963		2.66150	
12 Ethyl Ether	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
13 1,1-Dichloroethene +	0.20902 0.20510	0.20912	0.19895	0.19433	0.20724	0.20688	AVRG		0.20438		2.74904	
19 1,1,2Trichlotrifluoroethane	0.19125 0.19426	0.21197	0.19515	0.18772	0.19985	0.19970	AVRG		0.19713		3.98074	
21 Carbon Disulfide	0.84101 0.74861	0.74207	0.74878	0.69572	0.76276	0.76700	AVRG		0.75799		5.72541	

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 30-OCT-2015 13:08
End Cal Date : 30-OCT-2015 15:44
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv8.i/2151030.s.b/8260dodw8.m
Cal Date : 05-Nov-2015 10:06 rbm

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
14 Methyl Iodide	+++++	3006	8088	20292	75563	208171						
	565292						QUAD	0.13761	8.81354	-4.48948	0.99837	
8 Acrolein	+++++	0.01368	0.01469	0.01439	0.01518	0.01613						
	0.01549						AVRG		0.01493		5.77493	
17 Allyl chloride	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
18 Methylene Chloride	0.51884	0.44433	0.43669	0.40774	0.41889	0.41843						
	0.40699						AVRG		0.43599		8.96862	
156 Ethanol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
71 Acetone	0.12520	0.12931	0.11811	0.10995	0.11435	0.11742						
	0.11335						AVRG		0.11824		5.77156	
10 Methyl Acetate	0.42051	0.34951	0.33356	0.31026	0.33370	0.33853						
	0.31533						AVRG		0.34306		10.69896	

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 30-OCT-2015 13:08
End Cal Date : 30-OCT-2015 15:44
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv8.i/2151030.s.b/8260dodw8.m
Cal Date : 05-Nov-2015 10:06 rbm

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
22 trans-1,2-Dichloroethene	0.38582	0.37948	0.37680	0.36225	0.39120	0.39270						
	0.38339						AVRG		0.38166		2.70208	
32 Hexane	0.62178	0.58545	0.58253	0.55058	0.60101	0.61069						
	0.58409						AVRG		0.59088		3.92005	
25 MTBE	0.84895	0.86947	0.84781	0.82816	0.87871	0.88714						
	0.84843						AVRG		0.85838		2.41409	
15 tert-Butyl Alcohol	+++++	0.03901	0.04021	0.03512	0.03810	0.03824						
	0.03559						AVRG		0.03771		5.24997	<-
10 Acetonitrile	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
28 Isopropyl Ether	0.95103	0.95067	0.95036	0.90981	0.95667	0.99295						
	0.95538						AVRG		0.95241		2.53368	
17 Chloroprene	5528	27425	55665	109051	285531	617394						
	1223327						LINR	0.00956	0.35925		0.99957	

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 30-OCT-2015 13:08
End Cal Date : 30-OCT-2015 15:44
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv8.i/2151030.s.b/8260dodw8.m
Cal Date : 05-Nov-2015 10:06 rbm

	Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
	26 1,1-Dichloroethane ++	0.55949 0.52759	0.55070	0.54181	0.51444	0.54775	0.54680	AVRG		0.54122		2.82326
	16 Acrylonitrile	0.10861 0.12414	0.11835	0.12702	0.12153	0.12950	0.13092	AVRG		0.12287		6.24309
	29 Vinyl Acetate	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00
	23 cis-1,2-Dichloroethene	0.39978 0.39979	0.39194	0.39395	0.37519	0.41017	0.41510	AVRG		0.39799		3.27683
M	80 Total 1,2-Dichloroethene	0.39280 0.39159	0.38571	0.38537	0.36872	0.40068	0.40390	AVRG		0.38982		2.98080
	28 2,2-Dichloropropane	0.40489 0.40726	0.41559	0.40688	0.38442	0.42438	0.42784	AVRG		0.41018		3.52406
	18 Cyclohexane	0.45371 0.50302	0.48054	0.48499	0.46256	0.51157	0.51834	AVRG		0.48782		5.01346

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 30-OCT-2015 13:08
End Cal Date : 30-OCT-2015 15:44
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv8.i/2151030.s.b/8260dodw8.m
Cal Date : 05-Nov-2015 10:06 rbm

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
36 Bromochloromethane	0.08431	0.11152	0.10842	0.10212	0.10800	0.10520						
	0.10101						AVRG		0.10294		8.74056	
37 Chloroform +	0.47352	0.45749	0.44229	0.43047	0.45543	0.45646						
	0.43898						AVRG		0.45066		3.18962	
35 Tetrahydrofuran	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
53 Ethyl Acetate	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
46 Carbon Tetrachloride	0.28608	0.27857	0.28431	0.27399	0.29420	0.29923						
	0.28936						AVRG		0.28654		3.03548	
23 1,1,1-Trichloroethane	0.37236	0.35546	0.36025	0.34782	0.36945	0.37060						
	0.35473						AVRG		0.36152		2.61158	
18 2-Butanone	0.29696	0.26797	0.26988	0.24935	0.27157	0.27896						
	0.26211						AVRG		0.27097		5.42324	

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 30-OCT-2015 13:08
End Cal Date : 30-OCT-2015 15:44
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv8.i/2151030.s.b/8260dodw8.m
Cal Date : 05-Nov-2015 10:06 rbm

Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
44 1,1-Dichloropropene	0.35077 0.35861	0.35284	0.35123	0.34474	0.36869	0.37400	AVRG		0.35727		2.95227	
54 2,2,4 Trimethylpentane	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
24 Propionitrile	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
30 Methylacrylonitrile	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
47 Benzene	1.23938 1.10364	1.17465	1.13323	1.08826	1.15051	1.14953	AVRG		1.14846		4.32788	
74 Isobutyl Alcohol	0.01669 0.02055	0.01898	0.01942	0.01704	0.02045	0.02142	AVRG		0.01922		9.34688	
41 sec-butanol	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 30-OCT-2015 13:08
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Integrator : HP RTE
Method file : /var/chem/msv8.i/2151030.s.b/8260dodw8.m
Cal Date : 05-Nov-2015 10:06 rbm

Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
42 1,2-Dichloroethane	0.43742 0.39271	0.42715	0.41169	0.38088	0.40944	0.41089	AVRG		0.41002		4.66660	
7 2-Chloropropene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
57 Trichloroethene	0.26388 0.24138	0.25959	0.24122	0.23140	0.24821	0.24910	AVRG		0.24783		4.52031	
61 Methyl Cyclohexane	0.39763 0.41903	0.39737	0.41568	0.38943	0.42559	0.43322	AVRG		0.41114		3.99992	
40 n-Butanol	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
112 Ethyl Tert-butyl Ether	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
5 Dibromomethane	0.15196 0.16728	0.16474	0.15629	0.15042	0.16920	0.16816	AVRG		0.16115		4.98775	

GCAL, Inc.

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Method file : /var/chem/msv8.i/2151030.s.b/8260dodw8.m
Cal Date : 05-Nov-2015 10:06 rbm

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
48 2-3 Dichloro-1-Proprene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
56 1,2-Dichloropropane +	0.30514	0.32923	0.30513	0.30547	0.32192	0.32814						
	0.31433						AVRG		0.31562		3.43753	
58 Bromodichloromethane	0.35126	0.35206	0.35532	0.34084	0.36935	0.37374						
	0.36105						AVRG		0.35766		3.16153	
52 Methyl methacrylate	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
51 1,4- Dioxane	0.00305	0.00310	0.00307	0.00267	0.00311	0.00333						
	0.00306						AVRG		0.00306		6.39638	
28 1-Bromo-2-chloroethane	0.46472	0.44590	0.45185	0.42479	0.46235	0.46997						
	0.45502						AVRG		0.45352		3.32255	
62 2-Chloroethyl vinyl ether	2304	13883	31439	63015	183000	372107						
	748853						LINR	0.01714	0.22020		0.99966	

GCAL, Inc.

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Start Cal Date : 30-OCT-2015 13:08
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Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv8.i/2151030.s.b/8260dodw8.m
Cal Date : 05-Nov-2015 10:06 rbm

Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
63 cis-1,3-Dichloropropene	0.42038 0.48951	0.44362	0.45474	0.44270	0.48903	0.50019	AVRG		0.46288		6.50269	
70 Toluene +	2.97187 2.47983	2.83177	2.79774	2.61294	2.72829	2.67685	AVRG		2.72847		5.84388	
154 Tert-butyl formate	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
49 2-Nitropropane	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
162 Heptane	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
25 4-methyl-2-pentanone	1.02044 0.97773	0.96340	0.99783	0.91945	1.03440	1.04151	AVRG		0.99354		4.37947	
78 Tetrachloroethene	0.50481 0.36899	0.39408	0.41462	0.37001	0.39006	0.38545	AVRG		0.40400		11.65094	

GCAL, Inc.

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv8.i/2151030.s.b/8260dodw8.m
Cal Date : 05-Nov-2015 10:06 rbm

	Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
	66 trans-1,3-Dichloropropene	0.38871	0.40176	0.41397	0.40962	0.45946	0.47418						
		0.47047						AVRG		0.43117		8.26658	
M	87 1-3 Dichloropropene total	0.40455	0.42269	0.43436	0.42616	0.47425	0.48719						
		0.47999						AVRG		0.44703		7.32494	
	64 Ethyl Methacrylate	+++++	+++++	+++++	+++++	+++++	+++++						
		+++++						AVRG		0.000e+00		0.000e+00	<-
	67 1,1,2-Trichloroethane	0.61428	0.56550	0.59782	0.54869	0.58911	0.57912						
		0.54309						AVRG		0.57680		4.50844	
	153 tert-amyl Methyl Ether	+++++	+++++	+++++	+++++	+++++	+++++						
		+++++						AVRG		0.000e+00		0.000e+00	<-
	28 Dibromochloromethane	0.51387	0.52761	0.55949	0.51971	0.57675	0.58628						
		0.56019						AVRG		0.54913		5.22774	
	11 1,3-Dichloropropane	1.13444	1.13008	1.18899	1.09119	1.16895	1.15628						
		1.07956						AVRG		1.13564		3.51029	

GCAL, Inc.

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Start Cal Date : 30-OCT-2015 13:08
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Method file : /var/chem/msv8.i/2151030.s.b/8260dodw8.m
Cal Date : 05-Nov-2015 10:06 rbm

Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
155 Tert-amyl alcohol	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
59 1-Nitropropane	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
74 1,2-Dibromoethane(EDB)	0.57058 0.54979	0.53841	0.58010	0.52974	0.58093	0.58097	AVRG		0.56150		3.89104	
73 2-Hexanone	0.88452 0.76495	0.72040	0.74280	0.71238	0.80345	0.81408	AVRG		0.77751		7.84595	
86 1-Chlorohexane	0.87326 0.79939	0.79693	0.79642	0.72758	0.80190	0.79905	AVRG		0.79922		5.26780	
28 Chlorobenzene ++	1.76436 1.54647	1.72065	1.69454	1.58484	1.63763	1.63678	AVRG		1.65504		4.62589	
18 Ethylbenzene +	0.94824 0.84404	0.90560	0.87444	0.83682	0.89310	0.87948	AVRG		0.88310		4.28834	

GCAL, Inc.

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Method file : /var/chem/msv8.i/2151030.s.b/8260dodw8.m
Cal Date : 05-Nov-2015 10:06 rbm

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
82 1,1,1,2-Tetrachloroethane	0.49093	0.50632	0.51007	0.48420	0.51411	0.52092						
	0.49949						AVRG		0.50372		2.58019	
89 p,m-Xylene	1.04828	1.08443	1.09455	1.04041	1.10466	1.11422						
	1.06351						AVRG		1.07858		2.63387	
93 o-Xylene	1.05347	0.99219	1.04330	0.98469	1.07621	1.07521						
	1.02993						AVRG		1.03643		3.54534	
M 120 TOTAL XYLENE	1.05001	1.05368	1.07747	1.02183	1.09518	1.10122						
	1.05232						AVRG		1.06453		2.64402	
157 1,3-difluorobenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
251 Styrene	1.49660	1.59994	1.73667	1.67988	1.87000	1.89315						
	1.82192						AVRG		1.72831		8.47050	
260 Bromoform ++	0.39564	0.38067	0.37802	0.36049	0.40102	0.41665						
	0.40271						AVRG		0.39074		4.81309	

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Method file : /var/chem/msv8.i/2151030.s.b/8260dodw8.m
Cal Date : 05-Nov-2015 10:06 rbm

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
158 1,4-difluorobenzene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
81 1-3 Diethylbenzene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
96 Isopropylbenzene	2.55489 2.59358	2.65926	2.67734	2.60158	2.76774	2.75044	AVRG		2.65783		3.03058	
79 1-4 Diethylbenzene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
159 1,2-difluorobenzene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
M 161 Total Difluorobenzene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
77 1-2 Diethylbenzene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-

GCAL, Inc.

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Integrator : HP RTE
Method file : /var/chem/msv8.i/2151030.s.b/8260dodw8.m
Cal Date : 05-Nov-2015 10:06 rbm

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
M 121 Total Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
98 Bromobenzene	2.13046	1.98071	1.91501	1.78921	1.86330	1.88290						
	1.81627						AVRG		1.91112		6.03861	
100 n-Propylbenzene	4.46829	4.40574	4.43463	4.09755	4.32541	4.27865						
	4.02839						AVRG		4.29124		3.95647	
92 1,1,2,2-Tetrachloroethane++	1.13738	1.15762	1.17636	1.07446	1.13363	1.13780						
	1.06492						AVRG		1.12602		3.67072	
101 2-Chlorotoluene	2.80235	2.71321	2.70254	2.51358	2.62279	2.59068						
	2.48287						AVRG		2.63258		4.34882	
104 1,3,5-Trimethylbenzene	2.82569	2.83586	2.88687	2.77858	2.90148	2.91396						
	2.79021						AVRG		2.84752		1.89794	
118 Cyclohexanone	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-

GCAL, Inc.

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Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
94 1,2,3-Trichloropropane	1.08683	1.11667	1.10417	0.98751	1.03633	1.04536						
	1.00297						AVRG		1.05426		4.73237	
95 trans-1,4-Dichloro-2-Butene	0.32698	0.32069	0.34922	0.33114	0.37595	0.39356						
	0.37625						AVRG		0.35340		8.10689	
102 4-Chlorotoluene	2.71689	2.70138	2.68781	2.53295	2.67046	2.67926						
	2.54742						AVRG		2.64803		2.84347	
84 Pentachloroethane	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
105 tert-butylbenzene	1.59264	1.55273	1.57610	1.55269	1.60350	1.60776						
	1.54622						AVRG		1.57595		1.64113	
108 1,2,4-Trimethylbenzene	2.85772	2.88362	2.94361	2.84004	2.99756	2.99585						
	2.85540						AVRG		2.91054		2.32477	
107 sec-Butylbenzene	3.56761	3.48547	3.53793	3.37462	3.53183	3.50143						
	3.29612						AVRG		3.47071		2.84550	

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Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
112 Dicyclopentadiene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
111 p-Isopropyltoluene	2.84441 / 2.80353	2.78610	2.84036	2.76396	2.94843	2.94992	AVRG		2.84810		2.62025	
108 1,3-Dichlorobenzene	1.71610 / 1.48817	1.57623	1.56207	1.48692	1.55712	1.54986	AVRG		1.56235		4.90292	
99 Benzal Chloride	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
110 1,4-Dichlorobenzene	1.84901 / 1.50784	1.63213	1.63726	1.50380	1.58886	1.57022	AVRG		1.61273		7.25104	
114 n-Butylbenzene	2.72808 / 2.70141	2.68919	2.73089	2.67031	2.86234	2.83143	AVRG		2.74481		2.67385	
100 Methyldisulfide	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-

GCAL, Inc.

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Cal Date : 05-Nov-2015 10:06 rbm

Compound	1 Level 3< 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
113 1,2-Dichlorobenzene	1.66922	1.52521	1.50990	1.47459	1.52610	1.51884						
	1.45367						AVRG		1.52536		4.53375	
151 3,3 Dimethyl-1-butanol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
69 3-ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
115 1,2-Dibromo-3-Chloropropane	545	5589	11101	23069	65680	139086						
	284976						LINR	0.01100	0.22516		0.99970	
118 Hexachlorobutadiene	0.27624	0.28789	0.31727	0.29799	0.32460	0.31297						
	0.30475						AVRG		0.30310		5.62193	
116 1,2,4-Trichlorobenzene	0.71318	0.72394	0.81548	0.78650	0.89390	0.92074						
	0.91673						AVRG		0.82435		10.69240	
117 Naphthalene	9618	66117	145583	307274	914485	1952070						
	3978964						LINR	0.01934	3.15495		0.99951	

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GCAL, Inc.

INITIAL CALIBRATION DATA

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Integrator : HP RTE
Method file : /var/chem/msv8.i/2151030.s.b/8260dodw8.m
Cal Date : 05-Nov-2015 10:06 rbm

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
119 1,2,3-Trichlorobenzene	0.61846	0.72856	0.76983	0.77310	0.87255	0.88442						
	0.87874						AVRG		0.78938		12.40103	
75 2-ethyltoluene	*****	*****	*****	*****	*****	*****						
	*****						AVRG		0.000e+00		0.000e+00	<-
103 2-methylnapthalene	*****	*****	*****	*****	*****	*****						
	*****						AVRG		0.000e+00		0.000e+00	<-
$ 39 Dibromofluoromethane	0.21441	0.21481	0.21625	0.21657	0.21844	0.21990						
	0.21982						AVRG		0.21717		1.03733	
$ 41 1,2-Dichloroethane-d4	0.16742	0.16797	0.16795	0.16613	0.16673	0.16630						
	0.16695						AVRG		0.16707		0.44445	
$ 48 Toluene-d8	2.30630	2.27193	2.29666	2.24206	2.21604	2.16597						
	2.12228						AVRG		2.23161		3.06383	
$ 57 Bromofluorobenzene	0.57962	0.57829	0.58561	0.58172	0.58678	0.57120						
	0.57205						AVRG		0.57932		1.04742	

Data File: /var/chem/msv8.i/2151030.s.b/j3686D.d
Report Date: 05-Nov-2015 10:06

GCAL, Inc.

RECOVERY REPORT

Client Name:
Sample Matrix: LIQUID
Lab Smp Id: 1600
Level: LOW
Data Type: MS DATA
SpikeList File: 8260+A9ICV.spk
Sublist File: 8260b+A9-1.sub
Method File: /var/chem/msv8.i/2151030.s.b/8260dodw8.m
Misc Info: MSV~34709~*1*CJR

Client SDG: 2151030.s
Fraction: VOA
Client Smp ID: V8ICV050
Operator: JCK
SampleType: LCS
Quant Type: ISTD

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
1 Dichlorodifluoromethane	50.0	40.9	81.77	80-120
2 Chloromethane ++	50.0	44.9	89.83	80-120
3 Vinyl Chloride +	50.0	47.2	94.38	80-120
5 Bromomethane	50.0	54.2	108.33	80-120
6 Chloroethane	50.0	49.1	98.19	80-120
9 Trichlorofluoromethane	50.0	45.1	90.24	80-120
13 1,1-Dichloroethene +	50.0	48.5	97.02	80-120
19 1,1,2Trichlotrifluoroethane	50.0	48.7	97.33	80-120
21 Carbon Disulfide	50.0	48.1	96.10	80-120
14 Methyl Iodide	50.0	46.7	93.36	80-120
18 Methylene Chloride	50.0	44.7	89.32	80-120
11 Acetone	50.0	47.3	94.52	80-120
20 Methyl Acetate	50.0	45.5	90.94	80-120
22 trans-1,2-Dichloroethene	50.0	49.8	99.55	80-120
8 Acrolein	250	290	116.12	80-120
25 MTBE	50.0	49.8	99.60	80-120
26 1,1-Dichloroethane ++	50.0	48.0	95.92	80-120
23 cis-1,2-Dichloroethene	50.0	50.4	100.79	80-120
38 2,2-Dichloropropane	50.0	50.2	100.35	80-120
36 Bromochloromethane	50.0	52.0	103.99	80-120
45 Cyclohexane	50.0	48.8	97.56	80-120
37 Chloroform +	50.0	49.4	98.85	80-120
46 Carbon Tetrachloride	50.0	49.7	99.47	80-120
43 1,1,1-Trichloroethane	50.0	50.0	100.05	80-120
29 Vinyl Acetate	50.0	0.00	0.00*	80-120
33 2-Butanone	50.0	50.2	100.43	80-120
44 1,1-Dichloropropene	50.0	52.1	104.13	80-120
16 Acrylonitrile	250	260	103.88	80-120
47 Benzene	50.0	48.0	96.06	80-120
42 1,2-Dichloroethane	50.0	49.2	98.49	80-120
57 Trichloroethene	50.0	49.4	98.83	80-120
61 Methyl Cyclohexane	50.0	49.6	99.17	80-120
55 Dibromomethane	50.0	50.0	99.99	80-120

AA

SPIKE	COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
56	1,2-Dichloropropane +	50.0	49.9	99.85	80-120
58	Bromodichloromethane	50.0	51.0	101.91	80-120
62	2-Chloroethyl vinyl ether	50.0	53.8	107.65	80-120
63	cis-1,3-Dichloropropene	50.0	52.7	105.43	80-120
70	Toluene +	50.0	48.7	97.48	80-120
65	4-methyl-2-pentanone	50.0	50.1	100.18	80-120
78	Tetrachloroethene	50.0	49.0	97.93	80-120
66	trans-1,3-Dichloropropene	50.0	54.1	108.15	80-120
67	1,1,2-Trichloroethane	50.0	51.8	103.53	80-120
72	Dibromochloromethane	50.0	52.3	104.56	80-120
71	1,3-Dichloropropane	50.0	51.2	102.43	80-120
74	1,2-Dibromoethane(EDB)	50.0	51.8	103.54	80-120
73	2-Hexanone	50.0	51.3	102.63	80-120
86	1-Chlorohexane	50.0	49.2	98.39	80-120
85	Chlorobenzene ++	50.0	50.3	100.62	80-120
88	Ethylbenzene +	50.0	51.4	102.88	80-120
82	1,1,1,2-Tetrachloroethane	50.0	53.5	107.02	80-120
89	p,m-Xylene	100	104	103.86	80-120
93	o-Xylene	50.0	53.1	106.27	80-120
91	Styrene	50.0	55.1	110.23	80-120
90	Bromoform ++	50.0	54.3	108.52	80-120
96	Isopropylbenzene	50.0	52.0	104.08	80-120
98	Bromobenzene	50.0	49.6	99.27	80-120
100	n-Propylbenzene	50.0	51.5	102.94	80-120
92	1,1,2,2-Tetrachloroethane++	50.0	53.1	106.13	80-120
101	2-Chlorotoluene	50.0	49.7	99.32	80-120
104	1,3,5-Trimethylbenzene	50.0	52.0	104.03	80-120
94	1,2,3-Trichloropropane	50.0	51.3	102.60	80-120
102	4-Chlorotoluene	50.0	52.0	104.04	80-120
105	tert-butylbenzene	50.0	51.8	103.59	80-120
106	1,2,4-Trimethylbenzene	50.0	52.1	104.19	80-120
107	sec-Butylbenzene	50.0	51.6	103.28	80-120
111	p-Isopropyltoluene	50.0	51.9	103.78	80-120
108	1,3-Dichlorobenzene	50.0	51.8	103.68	80-120
95	trans-1,4-Dichloro-2-Butene	50.0	56.3	112.69	80-120
110	1,4-Dichlorobenzene	50.0	50.7	101.38	80-120
114	n-Butylbenzene	50.0	53.7	107.32	80-120
113	1,2-Dichlorobenzene	50.0	51.6	103.26	80-120
115	1,2-Dibromo-3-Chloropropane	50.0	50.9	101.89	80-120
118	Hexachlorobutadiene	50.0	56.9	113.80	80-120
116	1,2,4-Trichlorobenzene	50.0	56.9	113.81	80-120
117	Naphthalene	50.0	51.2	102.36	80-120
119	1,2,3-Trichlorobenzene	50.0	57.6	115.12	80-120
15	tert-Butyl Alcohol	50.0	49.8	99.67	80-120
28	Isopropyl Ether	50.0	54.7	109.38	80-120
27	Chloroprene	50.0	60.1	120.18*	80-120
34	Isobutyl Alcohol	250	262	104.91	80-120

Revision 1

Data File: /var/chem/msv8.i/2151103.s.b/j3873d.d
Report Date: 03-Nov-2015 18:47

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv8.i
Lab File ID: j3873d.d
Analysis Type: WATER
Lab Sample ID: 1400
Method: /var/chem/msv8.i/2151103.s.b/8260dodw8.m

Injection Date: 03-NOV-2015 11:49
Init. Cal. Date(s): 30-OCT-2015 30-OCT-2015
Init. Cal. Times: 13:08 15:44
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
1 Dichlorodifluoromethane	0.24239	0.24299	0.24299	0.000	0.24792	20.00000	Averaged	
2 Chloromethane ++	0.30990	0.28682	0.28682	0.100	-7.44834	20.00000	Averaged	
3 Vinyl Chloride +	0.33851	0.33558	0.33558	0.000	-0.86622	20.00000	Averaged	
5 Bromomethane	0.11890	0.10400	0.10400	0.000	-12.52886	20.00000	Averaged	
6 Chloroethane	0.20896	0.23607	0.23607	0.050	12.97236	20.00000	Averaged	
9 Trichlorofluoromethane	0.32963	0.30393	0.30393	0.000	-7.79460	20.00000	Averaged	
13 1,1-Dichloroethene +	0.20438	0.19145	0.19145	0.000	-6.32569	20.00000	Averaged	
19 1,1,2Trichlotrifluoroethane	0.19713	0.19530	0.19530	0.000	-0.92602	20.00000	Averaged	
21 Carbon Disulfide	0.75799	0.72624	0.72624	0.000	-4.18845	20.00000	Averaged	
14 Methyl Iodide	40.63990	50.00000	0.07986	0.000	-18.72020	20.00000	Quadratic	
8 Acrolein	0.01493	0.01058	0.01058	0.000	-29.11707	20.00000	Averaged	<- NT
18 Methylene Chloride	0.43599	0.43515	0.43515	0.000	-0.19071	20.00000	Averaged	
11 Acetone	0.11824	0.18989	0.18989	0.000	60.59433	20.00000	Averaged	<- NT
20 Methyl Acetate	0.34306	0.33059	0.33059	0.050	-3.63450	20.00000	Averaged	
22 trans-1,2-Dichloroethene	0.38166	0.38359	0.38359	0.000	0.50466	20.00000	Averaged	
32 Hexane	0.59088	0.62209	0.62209	0.050	5.28211	20.00000	Averaged	
25 MTBE	0.85838	0.82216	0.82216	0.000	-4.21966	20.00000	Averaged	
26 1,1-Dichloroethane ++	0.54122	0.54495	0.54495	0.100	0.68790	20.00000	Averaged	
16 Acrylonitrile	0.12287	0.13034	0.13034	0.000	6.07773	20.00000	Averaged	
29 Vinyl Acetate	++++	0.30888	0.30888	0.000	++++	20.00000	Averaged	<-
23 cis-1,2-Dichloroethene	0.39799	0.40186	0.40186	0.000	0.97181	20.00000	Averaged	
M 80 Total 1,2-Dichloroethene	0.38982	0.39272	0.39272	0.000	0.74313	20.00000	Averaged	
38 2,2-Dichloropropane	0.41018	0.41997	0.41997	0.000	2.38680	20.00000	Averaged	
36 Bromochloromethane	0.10294	0.09243	0.09243	0.000	-10.20655	20.00000	Averaged	
45 Cyclohexane	0.48782	0.53615	0.53615	0.000	9.90836	20.00000	Averaged	
37 Chloroform +	0.45066	0.44243	0.44243	0.000	-1.82729	20.00000	Averaged	
46 Carbon Tetrachloride	0.28654	0.28521	0.28521	0.000	-0.46364	20.00000	Averaged	
$ 39 Dibromofluoromethane	0.21717	0.21590	0.21590	0.000	-0.58723	20.00000	Averaged	
43 1,1,1-Trichloroethane	0.36152	0.36221	0.36221	0.000	0.18884	20.00000	Averaged	
33 2-Butanone	0.27097	0.26985	0.26985	0.000	-0.41398	20.00000	Averaged	
44 1,1-Dichloropropene	0.35727	0.36215	0.36215	0.000	1.36556	20.00000	Averaged	
47 Benzene	1.14846	1.12014	1.12014	0.000	-2.46611	20.00000	Averaged	
$ 41 1,2-Dichloroethane-d4	0.16707	0.17530	0.17530	0.000	4.92653	20.00000	Averaged	
42 1,2-Dichloroethane	0.41002	0.40253	0.40253	0.000	-1.82854	20.00000	Averaged	
57 Trichloroethene	0.24783	0.22709	0.22709	0.000	-8.36660	20.00000	Averaged	

Revision 1

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv8.i
Lab File ID: j3873d.d
Analysis Type: WATER
Lab Sample ID: 1400
Method: /var/chem/msv8.i/2151103.s.b/8260dodw8.m

Injection Date: 03-NOV-2015 11:49
Init. Cal. Date(s): 30-OCT-2015 30-OCT-2015
Init. Cal. Times: 13:08 15:44
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
61 Methyl Cyclohexane	0.41114	0.42178	0.42178	0.050	2.58811	20.00000	Averaged
55 Dibromomethane	0.16115	0.15497	0.15497	0.000	-3.83808	20.00000	Averaged
56 1,2-Dichloropropane +	0.31562	0.32327	0.32327	0.000	2.42333	20.00000	Averaged
58 Bromodichloromethane	0.35766	0.35729	0.35729	0.000	-0.10252	20.00000	Averaged
60 1-Bromo-2-chloroethane	0.45352	0.45457	0.45457	0.005	0.23340	20.00000	Averaged
62 2-Chloroethyl vinyl ether	55.52700	50.00000	0.24076	0.000	11.05401	20.00000	Linear
63 cis-1,3-Dichloropropene	0.46288	0.47597	0.47597	0.000	2.82774	20.00000	Averaged
$ 68 Toluene-d8	2.23161	2.14890	2.14890	0.000	-3.70608	20.00000	Averaged
70 Toluene +	2.72847	2.52671	2.52671	0.000	-7.39475	20.00000	Averaged
65 4-methyl-2-pentanone	0.99354	0.96134	0.96134	0.000	-3.24111	20.00000	Averaged
78 Tetrachloroethene	0.40400	0.34340	0.34340	0.000	-15.00099	20.00000	Averaged
66 trans-1,3-Dichloropropene	0.43117	0.44322	0.44322	0.000	2.79641	20.00000	Averaged
M 87 1-3 Dichloropropene total	0.44703	0.45960	0.45960	0.050	2.81263	20.00000	Averaged
67 1,1,2-Trichloroethane	0.57680	0.53166	0.53166	0.000	-7.82577	20.00000	Averaged
72 Dibromochloromethane	0.54913	0.51094	0.51094	0.000	-6.95467	20.00000	Averaged
71 1,3-Dichloropropane	1.13564	1.08838	1.08838	0.000	-4.16121	20.00000	Averaged
74 1,2-Dibromoethane(EDB)	0.56150	0.50532	0.50532	0.000	-10.00484	20.00000	Averaged
73 2-Hexanone	0.77751	0.77611	0.77611	0.000	-0.17997	20.00000	Averaged
86 1-Chlorohexane	0.79922	0.75445	0.75445	0.050	-5.60106	20.00000	Averaged
85 Chlorobenzene ++	1.65504	1.48998	1.48998	0.300	-9.97330	20.00000	Averaged
88 Ethylbenzene +	0.88310	0.82571	0.82571	0.000	-6.49888	20.00000	Averaged
82 1,1,1,2-Tetrachloroethane	0.50372	0.46297	0.46297	0.000	-8.08949	20.00000	Averaged
89 p,m-Xylene	1.07858	1.02614	1.02614	0.000	-4.86198	20.00000	Averaged
93 o-Xylene	1.03643	0.98446	0.98446	0.000	-5.01385	20.00000	Averaged
M 120 TOTAL XYLENE	1.06453	1.01225	1.01225	0.000	-4.91127	20.00000	Averaged
91 Styrene	1.72831	1.70343	1.70343	0.000	-1.43930	20.00000	Averaged
90 Bromoform ++	0.39074	0.34168	0.34168	0.100	-12.55510	20.00000	Averaged
96 Isopropylbenzene	2.65783	2.62613	2.62613	0.000	-1.19297	20.00000	Averaged
$ 97 Bromofluorobenzene	0.57932	0.53682	0.53682	0.000	-7.33747	20.00000	Averaged
98 Bromobenzene	1.91112	1.94786	1.94786	0.000	1.92230	20.00000	Averaged
100 n-Propylbenzene	4.29124	4.53212	4.53212	0.000	5.61327	20.00000	Averaged
92 1,1,2,2-Tetrachloroethane++	1.12602	1.10853	1.10853	0.300	-1.55336	20.00000	Averaged
101 2-Chlorotoluene	2.63258	2.66042	2.66042	0.000	1.05761	20.00000	Averaged
104 1,3,5-Trimethylbenzene	2.84752	2.95395	2.95395	0.000	3.73751	20.00000	Averaged
94 1,2,3-Trichloropropane	1.05426	1.04491	1.04491	0.000	-0.88745	20.00000	Averaged

Revision 1

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv8.i Injection Date: 03-NOV-2015 11:49
Lab File ID: j3873d.d Init. Cal. Date(s): 30-OCT-2015 30-OCT-2015
Analysis Type: WATER Init. Cal. Times: 13:08 15:44
Lab Sample ID: 1400 Quant Type: ISTD
Method: /var/chem/msv8.i/2151103.s.b/8260dodw8.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
95 trans-1,4-Dichloro-2-Butene	0.35340	0.37783	0.37783	0.000	6.91291	20.00000	Averaged	
102 4-Chlorotoluene	2.64803	2.76855	2.76855	0.000	4.55145	20.00000	Averaged	
105 tert-butylbenzene	1.57595	1.68620	1.68620	0.000	6.99587	20.00000	Averaged	
106 1,2,4-Trimethylbenzene	2.91054	3.07590	3.07590	0.000	5.68135	20.00000	Averaged	
107 sec-Butylbenzene	3.47071	3.69449	3.69449	0.000	6.44748	20.00000	Averaged	
111 p-Isopropyltoluene	2.84810	3.03862	3.03862	0.000	6.68939	20.00000	Averaged	
108 1,3-Dichlorobenzene	1.56235	1.53643	1.53643	0.000	-1.65929	20.00000	Averaged	
110 1,4-Dichlorobenzene	1.61273	1.53699	1.53699	0.000	-4.69661	20.00000	Averaged	
114 n-Butylbenzene	2.74481	3.09276	3.09276	0.000	12.67677	20.00000	Averaged	
113 1,2-Dichlorobenzene	1.52536	1.51654	1.51654	0.000	-0.57807	20.00000	Averaged	
115 1,2-Dibromo-3-Chloropropane	43.79160	50.00000	0.19472	0.000	-12.41680	20.00000	Linear	
118 Hexachlorobutadiene	0.30310	0.32691	0.32691	0.000	7.85406	20.00000	Averaged	
116 1,2,4-Trichlorobenzene	0.82435	0.88370	0.88370	0.000	7.19864	20.00000	Averaged	
117 Naphthalene	47.46815	50.00000	2.93418	0.000	-5.06370	20.00000	Linear	
119 1,2,3-Trichlorobenzene	0.78938	0.86194	0.86194	0.000	9.19186	20.00000	Averaged	
15 tert-Butyl Alcohol	0.03771	0.03649	0.03649	0.050	-3.21965	20.00000	Averaged	<-
28 Isopropyl Ether	0.95241	1.08709	1.08709	0.050	14.14117	20.00000	Averaged	
27 Chloroprene	56.00702	50.00000	0.39898	0.050	12.01404	20.00000	Linear	
34 Isobutyl Alcohol	0.01922	0.02041	0.02041	0.000	6.16016	20.00000	Averaged	
51 1,4- Dioxane	0.00306	0.00320	0.00320	0.000	4.58157	20.00000	Averaged	

Revision 1

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 02-NOV-2015 10:53
End Cal Date : 02-NOV-2015 13:54
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv9.i/2151102.s.b/8260dodw9.m
Cal Date : 05-Nov-2015 10:09 rbm

Calibration File Names:
Level 3: /var/chem/msv9.i/2151102.s.b/k7908d.d
Level 4: /var/chem/msv9.i/2151102.s.b/k7910d.d
Level 5: /var/chem/msv9.i/2151102.s.b/k7911d.d
Level 6: /var/chem/msv9.i/2151102.s.b/k7912d.d
Level 7: /var/chem/msv9.i/2151102.s.b/k7913d.d
Level 8: /var/chem/msv9.i/2151102.s.b/k7915d.d
Level 9: /var/chem/msv9.i/2151102.s.b/k7917d.d

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 9											
1 Dichlorodifluoromethane	0.24132	0.24004	0.23278	0.23126	0.23547	0.22768						
	0.22043						AVRG		0.23271		3.10762	
2 Chloromethane ++	0.42565	0.35148	0.31937	0.30647	0.30753	0.29952						
	0.29309						AVRG		0.32902		14.18306	
3 Vinyl Chloride +	0.30326	0.31538	0.30544	0.29404	0.30362	0.30031						
	0.29313						AVRG		0.30217		2.49029	
9 1-3 Butadiene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 02-NOV-2015 10:53
End Cal Date : 02-NOV-2015 13:54
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv9.i/2151102.s.b/8260dodw9.m
Cal Date : 05-Nov-2015 10:09 rbm

Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
6 Bromomethane	2075 303325	8627	15632	28169	69578	141288	LINR	0.01333	0.14170		0.99872	
7 Chloroethane	2338 +++++	13299	22397	37444	96591	183353	LINR	-0.03941	0.17217		0.99898	
8 Trichlorofluoromethane	0.30197 0.29068	0.31757	0.30183	0.29821	0.29940	0.29654	AVRG		0.30089		2.75759	
4 2-Chloropropene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
9 Ethyl Ether	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
10 1,1-Dichloroethene +	0.21050 0.18636	0.19951	0.19193	0.18588	0.19103	0.19095	AVRG		0.19374		4.46443	
11 Carbon Disulfide	0.62815 0.65055	0.59414	0.58919	0.60020	0.63755	0.64619	AVRG		0.62085		4.15784	

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 02-NOV-2015 10:53
End Cal Date : 02-NOV-2015 13:54
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv9.i/2151102.s.b/8260dodw9.m
Cal Date : 05-Nov-2015 10:09 rbm

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
12 1,1,2Trichlotrifluoroethane	0.19885	0.19462	0.18699	0.18350	0.18675	0.18493						
	0.18044						AVRG		0.18801		3.43942	
13 Methyl Iodide	807	5962	13440	31224	99859	216796						
	434547						LINR	0.05847	0.20838		0.99948	
168 Ethanol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
14 Acrolein	0.01632	0.01368	0.01502	0.01530	0.01405	0.01500						
	0.01512						AVRG		0.01493		5.77077	
15 Allyl chloride	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
16 Methylene Chloride	5578	24562	42773	80132	193720	385262						
	756000						LINR	-0.03645	0.35473		0.99987	
17 Acetone	+++++	0.12927	0.11390	0.09651	0.10350	0.11678						
	0.12149						AVRG		0.11357		10.50884	

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 02-NOV-2015 10:53
End Cal Date : 02-NOV-2015 13:54
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv9.i/2151102.s.b/8260dodw9.m
Cal Date : 05-Nov-2015 10:09 rbm

Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
18 trans-1,2-Dichloroethene	0.35472 0.35107	0.35913	0.35887	0.34004	0.35463	0.35521	AVRG		0.35338		1.83874	
19 Methyl Acetate	0.58132 0.54177	0.52266	0.52092	0.51609	0.53688	0.54289	AVRG		0.53751		4.10526	
20 Hexane	0.35196 0.34031	0.32789	0.32975	0.33890	0.36058	0.34830	AVRG		0.34253		3.46217	
21 MTBE	0.64909 0.74608	0.71358	0.71748	0.69870	0.73316	0.75208	AVRG		0.71574		4.86842	
22 tert-Butyl Alcohol	+++++ 0.02495	0.02897	0.02266	0.02372	0.02376	0.02506	AVRG		0.02485		8.87081	
23 Acetonitrile	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
16 Ethyl Tert-butyl Ether	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 02-NOV-2015 10:53
End Cal Date : 02-NOV-2015 13:54
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv9.i/2151102.s.b/8260dodw9.m
Cal Date : 05-Nov-2015 10:09 rbm

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
24 Isopropyl Ether	0.97862	0.95075	0.92643	0.93328	1.02699	1.01052						
	1.02707						AVRG		0.97909		4.42438	
25 Chloroprene	0.34563	0.37701	0.34889	0.36354	0.39992	0.39100						
	0.39525						AVRG		0.37446		5.93586	
26 1,1-Dichloroethane ++	0.48175	0.49931	0.49062	0.47447	0.49499	0.48732						
	0.47841						AVRG		0.48670		1.84983	
27 Acrylonitrile	0.11129	0.12077	0.12552	0.12457	0.11790	0.12351						
	0.12759						AVRG		0.12159		4.55928	
28 Vinyl Acetate	2963	8885	18385	38613	98854	197172						
	378722						LINR	-0.02235	0.17942		0.99938	
29 1,3-difluorobenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
30 cis-1,2-Dichloroethene	0.36332	0.37237	0.36237	0.35822	0.37364	0.37200						
	0.36987						AVRG		0.36740		1.63745	

GCAL, Inc.

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Integrator : HP RTE
Method file : /var/chem/msv9.i/2151102.s.b/8260dodw9.m
Cal Date : 05-Nov-2015 10:09 rbm

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
	200 Level 9										
M 75 Total 1,2-Dichloroethene	0.35902 0.36047	0.36575	0.36062	0.34913	0.36414	0.36361	AVRG		0.36039		1.52771
30 2,2-Dichloropropane	0.31244 0.30956	0.29875	0.29003	0.29787	0.31535	0.31763	AVRG		0.30595		3.40353
167 Tert-butyl formate	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00 <-
32 Cyclohexane	0.41389 0.45848	0.44718	0.43315	0.45580	0.47511	0.46852	AVRG		0.45030		4.68824
34 Bromochloromethane	0.10747 0.10887	0.13066	0.11745	0.11787	0.12230	0.11753	AVRG		0.11745		6.69721
16 Chloroform +	0.45864 0.42743	0.43426	0.42781	0.42401	0.44086	0.43565	AVRG		0.43552		2.68737
36 Carbon Tetrachloride	0.24448 0.27691	0.26778	0.25985	0.26486	0.27859	0.27698	AVRG		0.26706		4.57436

GCAL, Inc.

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Integrator : HP RTE
Method file : /var/chem/msv9.i/2151102.s.b/8260dodw9.m
Cal Date : 05-Nov-2015 10:09 rbm

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
37 Ethyl Acetate	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
38 Tetrahydrofuran	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
41 1,1,1-Trichloroethane	0.32805	0.34308	0.32633	0.32615	0.34165	0.34219						
	0.33633						AVRG		0.33483		2.32831	
42 sec-butanol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
43 1,1-Dichloropropene	0.32696	0.31360	0.30884	0.31549	0.33516	0.33721						
	0.33389						AVRG		0.32445		3.59165	
44 2-Butanone	0.27757	0.22401	0.20458	0.18990	0.21089	0.22578						
	0.22260						AVRG		0.22219		12.41297	
45 2,2,4 Trimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-

GCAL, Inc.

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Integrator : HP RTE
Method file : /var/chem/msv9.i/2151102.s.b/8260dodw9.m
Cal Date : 05-Nov-2015 10:09 rbm

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
49 1,4-difluorobenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
46 Benzene	1.05626	1.06931	1.05673	1.03142	1.09347	1.07840						
	1.06564						AVRG		1.06446		1.83113	
47 Propionitrile	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
48 Methylacrylonitrile	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
164 tert-amyl Methyl Ether	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
1,2-Dichloroethane	0.41320	0.38563	0.35211	0.35484	0.36493	0.35961						
	0.35252						AVRG		0.36898		6.15262	
1[illegible] Tert-amyl alcohol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-

GCAL, Inc.

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Integrator : HP RTE
Method file : /var/chem/msv9.i/2151102.s.b/8260dodw9.m
Cal Date : 05-Nov-2015 10:09 rbm

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
52 Isobutyl Alcohol	1074 179239	5519	8099	14414	40060	84692	LINR	0.15061	0.01685		0.99876	
31 Heptane	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
55 Methyl Cyclohexane	0.39789 0.40754	0.39656	0.38761	0.39254	0.41846	0.41412	AVRG		0.40210		2.85638	
56 Trichloroethene	0.21751 0.24943	0.24932	0.23686	0.23775	0.25403	0.25233	AVRG		0.24246		5.33150	
54 1,2-difluorobenzene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
3 n-Butanol	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
7 Dibromomethane	0.14027 0.16053	0.16175	0.15657	0.15652	0.16120	0.16212	AVRG		0.15699		4.92838	

GCAL, Inc.

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Method file : /var/chem/msv9.i/2151102.s.b/8260dodw9.m
Cal Date : 05-Nov-2015 10:09 rbm

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
58 2-3 Dichloro-1-Proprene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
59 1,2-Dichloropropane +	0.27925 / 0.29526	0.28908	0.29305	0.29177	0.30101	0.30192	AVRG		0.29305		2.62354	
60 Bromodichloromethane	0.29081 / 0.34992	0.30529	0.31542	0.32450	0.34839	0.35152	AVRG		0.32655		7.40104	
61 Methyl methacrylate	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
62 1,4- Dioxane	+++++ / 0.00253	0.00273	0.00229	0.00247	0.00265	0.00260	AVRG		0.00254		6.07846	<-
63 1-Bromo-2-chloroethane	0.40727 / 0.42871	0.42426	0.41482	0.40841	0.43017	0.43734	AVRG		0.42157		2.74573	
64 2-Chloroethyl vinyl ether	0.19480 / 0.24488	0.23364	0.20458	0.21774	0.24188	0.24521	AVRG		0.22611		9.09424	

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Cal Date : 05-Nov-2015 10:09 rbm

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
67 cis-1,3-Dichloropropene	0.36193 0.45767	0.36741	0.39171	0.40787	0.45392	0.45720	AVRG		0.41396		10.24107	
66 3-ethyltoluene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
69 Toluene +	2.74308 2.67657	2.74442	2.68618	2.58444	2.75126	2.69760	AVRG		2.69765		2.16776	
81 2-Nitropropane	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
71 Tetrachloroethene	0.48342 0.44443	0.46892	0.44752	0.43084	0.45623	0.45384	AVRG		0.45503		3.75983	
73 4-methyl-2-pentanone	0.78090 1.02280	0.79073	0.80874	0.87747	0.91777	1.00325	AVRG		0.88595		11.25308	
74 trans-1,3-Dichloropropene	0.28261 0.42987	0.33024	0.35577	0.36913	0.40880	0.42725	AVRG		0.37195		14.62759	

GCAL, Inc.

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Integrator : HP RTE
Method file : /var/chem/msv9.i/2151102.s.b/8260dodw9.m
Cal Date : 05-Nov-2015 10:09 rbm

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
M 82 1-3 Dichloropropene total	0.32227	0.34882	0.37374	0.38850	0.43136	0.44223						
	0.44377						AVRG		0.39295		12.21215	
77 Ethyl Methacrylate	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
76 1,1,2-Trichloroethane	0.57891	0.58262	0.61687	0.59055	0.60217	0.60334						
	0.59927						AVRG		0.59625		2.20631	
78 Dibromochloromethane	0.51525	0.53048	0.52478	0.55252	0.60642	0.61819						
	0.62652						AVRG		0.56774		8.42176	
170 3,4-dichloro-1-butene	0.55259	0.61790	0.58487	0.63083	0.76071	0.74588						
	0.78276						AVRG		0.66793		13.93112	
23 Methyldisulfide	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
10 1,3-Dichloropropane	1.04798	1.17705	1.12859	1.12214	1.16822	1.14539						
	1.13315						AVRG		1.13179		3.72955	

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Cal Date : 05-Nov-2015 10:09 rbm

Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
70 1-Nitropropane	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
80 1,2-Dibromoethane(EDB)	0.54924 0.59394	0.56670	0.57228	0.56941	0.59046	0.59595	AVRG		0.57685		2.98925	
72 2-ethyltoluene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
83 2-Hexanone	0.50305 0.74765	0.56098	0.55858	0.61849	0.67726	0.72730	AVRG		0.62761		14.77830	
86 1-Chlorohexane	0.77779 0.81705	0.70265	0.72947	0.74199	0.82658	0.82459	AVRG		0.77430		6.51924	
23 Chlorobenzene ++	1.63503 1.66553	1.74651	1.69327	1.62900	1.72924	1.69356	AVRG		1.68459		2.64293	
10 Ethylbenzene +	0.83977 0.91716	0.90533	0.90146	0.88854	0.93789	0.92525	AVRG		0.90220		3.54089	

GCAL, Inc.

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Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
	200 Level 9										
88 1,1,1,2-Tetrachloroethane	0.50066	0.52612	0.51790	0.51243	0.55394	0.54690					
	0.54396						AVRG		0.52884		3.76258
89 p,m-Xylene	1.04451	1.10020	1.09748	1.10391	1.17608	1.16017					
	1.15468						AVRG		1.11958		4.12823
90 o-Xylene	0.95488	1.04958	1.03712	1.05911	1.12725	1.13101					
	1.12165						AVRG		1.06866		5.98246
M 121 TOTAL XYLENE	1.01463	1.08332	1.07736	1.08898	1.15980	1.15045					
	1.14367						AVRG		1.10260		4.70983
91 Styrene	1.47301	1.71986	1.79092	1.83977	1.98221	1.98267					
	1.97964						AVRG		1.82401		10.25206
92 Bromoform ++	0.34917	0.37039	0.37592	0.39028	0.42810	0.44966					
	0.46399						AVRG		0.40393		10.78069
103 3,3 Dimethyl-1-butanol	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+00		0.000e+00 <-

Revision 1

GCAL, Inc.

INITIAL CALIBRATION DATA

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Cal Date : 05-Nov-2015 10:09 rbm

Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
93 Isopropylbenzene	2.39559 2.96021	2.62565	2.69738	2.75593	2.95943	2.96307	AVRG		2.76532		7.75146
169 cis-1,4-dichloro-2-butene	0.46719 0.34521	0.46505	0.37513	0.35130	0.34923	0.33840	AVRG		0.38450		14.80002
97 n-Propylbenzene	5.83713 4.39449	5.70762	5.18712	4.90626	4.62224	4.39873	AVRG		5.00765		11.85832
96 Bromobenzene	5955 1368419	30969	61874	121020	330475	668767	LINR	-0.04885	1.75938		0.99980
98 1,1,2,2-Tetrachloroethane++	3278 811904	17932	37157	78729	201293	411368	LINR	-0.06573	1.04728		0.99937
2-Chlorotoluene	8513 2271122	49098	99033	203786	551138	1125803	LINR	-0.04799	2.92951		0.99977
1,3,5-Trimethylbenzene	4.23022 3.02419	3.80125	3.59342	3.38514	3.20545	3.06869	AVRG		3.47262		12.55124

GCAL, Inc.

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Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
100 1,2,3-Trichloropropane	1.52895	1.64586	1.49947	1.46679	1.33911	1.33999						
	1.31671						AVRG		1.44813		8.43207	
101 trans-1,4-Dichloro-2-Butene	0.39791	0.36569	0.34039	0.33759	0.32238	0.33813						
	0.34249						AVRG		0.34922		7.15226	
103 Cyclohexanone	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
104 4-Chlorotoluene	3.72686	3.48393	3.14039	2.97979	2.81087	2.68420						
	2.64498						AVRG		3.06729		13.39253	
105 tert-butylbenzene	4899	26762	55096	113934	309650	625060						
	1255902						LINR	-0.05221	1.62034		0.99966	
106 Pentachloroethane	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
107 1,2,4-Trimethylbenzene	3.14197	3.53239	3.40328	3.31930	3.17248	3.06081						
	3.01842						AVRG		3.23552		5.83248	

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Cal Date : 05-Nov-2015 10:09 rbm

Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
108 sec-Butylbenzene	4.75652 3.70735	4.43606	4.21761	4.09744	3.91929	3.76576	AVRG		4.12858		9.11994
109 Dicyclopentadiene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00 <-
110 p-Isopropyltoluene	3.10529 3.12349	3.21388	3.19593	3.22696	3.21951	3.13494	AVRG		3.17429		1.61385
113 1,3-Dichlorobenzene	1.64206 1.58995	1.83579	1.67439	1.66183	1.65044	1.60949	AVRG		1.66628		4.82049
115 1,4-Dichlorobenzene	1.65938 1.59426	1.81950	1.64540	1.63477	1.63287	1.60379	AVRG		1.65571		4.57182
117 n-Butylbenzene	3155 2167942	23626	57225	140814	472128	1036852	LINR	0.04148	2.84412		0.99982
118 1,2-Dichlorobenzene	1.46068 1.52122	1.66561	1.53935	1.58671	1.56407	1.53142	AVRG		1.55272		4.08370

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 02-NOV-2015 10:53
End Cal Date : 02-NOV-2015 13:54
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv9.i/2151102.s.b/8260dodw9.m
Cal Date : 05-Nov-2015 10:09 rbm

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
94 2-methylnapthalene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
119 1,2-Dibromo-3-Chloropropane	127 / 137223	1367	3097	7836	24261	60464	LINR	0.09779	0.17977		0.99645	
123 Benzal Chloride	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
120 Hexachlorobutadiene	0.42134 / 0.38003	0.44876	0.40882	0.40823	0.39329	0.39090	AVRG		0.40734		5.60524	
122 1,2,4-Trichlorobenzene	552 / 585067	4110	8594	21067	81145	229001	QUAD	0.07880	1.85041	-0.18570	0.99801	
121 Naphthalene	1414 / 1364781	8712	19184	48880	172144	505853	QUAD	0.07792	0.85142	-0.04229	0.99770	
118 1,2,3-Trichlorobenzene	492 / 492858	3471	7340	18471	67166	190919	QUAD	0.07492	2.23225	-0.27498	0.99806	

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 02-NOV-2015 10:53
End Cal Date : 02-NOV-2015 13:54
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv9.i/2151102.s.b/8260dodw9.m
Cal Date : 05-Nov-2015 10:09 rbm

Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
112 1-3 Diethylbenzene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
111 1-4 Diethylbenzene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
116 1-2 Diethylbenzene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
M 126 Total Diethylbenzene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
$ 40 Dibromofluoromethane	0.21967 0.22955	0.22247	0.22380	0.22655	0.22594	0.22771	AVRG		0.22510		1.49047	
$ 41 1,2-Dichloroethane-d4	0.14810 0.15351	0.15666	0.15651	0.15562	0.15206	0.15518	AVRG		0.15395		1.98747	
$ 42 Toluene-d8	2.27055 2.21585	2.24513	2.22075	2.20905	2.23581	2.21495	AVRG		2.23030		0.97848	

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 02-NOV-2015 10:53
End Cal Date : 02-NOV-2015 13:54
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv9.i/2151102.s.b/8260dodw9.m
Cal Date : 05-Nov-2015 10:09 rbm

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
$ 95 Bromofluorobenzene	0.57717	0.61233	0.62502	0.63739	0.65351	0.66201					
	0.66570						AVRG		0.63330		4.97606

Data File: /var/chem/msv9.i/2151102.s.b/k7919d.d
Report Date: 05-Nov-2015 10:09

GCAL, Inc.

RECOVERY REPORT

Client Name:
Sample Matrix: LIQUID
Lab Smp Id: 1600
Level: LOW
Data Type: MS DATA
SpikeList File: icvfull.spk
Sublist File: 8260b+A9-1.sub
Method File: /var/chem/msv9.i/2151102.s.b/8260dodw9.m
Misc Info: MSV~34721~*1*JCK

Client SDG: 2151102.s
Fraction: VOA
Client Smp ID: ICV050
Operator: TJB
SampleType: LCS
Quant Type: ISTD

	SPIKE	COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
	1	Dichlorodifluoromethane	50.0	50.6	101.26	80-120
	2	Chloromethane ++	50.0	48.8	97.56	80-120
	3	Vinyl Chloride +	50.0	50.9	101.78	80-120
	6	Bromomethane	50.0	55.7	111.40	80-120
	7	Chloroethane	50.0	51.3	102.51	80-120
	8	Trichlorofluoromethane	50.0	50.4	100.88	80-120
	10	1,1-Dichloroethene +	50.0	50.0	99.99	80-120
	12	1,1,2Trichlotrifluoroethane	50.0	50.3	100.66	80-120
	11	Carbon Disulfide	50.0	53.3	106.58	80-120
	13	Methyl Iodide	50.0	41.6	83.12	80-120
	14	Acrolein	250	243	97.39	80-120
	16	Methylene Chloride	50.0	52.2	104.42	80-120
	17	Acetone	50.0	47.3	94.64	80-120
	18	trans-1,2-Dichloroethene	50.0	51.0	101.98	80-120
	19	Methyl Acetate	50.0	50.2	100.36	80-120
	20	Hexane	50.0	50.3	100.59	80-120
	21	MTBE	50.0	53.3	106.52	80-120
	26	1,1-Dichloroethane ++	50.0	51.7	103.48	80-120
	27	Acrylonitrile	250	263	105.38	80-120
	28	Vinyl Acetate	50.0	44.6	89.19	80-120
	29	cis-1,2-Dichloroethene	50.0	52.6	105.29	80-120
M	75	Total 1,2-Dichloroethene	100	104	103.64	80-120
	30	2,2-Dichloropropane	50.0	49.0	97.93	80-120
	32	Cyclohexane	50.0	52.9	105.76	80-120
	34	Bromochloromethane	50.0	50.9	101.72	80-120
	35	Chloroform +	50.0	51.3	102.56	80-120
	36	Carbon Tetrachloride	50.0	52.5	105.05	80-120
	41	1,1,1-Trichloroethane	50.0	52.1	104.23	80-120
	44	2-Butanone	50.0	51.6	103.14	80-120
	43	1,1-Dichloropropene	50.0	52.7	105.41	80-120
	46	Benzene	50.0	51.8	103.59	80-120
	51	1,2-Dichloroethane	50.0	50.2	100.42	80-120
	55	Methyl Cyclohexane	50.0	51.8	103.52	80-120

SPIKE	COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
56	Trichloroethene	50.0	54.5	109.06	80-120
57	Dibromomethane	50.0	52.5	105.00	80-120
59	1,2-Dichloropropane +	50.0	52.9	105.89	80-120
60	Bromodichloromethane	50.0	54.3	108.63	80-120
65	1-Bromo-2-chloroethane	50.0	52.4	104.84	80-120
64	2-Chloroethyl vinyl ether	50.0	54.9	109.70	80-120
67	cis-1,3-Dichloropropene	50.0	55.1	110.11	80-120
69	Toluene +	50.0	51.0	101.93	80-120
73	4-methyl-2-pentanone	50.0	54.5	109.05	80-120
71	Tetrachloroethene	50.0	50.5	100.93	80-120
74	trans-1,3-Dichloropropene	50.0	56.7	113.36	80-120
M 82	1-3 Dichloropropene total	100	112	111.73	80-120
76	1,1,2-Trichloroethane	50.0	52.6	105.25	80-120
78	Dibromochloromethane	50.0	54.5	108.98	80-120
79	1,3-Dichloropropane	50.0	52.4	104.70	80-120
80	1,2-Dibromoethane(EDB)	50.0	53.1	106.27	80-120
83	2-Hexanone	50.0	57.2	114.32	80-120
86	1-Chlorohexane	50.0	53.7	107.39	80-120
85	Chlorobenzene ++	50.0	52.0	103.93	80-120
87	Ethylbenzene +	50.0	52.1	104.30	80-120
88	1,1,1,2-Tetrachloroethane	50.0	52.7	105.36	80-120
89	p,m-Xylene	100	105	105.15	80-120
90	o-Xylene	50.0	53.5	106.99	80-120
M 121	TOTAL XYLENE	150	159	105.76	80-120
91	Styrene	50.0	54.7	109.31	80-120
92	Bromoform ++	50.0	53.8	107.67	80-120
93	Isopropylbenzene	50.0	53.8	107.58	80-120
96	Bromobenzene	50.0	51.5	102.97	80-120
97	n-Propylbenzene	50.0	46.3	92.60	80-120
98	1,1,2,2-Tetrachloroethane++	50.0	52.0	104.06	80-120
99	2-Chlorotoluene	50.0	51.7	103.49	80-120
102	1,3,5-Trimethylbenzene	50.0	46.2	92.43	80-120
100	1,2,3-Trichloropropane	50.0	47.9	95.71	80-120
101	trans-1,4-Dichloro-2-Butene	50.0	49.9	99.78	80-120
104	4-Chlorotoluene	50.0	46.2	92.41	80-120
105	tert-butylbenzene	50.0	52.4	104.88	80-120
107	1,2,4-Trimethylbenzene	50.0	49.2	98.49	80-120
108	sec-Butylbenzene	50.0	47.8	95.60	80-120
110	p-Isopropyltoluene	50.0	51.0	101.99	80-120
113	1,3-Dichlorobenzene	50.0	50.3	100.69	80-120
115	1,4-Dichlorobenzene	50.0	50.7	101.47	80-120
117	n-Butylbenzene	50.0	49.9	99.72	80-120
118	1,2-Dichlorobenzene	50.0	51.0	102.10	80-120
119	1,2-Dibromo-3-Chloropropane	50.0	47.6	95.26	80-120
120	Hexachlorobutadiene	50.0	48.7	97.40	80-120
122	1,2,4-Trichlorobenzene	50.0	46.4	92.79	80-120
124	Naphthalene	50.0	47.3	94.57	80-120

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
125 1,2,3-Trichlorobenzene	50.0	48.2	96.46	80-120
170 3,4-dichloro-1-butene	50.0	54.9	109.88	80-120
169 cis-1,4-dichloro-2-butene	50.0	45.3	90.63	80-120
22 tert-Butyl Alcohol	50.0	50.7	101.40	80-120
24 Isopropyl Ether	50.0	51.7	103.40	80-120
25 Chloroprene	50.0	53.1	106.12	80-120
52 Isobutyl Alcohol	250	252	100.74	80-120
62 1,4- Dioxane	1250	1320	105.81	80-120

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 40 Dibromofluoromethane	50.0	51.5	102.90	85-115
$ 50 1,2-Dichloroethane-d4	50.0	50.1	100.10	70-120
$ 68 Toluene-d8	50.0	49.9	99.74	85-115
$ 95 Bromofluorobenzene	50.0	51.9	103.74	75-120

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-NOV-2015 12:46
End Cal Date : 01-NOV-2015 15:35
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv11.i/2151101.s.b/8260bw11dod.m
Cal Date : 02-Nov-2015 19:55 clh

Calibration File Names:
Level 3: /var/chem/msv11.i/2151101.s.b/g9455d.d
Level 4: /var/chem/msv11.i/2151101.s.b/g9456d.d
Level 5: /var/chem/msv11.i/2151101.s.b/g9457d.d
Level 6: /var/chem/msv11.i/2151101.s.b/g9458d.d
Level 7: /var/chem/msv11.i/2151101.s.b/g9459d.d
Level 8: /var/chem/msv11.i/2151101.s.b/g9461d.d
Level 9: /var/chem/msv11.i/2151101.s.b/g9463d.d

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
1 Dichlorodifluoromethane	0.38300	0.34453	0.34721	0.33481	0.35629	0.33391						
	0.31733						AVRG		0.34530		5.99178	
4 1-3 Butadiene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
2 Chloromethane ++	0.40724	0.39606	0.35147	0.33365	0.37185	0.33200						
	0.32401						AVRG		0.35947		9.16848	
3 Vinyl Chloride +	0.44223	0.37312	0.35296	0.35633	0.37787	0.34755						
	0.33024						AVRG		0.36861		9.80484	

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-NOV-2015 12:46
End Cal Date : 01-NOV-2015 15:35
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv11.i/2151101.s.b/8260bw11dod.m
Cal Date : 02-Nov-2015 19:55 clh

Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
5 Bromomethane	0.22019 0.18300	0.18364	0.17841	0.17473	0.18978	0.18953	AVRG		0.18847		7.96496	
6 Chloroethane	0.13413 0.17058	0.18638	0.18582	0.17500	0.18333	0.18800	AVRG		0.17475		10.89373	
9 Trichlorofluoromethane	0.53822 0.48997	0.51529	0.48773	0.46842	0.50322	0.49298	AVRG		0.49941		4.47789	
7 2-Chloropropene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
12 Ethyl Ether	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
15 Ethanol	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
8 1,1-Dichloroethene +	0.31157 0.24842	0.28125	0.26664	0.26049	0.27085	0.26729	AVRG		0.27236		7.32994	

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-NOV-2015 12:46
End Cal Date : 01-NOV-2015 15:35
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv11.i/2151101.s.b/8260bw11dod.m
Cal Date : 02-Nov-2015 19:55 clh

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
21 Carbon Disulfide	0.86725	0.72113	0.70405	0.67954	0.78515	0.77340						
	0.73803						AVRG		0.75265		8.32125	
19 1,1,2Trichlotrifluoroethane	0.27376	0.28050	0.27429	0.25304	0.27268	0.26611						
	0.24649						AVRG		0.26670		4.66592	
14 Methyl Iodide	+++++	1066	4088	12959	73591	213149						
	517396						LINR	0.27051	0.20519		0.99067	
17 Allyl chloride	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
8 Acrolein	0.01789	0.01589	0.01850	0.01544	0.01472	0.01449						
	0.01496						AVRG		0.01599		9.92672	
18 Methylene Chloride	+++++	0.44190	0.38209	0.34728	0.34883	0.34398						
	0.31618						AVRG		0.36338		12.05276	
1 Acetone	+++++	0.22040	0.18558	0.18241	0.19209	0.18083						
	0.17554						AVRG		0.18948		8.50182	

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-NOV-2015 12:46
End Cal Date : 01-NOV-2015 15:35
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv11.i/2151101.s.b/8260bw11dod.m
Cal Date : 02-Nov-2015 19:55 clh

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
15 tert-Butyl Alcohol	+++++	2716	5154	8420	21767	37882						
	76228						LINR	-0.07479	0.02832		0.99945	
22 trans-1,2-Dichloroethene	0.44942	0.36758	0.35876	0.35219	0.37481	0.36756						
	0.34124						AVRG		0.37308		9.50649	
20 Methyl Acetate	0.52101	0.48005	0.42618	0.42218	0.43777	0.42519						
	0.39594						AVRG		0.44405		9.52197	
32 Hexane	0.35383	0.33159	0.30883	0.30688	0.32111	0.32101						
	0.29480						AVRG		0.31972		6.00611	
10 Acetonitrile	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
15 MTBE	0.79938	0.79586	0.78065	0.77759	0.81972	0.80671						
	0.75693						AVRG		0.79098		2.63828	
15 Ethyl Tert-butyl Ether	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-

Revision 1
2151023102 Page 104 of 230

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-NOV-2015 12:46
End Cal Date : 01-NOV-2015 15:35
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv11.i/2151101.s.b/8260bw11dod.m
Cal Date : 02-Nov-2015 19:55 clh

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
28 Isopropyl Ether	0.85352	0.88611	0.84422	0.84110	0.88887	0.87919						
	0.81848						AVRG		0.85878		3.09732	
27 Chloroprene	0.35505	0.37932	0.37728	0.38663	0.40636	0.39863						
	0.36979						AVRG		0.38186		4.53105	
26 1,1-Dichloroethane ++	0.54873	0.52310	0.51003	0.49298	0.51089	0.51105						
	0.47917						AVRG		0.51085		4.30978	
16 Acrylonitrile	0.10840	0.10220	0.11008	0.10160	0.09869	0.09931						
	0.10103						AVRG		0.10305		4.30362	
29 Vinyl Acetate	0.23812	0.21819	0.25129	0.23504	0.22547	0.23437						
	0.21853						AVRG		0.23157		5.10344	
114 Tert-butyl formate	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
115 1,3-difluorobenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-NOV-2015 12:46
End Cal Date : 01-NOV-2015 15:35
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv11.i/2151101.s.b/8260bw11dod.m
Cal Date : 02-Nov-2015 19:55 clh

Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
153 tert-amyl Methyl Ether	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
23 cis-1,2-Dichloroethene	0.40514 0.36831	0.37156	0.35797	0.36382	0.39056	0.38703	AVRG		0.37777		4.47335	
M 80 Total 1,2-Dichloroethene	0.42728 0.35478	0.36957	0.35836	0.35800	0.38269	0.37730	AVRG		0.37542		6.70412	
38 2,2-Dichloropropane	0.51196 0.40869	0.44963	0.42834	0.41821	0.43546	0.43781	AVRG		0.44144		7.66722	
53 Ethyl Acetate	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
15 Tetrahydrofuran	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
156 Tert-amyl alcohol	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-NOV-2015 12:46
End Cal Date : 01-NOV-2015 15:35
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv11.i/2151101.s.b/8260bw11dod.m
Cal Date : 02-Nov-2015 19:55 clh

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
158 1,4-difluorobenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
45 Cyclohexane	0.38430	0.41136	0.41601	0.42453	0.44882	0.45140						
	0.42535						AVRG		0.42311		5.42677	
31 sec-butanol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
36 Bromochloromethane	0.14294	0.16807	0.15407	0.14906	0.14924	0.14082						
	0.13064						AVRG		0.14783		7.91092	
37 Chloroform +	0.54226	0.54161	0.49638	0.48803	0.50887	0.49909						
	0.47161						AVRG		0.50684		5.24014	
215 2,2,4 Trimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
5 Carbon Tetrachloride	0.37016	0.36685	0.36542	0.37577	0.39327	0.39549						
	0.37758						AVRG		0.37779		3.22021	

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-NOV-2015 12:46
End Cal Date : 01-NOV-2015 15:35
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv11.i/2151101.s.b/8260bw11dod.m
Cal Date : 02-Nov-2015 19:55 clh

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
43 1,1,1-Trichloroethane	0.49766	0.47485	0.45265	0.43785	0.45336	0.44904						
	0.42438						AVRG		0.45569		5.28928	
159 1,2-difluorobenzene	*****	*****	*****	*****	*****	*****						
	*****						AVRG		0.000e+00		0.000e+00	<-
M 161 Total Difluorobenzene	*****	*****	*****	*****	*****	*****						
	*****						AVRG		0.000e+00		0.000e+00	<-
33 2-Butanone	0.18350	0.21518	0.20038	0.19242	0.20995	0.19955						
	0.19822						AVRG		0.19989		5.25691	
24 Propionitrile	*****	*****	*****	*****	*****	*****						
	*****						AVRG		0.000e+00		0.000e+00	<-
70 Methylacrylonitrile	*****	*****	*****	*****	*****	*****						
	*****						AVRG		0.000e+00		0.000e+00	<-
44 1,1-Dichloropropene	0.36175	0.35399	0.35419	0.34714	0.37264	0.37070						
	0.35395						AVRG		0.35920		2.65290	

GCAL, Inc.

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Integrator : HP RTE
Method file : /var/chem/msv11.i/2151101.s.b/8260bw11dod.m
Cal Date : 02-Nov-2015 19:55 clh

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
162 Heptane	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
34 Isobutyl Alcohol	0.01530	0.01862	0.01580	0.01357	0.01439	0.01405						
	0.01407						AVRG		0.01511		11.43539	
47 Benzene	1.14949	1.13935	1.13642	1.09524	1.14518	1.12781						
	1.03481						AVRG		1.11833		3.66155	
42 1,2-Dichloroethane	0.47681	0.44074	0.42355	0.40283	0.42350	0.41276						
	0.39569						AVRG		0.42513		6.39655	
61 Methyl Cyclohexane	0.38979	0.42116	0.42448	0.40903	0.44674	0.45324						
	0.42938						AVRG		0.42483		5.08380	
57 Trichloroethene	0.34470	0.33232	0.31066	0.30400	0.32619	0.32582						
	0.31200						AVRG		0.32224		4.39980	
9 n-Butanol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-NOV-2015 12:46
End Cal Date : 01-NOV-2015 15:35
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv11.i/2151101.s.b/8260bw11dod.m
Cal Date : 02-Nov-2015 19:55 clh

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
48 2-3 Dichloro-1-Proprene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
55 Dibromomethane	0.17267	0.20265	0.19674	0.18313	0.19017	0.18847						
	0.18444						AVRG		0.18832		5.16005	
52 Methyl methacrylate	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
51 1,4- Dioxane	+++++	4713	7847	15118	34061	68271						
	133597						LINR	-1.16937	0.00200		0.99959	<-
56 1,2-Dichloropropane +	0.26422	0.28443	0.28837	0.28180	0.29617	0.29305						
	0.27494						AVRG		0.28328		3.87708	
58 Bromodichloromethane	0.41347	0.40141	0.38137	0.38343	0.41057	0.41142						
	0.38858						AVRG		0.39861		3.49431	
59 1-Bromo-2-chloroethane	0.41153	0.39837	0.41134	0.39509	0.42753	0.42092						
	0.40196						AVRG		0.40954		2.90901	

GCAL, Inc.

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Method file : /var/chem/msv11.i/2151101.s.b/8260bw11dod.m
Cal Date : 02-Nov-2015 19:55 clh

Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
160 Methyldisulfide	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
62 2-Chloroethyl vinyl ether	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
63 cis-1,3-Dichloropropene	0.40838 0.47695	0.41305	0.42259	0.43448	0.48527	0.49696	AVRG		0.44824		8.26966	
49 2-Nitropropane	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
70 Toluene +	3.14602 2.54551	3.05858	2.94829	2.92681	3.10427	2.91125	AVRG		2.94868		6.77788	
154 Ethyl Methacrylate	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
8 Tetrachloroethene	0.66836 0.57119	0.60773	0.63726	0.59345	0.64185	0.61093	AVRG		0.61868		5.28823	

GCAL, Inc.

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Integrator : HP RTE
Method file : /var/chem/msv11.i/2151101.s.b/8260bw11dod.m
Cal Date : 02-Nov-2015 19:55 clh

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
65 4-methyl-2-pentanone	0.75728	0.73707	0.74019	0.78188	0.85102	0.80327						
	0.77269						AVRG		0.77763		5.12957	
66 trans-1,3-Dichloropropene	0.37953	0.39680	0.40852	0.41268	0.46815	0.47649						
	0.45937						AVRG		0.42879		8.97215	
M 87 1-3 Dichloropropene total	0.39395	0.40492	0.41556	0.42358	0.47671	0.48673						
	0.46816						AVRG		0.43852		8.59661	
67 1,1,2-Trichloroethane	0.75265	0.66172	0.67050	0.66214	0.70553	0.66687						
	0.62506						AVRG		0.67778		5.97194	
59 1-Nitropropane	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
68 Dibromochloromethane	0.67280	0.77285	0.75769	0.76670	0.82309	0.81052						
	0.77551						AVRG		0.76845		6.30686	
1,3-Dichloropropane	1.01113	1.16892	1.16308	1.17639	1.24857	1.17362						
	1.10103						AVRG		1.14896		6.47180	

GCAL, Inc.

INITIAL CALIBRATION DATA

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Method file : /var/chem/msv11.i/2151101.s.b/8260bw11dod.m
Cal Date : 02-Nov-2015 19:55 clh

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
151 3,3 Dimethyl-1-butanol	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
74 1,2-Dibromoethane(EDB)	0.63210 0.68058	0.64232	0.64262	0.69354	0.72895	0.69939	AVRG		0.67422		5.35904	
73 2-Hexanone	0.68264 0.67239	0.56156	0.59738	0.63103	0.72423	0.68964	AVRG		0.65127		8.77308	
86 1-Chlorohexane	1.04623 0.84861	0.79851	0.80673	0.85916	0.91643	0.91266	AVRG		0.88405		9.61395	
85 Chlorobenzene ++	2.14994 1.82722	2.21272	1.99513	1.96961	2.09752	2.00192	AVRG		2.03629		6.30265	
88 Ethylbenzene +	1.11451 1.01418	1.00194	1.02111	1.04419	1.13520	1.07422	AVRG		1.05791		4.88619	
8 1,1,1,2-Tetrachloroethane	0.82190 0.69368	0.72513	0.70449	0.67230	0.74064	0.71683	AVRG		0.72500		6.63422	

GCAL, Inc.

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Method file : /var/chem/msv11.i/2151101.s.b/8260bw11dod.m
Cal Date : 02-Nov-2015 19:55 clh

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
89 p,m-Xylene	1.23536	1.28257	1.31118	1.29091	1.38872	1.32351						
	1.17619						AVRG		1.28692		5.23629	
69 3-ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
93 o-Xylene	1.26092	1.29540	1.21028	1.28698	1.37611	1.35705						
	1.27071						AVRG		1.29392		4.39625	
M 120 TOTAL XYLENE	1.24388	1.28685	1.27755	1.28960	1.38452	1.33469						
	1.20770						AVRG		1.28925		4.47737	
91 Styrene	1.87893	2.11542	1.99420	2.11615	2.31588	2.27467						
	2.02081						AVRG		2.10230		7.36680	
50 Bromoform ++	0.59564	0.50382	0.56202	0.55573	0.63395	0.62925						
	0.63231						AVRG		0.58753		8.40592	
5 2-ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-

GCAL, Inc.

INITIAL CALIBRATION DATA

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Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv11.i/2151101.s.b/8260bw11dod.m
Cal Date : 02-Nov-2015 19:55 clh

Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
96 Isopropylbenzene	3.08912	3.17814	3.20057	3.29090	3.57351	3.38824						
	2.81346						AVRG		3.21913		7.42555	
76 Cyclohexanone	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
98 Bromobenzene	1.66058	1.71358	1.46502	1.39186	1.53596	1.47700						
	1.31854						AVRG		1.50893		9.31393	
100 n-Propylbenzene	3.66203	3.80277	3.73886	3.55040	3.79901	3.35676						
	2.54652						AVRG		3.49377		12.78058	
92 1,1,2,2-Tetrachloroethane++	1.08279	0.90152	0.86574	0.82430	0.87924	0.82932						
	0.75630						AVRG		0.87703		11.65602	
104 1,3,5-Trimethylbenzene	2.62361	2.59830	2.62726	2.60420	2.82154	2.56299						
	2.06366						AVRG		2.55737		9.12450	
104 1,2,3-Trichloropropane	0.77106	0.79418	0.78017	0.74032	0.80653	0.71793						
	0.65565						AVRG		0.75226		6.96893	

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-NOV-2015 12:46
End Cal Date : 01-NOV-2015 15:35
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv11.i/2151101.s.b/8260bw11dod.m
Cal Date : 02-Nov-2015 19:55 clh

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
84 Pentachloroethane	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
95 trans-1,4-Dichloro-2-Butene	0.24712	0.29372	0.24408	0.25267	0.27703	0.25688						
	0.24265						AVRG		0.25917		7.39947	
101 2-Chlorotoluene	2.47917	2.60742	2.50481	2.41680	2.62565	2.43287						
	2.04343						AVRG		2.44431		7.93932	
102 4-Chlorotoluene	2.38986	2.53636	2.28299	2.22095	2.39690	2.25487						
	1.84571						AVRG		2.27538		9.56231	
112 Dicyclopentadiene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
115 tert-butylbenzene	1.44094	1.48675	1.37026	1.39948	1.54572	1.45146						
	1.27775						AVRG		1.42462		6.05665	
116 1,2,4-Trimethylbenzene	2.32395	2.83371	2.67394	2.64609	2.89483	2.63987						
	2.11303						AVRG		2.58934		10.73128	

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-NOV-2015 12:46
End Cal Date : 01-NOV-2015 15:35
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv11.i/2151101.s.b/8260bw11dod.m
Cal Date : 02-Nov-2015 19:55 clh

Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
81 1-3 Diethylbenzene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
107 sec-Butylbenzene	3.15313 2.41090	3.22213	3.19066	3.14835	3.42844	3.11676	AVRG		3.09577		10.30960	
79 1-4 Diethylbenzene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
111 p-Isopropyltoluene	2.83973 2.20072	2.81029	2.72860	2.74817	3.00613	2.80857	AVRG		2.73460		9.21770	
77 1-2 Diethylbenzene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
M 121 Total Diethylbenzene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
108 1,3-Dichlorobenzene	1.64331 1.43993	1.77961	1.62800	1.61998	1.75355	1.66511	AVRG		1.64707		6.70835	

GCAL, Inc.

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Integrator : HP RTE
Method file : /var/chem/msv11.i/2151101.s.b/8260bw11dod.m
Cal Date : 02-Nov-2015 19:55 clh

Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
110 1,4-Dichlorobenzene	1.88764	1.92973	1.72031	1.64313	1.74983	1.68478						
	1.45640						AVRG		1.72455		9.15218	
114 n-Butylbenzene	2.46339	2.27504	2.29575	2.28194	2.40858	2.45258						
	1.96961						AVRG		2.30670		7.33100	
113 1,2-Dichlorobenzene	1.65204	1.82211	1.62889	1.55986	1.74697	1.66126						
	1.44452						AVRG		1.64509		7.43584	
115 1,2-Dibromo-3-Chloropropane	0.25956	0.25307	0.22511	0.22181	0.24989	0.24965						
	0.24459						AVRG		0.24338		5.90142	
99 Benzal Chloride	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
118 Hexachlorobutadiene	0.55365	0.48464	0.46698	0.45207	0.50714	0.51584						
	0.50224						AVRG		0.49751		6.74944	
117 1,2,4-Trichlorobenzene	0.91811	1.04780	0.98286	0.99183	1.17848	1.23453						
	1.16648						AVRG		1.07430		11.09763	

GCAL, Inc.

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Start Cal Date : 01-NOV-2015 12:46
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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv11.i/2151101.s.b/8260bw11dod.m
Cal Date : 02-Nov-2015 19:55 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 9											
117 Naphthalene	10785 +++++	58876	129499	303746	941337	1942244	LINR	0.03685	3.07463		0.99881	
103 2-methylnapthalene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
119 1,2,3-Trichlorobenzene	0.99237 1.12937	1.08020	1.03132	1.05004	1.17103	1.22171	AVRG		1.09658		7.42995	
$ 39 Dibromofluoromethane	0.25318 0.24418	0.25012	0.24948	0.23916	0.24283	0.24469	AVRG		0.24623		1.97642	
$ 41 1,2-Dichloroethane-d4	0.16448 0.15637	0.16095	0.15676	0.15260	0.15148	0.15160	AVRG		0.15632		3.17446	
$ 58 Toluene-d8	2.38687 2.26624	2.28047	2.34659	2.36915	2.36197	2.32047	AVRG		2.33311		1.96464	
$ 97 Bromofluorobenzene	0.83792 0.88737	0.82692	0.84197	0.83624	0.88236	0.87109	AVRG		0.85484		2.88795	

Data File: /var/chem/msv11.i/2151101.s.b/g9465d.d
Report Date: 02-Nov-2015 19:55

GCAL, Inc.

RECOVERY REPORT

Client Name:
Sample Matrix: LIQUID
Lab Smp Id: 1600
Level: LOW
Data Type: MS DATA
SpikeList File: ICV.spk
Sublist File: 8260b+A9-1.sub
Method File: /var/chem/msv11.i/2151101.s.b/8260bw11dod.m
Misc Info: MSV~34714~*1*JCK

Client SDG: 2151101.s
Fraction: VOA
Client Smp ID: ICV050
Operator: LBH
SampleType: LCS
Quant Type: ISTD

	SPIKE	COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
	1	Dichlorodifluoromethane	50.0	48.5	96.99	80-120
	2	Chloromethane ++	50.0	47.8	95.58	80-120
	3	Vinyl Chloride +	50.0	47.2	94.46	80-120
	5	Bromomethane	50.0	49.1	98.17	80-120
	6	Chloroethane	50.0	53.3	106.53	80-120
	9	Trichlorofluoromethane	50.0	50.2	100.41	80-120
	13	1,1-Dichloroethene +	50.0	49.1	98.20	80-120
	21	Carbon Disulfide	50.0	52.8	105.64	80-120
	19	1,1,2Trichlotrifluoroethane	50.0	50.6	101.18	80-120
	14	Methyl Iodide	50.0	50.3	100.64	80-120
	8	Acrolein	250	242	97.00	80-120
	18	Methylene Chloride	50.0	46.9	93.71	80-120
	11	Acetone	50.0	49.6	99.18	80-120
	22	trans-1,2-Dichloroethene	50.0	48.5	96.95	80-120
	20	Methyl Acetate	50.0	47.1	94.24	80-120
	32	Hexane	50.0	48.6	97.24	80-120
	25	MTBE	50.0	51.5	103.04	80-120
	26	1,1-Dichloroethane ++	50.0	49.8	99.58	80-120
	16	Acrylonitrile	250	249	99.48	80-120
	29	Vinyl Acetate	50.0	46.6	93.30	80-120
	23	cis-1,2-Dichloroethene	50.0	49.7	99.34	80-120
	38	2,2-Dichloropropane	50.0	48.4	96.74	80-120
	45	Cyclohexane	50.0	52.3	104.52	80-120
	36	Bromochloromethane	50.0	49.9	99.78	80-120
	37	Chloroform +	50.0	49.2	98.38	80-120
	46	Carbon Tetrachloride	50.0	51.2	102.49	80-120
	43	1,1,1-Trichloroethane	50.0	49.5	98.98	80-120
	33	2-Butanone	50.0	49.1	98.17	80-120
	44	1,1-Dichloropropene	50.0	50.8	101.55	80-120
	47	Benzene	50.0	50.0	99.97	80-120
	42	1,2-Dichloroethane	50.0	49.6	99.21	80-120
M	80	Total 1,2-Dichloroethene	100	98.1	98.15	80-120
	61	Methyl Cyclohexane	50.0	50.7	101.50	80-120

	SPIKE	COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
	57	Trichloroethene	50.0	50.1	100.26	80-120
	55	Dibromomethane	50.0	50.4	100.82	80-120
	56	1,2-Dichloropropane +	50.0	51.4	102.78	80-120
	58	Bromodichloromethane	50.0	50.6	101.21	80-120
	60	1-Bromo-2-chloroethane	50.0	51.2	102.36	80-120
	63	cis-1,3-Dichloropropene	50.0	52.7	105.46	80-120
	70	Toluene +	50.0	50.6	101.13	80-120
	78	Tetrachloroethene	50.0	50.0	100.07	80-120
	65	4-methyl-2-pentanone	50.0	51.8	103.65	80-120
	66	trans-1,3-Dichloropropene	50.0	53.9	107.73	80-120
	67	1,1,2-Trichloroethane	50.0	48.7	97.38	80-120
	72	Dibromochloromethane	50.0	51.6	103.22	80-120
	71	1,3-Dichloropropane	50.0	52.6	105.10	80-120
	74	1,2-Dibromoethane(EDB)	50.0	52.8	105.53	80-120
	73	2-Hexanone	50.0	51.3	102.61	80-120
M	87	1-3 Dichloropropene total	100	107	106.59	80-120
	86	1-Chlorohexane	50.0	52.6	105.15	80-120
	85	Chlorobenzene ++	50.0	49.9	99.90	80-120
	88	Ethylbenzene +	50.0	51.2	102.48	80-120
	82	1,1,1,2-Tetrachloroethane	50.0	48.5	97.05	80-120
	89	p,m-Xylene	100	105	104.50	80-120
	93	o-Xylene	50.0	51.3	102.54	80-120
	91	Styrene	50.0	54.8	109.58	80-120
	90	Bromoform ++	50.0	52.6	105.25	80-120
	96	Isopropylbenzene	50.0	53.8	107.69	80-120
M	120	TOTAL XYLENE	150	156	103.85	80-120
	98	Bromobenzene	50.0	50.7	101.45	80-120
	100	n-Propylbenzene	50.0	52.2	104.39	80-120
	92	1,1,2,2-Tetrachloroethane++	50.0	47.7	95.43	80-120
	101	2-Chlorotoluene	50.0	51.8	103.51	80-120
	104	1,3,5-Trimethylbenzene	50.0	52.9	105.78	80-120
	94	1,2,3-Trichloropropane	50.0	51.6	103.27	80-120
	95	trans-1,4-Dichloro-2-Butene	50.0	50.6	101.16	80-120
	102	4-Chlorotoluene	50.0	51.7	103.38	80-120
	105	tert-butylbenzene	50.0	51.6	103.27	80-120
	106	1,2,4-Trimethylbenzene	50.0	53.4	106.79	80-120
	107	sec-Butylbenzene	50.0	52.9	105.88	80-120
	111	p-Isopropyltoluene	50.0	53.0	106.04	80-120
	108	1,3-Dichlorobenzene	50.0	52.2	104.48	80-120
	110	1,4-Dichlorobenzene	50.0	50.6	101.24	80-120
	114	n-Butylbenzene	50.0	53.6	107.28	80-120
	113	1,2-Dichlorobenzene	50.0	51.7	103.50	80-120
	115	1,2-Dibromo-3-Chloropropane	50.0	49.5	99.00	80-120
	118	Hexachlorobutadiene	50.0	49.4	98.87	80-120
	116	1,2,4-Trichlorobenzene	50.0	54.7	109.45	80-120
	117	Naphthalene	50.0	50.6	101.25	80-120
	119	1,2,3-Trichlorobenzene	50.0	53.6	107.11	80-120

Data File: /var/chem/msv11.i/2151102p.s.b/g9525d.d
Report Date: 04-Nov-2015 11:32

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv11.i
Lab File ID: g9525d.d
Analysis Type: WATER
Lab Sample ID: 1400
Method: /var/chem/msv11.i/2151102p.s.b/8260bw11dod.m

Injection Date: 02-NOV-2015 22:45
Init. Cal. Date(s): 01-NOV-2015 01-NOV-2015
Init. Cal. Times: 12:46 15:35
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
1 Dichlorodifluoromethane	0.34530	0.31011	0.31011	0.010	-10.19120	20.00000	Averaged
2 Chloromethane ++	0.35947	0.39061	0.39061	0.100	8.66486	20.00000	Averaged
3 Vinyl Chloride +	0.36861	0.37803	0.37803	0.010	2.55429	20.00000	Averaged
5 Bromomethane	0.18847	0.19931	0.19931	0.010	5.75149	20.00000	Averaged
6 Chloroethane	0.17475	0.19665	0.19665	0.010	12.53263	20.00000	Averaged
9 Trichlorofluoromethane	0.49941	0.48812	0.48812	0.010	-2.26012	20.00000	Averaged
13 1,1-Dichloroethene +	0.27236	0.26206	0.26206	0.010	-3.78127	20.00000	Averaged
19 1,1,2Trichlotrifluoroethane	0.26670	0.26048	0.26048	0.010	-2.33204	20.00000	Averaged
21 Carbon Disulfide	0.75265	0.77517	0.77517	0.010	2.99234	20.00000	Averaged
14 Methyl Iodide	51.82296	50.00000	0.15716	0.010	3.64591	20.00000	Linear
8 Acrolein	0.01599	0.01664	0.01664	0.010	4.08012	20.00000	Averaged
18 Methylene Chloride	0.36338	0.32998	0.32998	0.010	-9.19056	20.00000	Averaged
11 Acetone	0.18948	0.16514	0.16514	0.010	-12.84508	20.00000	Averaged
20 Methyl Acetate	0.44405	0.38491	0.38491	0.010	-13.31695	20.00000	Averaged
22 trans-1,2-Dichloroethene	0.37308	0.37104	0.37104	0.010	-0.54677	20.00000	Averaged
32 Hexane	0.31972	0.30195	0.30195	0.010	-5.55881	20.00000	Averaged
25 MTBE	0.79098	0.74662	0.74662	0.010	-5.60770	20.00000	Averaged
26 1,1-Dichloroethane ++	0.51085	0.49419	0.49419	0.100	-3.26179	20.00000	Averaged
16 Acrylonitrile	0.10305	0.10242	0.10242	0.010	-0.60503	20.00000	Averaged
29 Vinyl Acetate	0.23157	0.26172	0.26172	0.010	13.01766	20.00000	Averaged
23 cis-1,2-Dichloroethene	0.37777	0.36354	0.36354	0.010	-3.76702	20.00000	Averaged
M 80 Total 1,2-Dichloroethene	0.37542	0.36729	0.36729	0.010	-2.16695	20.00000	Averaged
38 2,2-Dichloropropane	0.44144	0.42398	0.42398	0.010	-3.95568	20.00000	Averaged
36 Bromochloromethane	0.14783	0.14967	0.14967	0.010	1.24289	20.00000	Averaged
45 Cyclohexane	0.42311	0.40151	0.40151	0.010	-5.10463	20.00000	Averaged
37 Chloroform +	0.50684	0.49368	0.49368	0.010	-2.59609	20.00000	Averaged
46 Carbon Tetrachloride	0.37779	0.36504	0.36504	0.010	-3.37585	20.00000	Averaged
$ 39 Dibromofluoromethane	0.24623	0.25285	0.25285	0.010	2.68714	20.00000	Averaged
43 1,1,1-Trichloroethane	0.45569	0.43079	0.43079	0.010	-5.46256	20.00000	Averaged
33 2-Butanone	0.19989	0.16872	0.16872	0.010	-15.59081	20.00000	Averaged
44 1,1-Dichloropropene	0.35920	0.34962	0.34962	0.010	-2.66511	20.00000	Averaged
47 Benzene	1.11833	1.10800	1.10800	0.010	-0.92307	20.00000	Averaged
$ 41 1,2-Dichloroethane-d4	0.15632	0.15687	0.15687	0.010	0.34883	20.00000	Averaged
42 1,2-Dichloroethane	0.42513	0.39649	0.39649	0.010	-6.73653	20.00000	Averaged
57 Trichloroethene	0.32224	0.31844	0.31844	0.010	-1.17828	20.00000	Averaged

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv11.i
Lab File ID: g9525d.d
Analysis Type: WATER
Lab Sample ID: 1400
Method: /var/chem/msv11.i/2151102p.s.b/8260bw11dod.m

Injection Date: 02-NOV-2015 22:45
Init. Cal. Date(s): 01-NOV-2015 01-NOV-2015
Init. Cal. Times: 12:46 15:35
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
61 Methyl Cyclohexane	0.42483	0.40898	0.40898	0.010	-3.73021	20.00000	Averaged
55 Dibromomethane	0.18832	0.18262	0.18262	0.010	-3.02878	20.00000	Averaged
56 1,2-Dichloropropane +	0.28328	0.28171	0.28171	0.010	-0.55553	20.00000	Averaged
58 Bromodichloromethane	0.39861	0.39894	0.39894	0.010	0.08498	20.00000	Averaged
60 1-Bromo-2-chloroethane	0.40954	0.40473	0.40473	0.010	-1.17291	20.00000	Averaged
62 2-Chloroethyl vinyl ether	++++	++++	0.00000	0.010	++++	20.00000	Averaged <-
63 cis-1,3-Dichloropropene	0.44824	0.46523	0.46523	0.010	3.78949	20.00000	Averaged
$ 68 Toluene-d8	2.33311	2.36404	2.36404	0.010	1.32595	20.00000	Averaged
70 Toluene +	2.94868	2.96572	2.96572	0.010	0.57790	20.00000	Averaged
65 4-methyl-2-pentanone	0.77763	0.69739	0.69739	0.010	-10.31813	20.00000	Averaged
78 Tetrachloroethene	0.61868	0.61391	0.61391	0.010	-0.77184	20.00000	Averaged
66 trans-1,3-Dichloropropene	0.42879	0.45901	0.45901	0.010	7.04710	20.00000	Averaged
M 87 1-3 Dichloropropene total	0.43852	0.46212	0.46212	0.010	5.38218	20.00000	Averaged
67 1,1,2-Trichloroethane	0.67778	0.65213	0.65213	0.010	-3.78525	20.00000	Averaged
72 Dibromochloromethane	0.76845	0.77308	0.77308	0.010	0.60216	20.00000	Averaged
71 1,3-Dichloropropane	1.14896	1.13935	1.13935	0.010	-0.83634	20.00000	Averaged
74 1,2-Dibromoethane(EDB)	0.67422	0.69325	0.69325	0.010	2.82375	20.00000	Averaged
73 2-Hexanone	0.65127	0.57973	0.57973	0.010	-10.98496	20.00000	Averaged
86 1-Chlorohexane	0.88405	0.85569	0.85569	0.010	-3.20770	20.00000	Averaged
85 Chlorobenzene ++	2.03629	2.00821	2.00821	0.300	-1.37941	20.00000	Averaged
88 Ethylbenzene +	1.05791	1.11863	1.11863	0.010	5.73992	20.00000	Averaged
82 1,1,1,2-Tetrachloroethane	0.72500	0.71397	0.71397	0.010	-1.52078	20.00000	Averaged
89 p,m-Xylene	1.28692	1.36144	1.36144	0.010	5.79074	20.00000	Averaged
93 o-Xylene	1.29392	1.31931	1.31931	0.010	1.96186	20.00000	Averaged
M 120 TOTAL XYLENE	1.28925	1.34740	1.34740	0.010	4.50982	20.00000	Averaged
91 Styrene	2.10230	2.28097	2.28097	0.010	8.49886	20.00000	Averaged
90 Bromoform ++	0.58753	0.57306	0.57306	0.100	-2.46337	20.00000	Averaged
96 Isopropylbenzene	3.21913	3.46675	3.46675	0.010	7.69212	20.00000	Averaged
$ 97 Bromofluorobenzene	0.85484	0.88468	0.88468	0.010	3.49130	20.00000	Averaged
98 Bromobenzene	1.50893	1.42620	1.42620	0.010	-5.48272	20.00000	Averaged
100 n-Propylbenzene	3.49377	3.57929	3.57929	0.010	2.44791	20.00000	Averaged
92 1,1,2,2-Tetrachloroethane++	0.87703	0.78251	0.78251	0.300	-10.77730	20.00000	Averaged
101 2-Chlorotoluene	2.44431	2.45519	2.45519	0.010	0.44500	20.00000	Averaged
104 1,3,5-Trimethylbenzene	2.55737	2.64653	2.64653	0.010	3.48640	20.00000	Averaged
94 1,2,3-Trichloropropane	0.75226	0.67495	0.67495	0.010	-10.27794	20.00000	Averaged

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv11.i
Lab File ID: g9525d.d
Analysis Type: WATER
Lab Sample ID: 1400
Method: /var/chem/msv11.i/2151102p.s.b/8260bw11dod.m

Injection Date: 02-NOV-2015 22:45
Init. Cal. Date(s): 01-NOV-2015 01-NOV-2015
Init. Cal. Times: 12:46 15:35
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
95 trans-1,4-Dichloro-2-Butene	0.25917	0.23303	0.23303	0.010	-10.08313	20.00000	Averaged
102 4-Chlorotoluene	2.27538	2.29332	2.29332	0.010	0.78849	20.00000	Averaged
105 tert-butylbenzene	1.42462	1.43347	1.43347	0.010	0.62103	20.00000	Averaged
106 1,2,4-Trimethylbenzene	2.58934	2.71486	2.71486	0.010	4.84738	20.00000	Averaged
107 sec-Butylbenzene	3.09577	3.22215	3.22215	0.010	4.08235	20.00000	Averaged
111 p-Isopropyltoluene	2.73460	2.86402	2.86402	0.010	4.73279	20.00000	Averaged
108 1,3-Dichlorobenzene	1.64707	1.67752	1.67752	0.010	1.84895	20.00000	Averaged
110 1,4-Dichlorobenzene	1.72455	1.71054	1.71054	0.010	-0.81203	20.00000	Averaged
114 n-Butylbenzene	2.30670	2.42359	2.42359	0.010	5.06765	20.00000	Averaged
113 1,2-Dichlorobenzene	1.64509	1.64503	1.64503	0.010	-0.00381	20.00000	Averaged
115 1,2-Dibromo-3-Chloropropane	0.24338	0.21014	0.21014	0.010	-13.65853	20.00000	Averaged
118 Hexachlorobutadiene	0.49751	0.49711	0.49711	0.010	-0.07982	20.00000	Averaged
116 1,2,4-Trichlorobenzene	1.07430	1.13519	1.13519	0.010	5.66838	20.00000	Averaged
117 Naphthalene	46.94941	50.00000	2.77374	0.010	-6.10118	20.00000	Linear
119 1,2,3-Trichlorobenzene	1.09658	1.13975	1.13975	0.010	3.93665	20.00000	Averaged
15 tert-Butyl Alcohol	47.78803	50.00000	0.02919	0.010	-4.42395	20.00000	Linear
28 Isopropyl Ether	0.85878	0.80722	0.80722	0.010	-6.00439	20.00000	Averaged
27 Chloroprene	0.38186	0.35056	0.35056	0.010	-8.19856	20.00000	Averaged
34 Isobutyl Alcohol	0.01511	0.01141	0.01141	0.010	-24.49661	20.00000	Averaged <-
51 1,4- Dioxane	1289	1250	0.00216	0.010	3.09072	20.00000	Linear <-

Data File: /var/chem/msv11.i/2151103.s.b/g9552.d
Report Date: 03-Nov-2015 13:39

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv11.i
Lab File ID: g9552.d
Analysis Type: WATER
Lab Sample ID: 1400
Method: /var/chem/msv11.i/2151103.s.b/8260bw11dod.m

Injection Date: 03-NOV-2015 09:00
Init. Cal. Date(s): 01-NOV-2015 01-NOV-2015
Init. Cal. Times: 12:46 15:35
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
1 Dichlorodifluoromethane	0.34530	0.29900	0.29900	0.010	-13.40740	20.00000	Averaged
2 Chloromethane ++	0.35947	0.31253	0.31253	0.100	-13.05867	20.00000	Averaged
3 Vinyl Chloride +	0.36861	0.32118	0.32118	0.010	-12.86898	20.00000	Averaged
5 Bromomethane	0.18847	0.17534	0.17534	0.010	-6.96742	20.00000	Averaged
6 Chloroethane	0.17475	0.17009	0.17009	0.010	-2.66699	20.00000	Averaged
9 Trichlorofluoromethane	0.49941	0.47043	0.47043	0.010	-5.80124	20.00000	Averaged
13 1,1-Dichloroethene +	0.27236	0.26037	0.26037	0.010	-4.40092	20.00000	Averaged
19 1,1,2Trichlotrifluoroethane	0.26670	0.24891	0.24891	0.010	-6.67022	20.00000	Averaged
21 Carbon Disulfide	0.75265	0.72796	0.72796	0.010	-3.28064	20.00000	Averaged
14 Methyl Iodide	45.06316	50.00000	0.12942	0.010	-9.87368	20.00000	Linear
8 Acrolein	0.01599	0.01752	0.01752	0.010	9.62788	20.00000	Averaged
18 Methylene Chloride	0.36338	0.36733	0.36733	0.010	1.08703	20.00000	Averaged
11 Acetone	0.18948	0.18754	0.18754	0.010	-1.02369	20.00000	Averaged
20 Methyl Acetate	0.44405	0.40924	0.40924	0.010	-7.83941	20.00000	Averaged
22 trans-1,2-Dichloroethene	0.37308	0.37758	0.37758	0.010	1.20685	20.00000	Averaged
32 Hexane	0.31972	0.29373	0.29373	0.010	-8.13050	20.00000	Averaged
25 MTBE	0.79098	0.79034	0.79034	0.010	-0.07974	20.00000	Averaged
26 1,1-Dichloroethane ++	0.51085	0.51030	0.51030	0.100	-0.10764	20.00000	Averaged
16 Acrylonitrile	0.10305	0.10879	0.10879	0.010	5.57007	20.00000	Averaged
29 Vinyl Acetate	0.23157	0.25171	0.25171	0.010	8.69789	20.00000	Averaged
23 cis-1,2-Dichloroethene	0.37777	0.38173	0.38173	0.010	1.04892	20.00000	Averaged
M 80 Total 1,2-Dichloroethene	0.37542	0.37966	0.37966	0.010	1.12739	20.00000	Averaged
38 2,2-Dichloropropane	0.44144	0.42870	0.42870	0.010	-2.88657	20.00000	Averaged
36 Bromochloromethane	0.14783	0.15526	0.15526	0.010	5.02555	20.00000	Averaged
45 Cyclohexane	0.42311	0.40100	0.40100	0.010	-5.22522	20.00000	Averaged
37 Chloroform +	0.50684	0.51823	0.51823	0.010	2.24784	20.00000	Averaged
46 Carbon Tetrachloride	0.37779	0.37129	0.37129	0.010	-1.71988	20.00000	Averaged
$ 39 Dibromofluoromethane	0.24623	0.25462	0.25462	0.010	3.40756	20.00000	Averaged
43 1,1,1-Trichloroethane	0.45569	0.43593	0.43593	0.010	-4.33433	20.00000	Averaged
33 2-Butanone	0.19989	0.19186	0.19186	0.010	-4.01556	20.00000	Averaged
44 1,1-Dichloropropene	0.35920	0.34706	0.34706	0.010	-3.37866	20.00000	Averaged
47 Benzene	1.11833	1.14941	1.14941	0.010	2.77918	20.00000	Averaged
$ 41 1,2-Dichloroethane-d4	0.15632	0.15423	0.15423	0.010	-1.33423	20.00000	Averaged
42 1,2-Dichloroethane	0.42513	0.42872	0.42872	0.010	0.84413	20.00000	Averaged
57 Trichloroethene	0.32224	0.32779	0.32779	0.010	1.72073	20.00000	Averaged

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv11.i
Lab File ID: g9552.d
Analysis Type: WATER
Lab Sample ID: 1400
Method: /var/chem/msv11.i/2151103.s.b/8260bw11dod.m

Injection Date: 03-NOV-2015 09:00
Init. Cal. Date(s): 01-NOV-2015 01-NOV-2015
Init. Cal. Times: 12:46 15:35
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
61 Methyl Cyclohexane	0.42483	0.40743	0.40743	0.010	-4.09551	20.00000	Averaged	
55 Dibromomethane	0.18832	0.19812	0.19812	0.010	5.19949	20.00000	Averaged	
56 1,2-Dichloropropane +	0.28328	0.29935	0.29935	0.010	5.67079	20.00000	Averaged	
58 Bromodichloromethane	0.39861	0.42490	0.42490	0.010	6.59596	20.00000	Averaged	
60 1-Bromo-2-chloroethane	0.40954	0.05484	0.05484	0.010	-86.60870	20.00000	Averaged	<- NF
62 2-Chloroethyl vinyl ether	++++	++++	0.00000	0.010	++++	20.00000	Averaged	<-
63 cis-1,3-Dichloropropene	0.44824	0.48399	0.48399	0.010	7.97657	20.00000	Averaged	
$ 68 Toluene-d8	2.33311	2.25225	2.25225	0.010	-3.46561	20.00000	Averaged	
70 Toluene +	2.94868	3.08757	3.08757	0.010	4.71052	20.00000	Averaged	
65 4-methyl-2-pentanone	0.77763	0.78593	0.78593	0.010	1.06772	20.00000	Averaged	
78 Tetrachloroethene	0.61868	0.61182	0.61182	0.010	-1.10935	20.00000	Averaged	
66 trans-1,3-Dichloropropene	0.42879	0.47807	0.47807	0.010	11.49346	20.00000	Averaged	
M 87 1-3 Dichloropropene total	0.43852	0.48103	0.48103	0.010	9.69602	20.00000	Averaged	
67 1,1,2-Trichloroethane	0.67778	0.71076	0.71076	0.010	4.86527	20.00000	Averaged	
72 Dibromochloromethane	0.76845	0.83157	0.83157	0.010	8.21338	20.00000	Averaged	
71 1,3-Dichloropropane	1.14896	1.25247	1.25247	0.010	9.00850	20.00000	Averaged	
74 1,2-Dibromoethane(EDB)	0.67422	0.72704	0.72704	0.010	7.83524	20.00000	Averaged	
73 2-Hexanone	0.65127	0.64863	0.64863	0.010	-0.40533	20.00000	Averaged	
86 1-Chlorohexane	0.88405	0.88353	0.88353	0.010	-0.05827	20.00000	Averaged	
85 Chlorobenzene ++	2.03629	2.14408	2.14408	0.300	5.29322	20.00000	Averaged	
88 Ethylbenzene +	1.05791	1.11877	1.11877	0.010	5.75283	20.00000	Averaged	
82 1,1,1,2-Tetrachloroethane	0.72500	0.74405	0.74405	0.010	2.62789	20.00000	Averaged	
89 p,m-Xylene	1.28692	1.39978	1.39978	0.010	8.76981	20.00000	Averaged	
93 o-Xylene	1.29392	1.37241	1.37241	0.010	6.06588	20.00000	Averaged	
M 120 TOTAL XYLENE	1.28925	1.39066	1.39066	0.010	7.86523	20.00000	Averaged	
91 Styrene	2.10230	2.41646	2.41646	0.010	14.94410	20.00000	Averaged	
90 Bromoform ++	0.58753	0.64033	0.64033	0.100	8.98711	20.00000	Averaged	
96 Isopropylbenzene	3.21913	3.50998	3.50998	0.010	9.03495	20.00000	Averaged	
$ 97 Bromofluorobenzene	0.85484	0.86802	0.86802	0.010	1.54238	20.00000	Averaged	
98 Bromobenzene	1.50893	1.53760	1.53760	0.010	1.89975	20.00000	Averaged	
100 n-Propylbenzene	3.49377	3.67896	3.67896	0.010	5.30057	20.00000	Averaged	
92 1,1,2,2-Tetrachloroethane++	0.87703	0.89016	0.89016	0.300	1.49713	20.00000	Averaged	
101 2-Chlorotoluene	2.44431	2.57793	2.57793	0.010	5.46671	20.00000	Averaged	
104 1,3,5-Trimethylbenzene	2.55737	2.74903	2.74903	0.010	7.49469	20.00000	Averaged	
94 1,2,3-Trichloropropane	0.75226	0.75520	0.75520	0.010	0.39086	20.00000	Averaged	

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv11.i
Lab File ID: g9552.d
Analysis Type: WATER
Lab Sample ID: 1400
Method: /var/chem/msv11.i/2151103.s.b/8260bw11dod.m

Injection Date: 03-NOV-2015 09:00
Init. Cal. Date(s): 01-NOV-2015 01-NOV-2015
Init. Cal. Times: 12:46 15:35
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
95 trans-1,4-Dichloro-2-Butene	0.25917	0.24652	0.24652	0.010	-4.87945	20.00000	Averaged
102 4-Chlorotoluene	2.27538	2.40214	2.40214	0.010	5.57093	20.00000	Averaged
105 tert-butylbenzene	1.42462	1.43278	1.43278	0.010	0.57235	20.00000	Averaged
106 1,2,4-Trimethylbenzene	2.58934	2.85989	2.85989	0.010	10.44850	20.00000	Averaged
107 sec-Butylbenzene	3.09577	3.28812	3.28812	0.010	6.21349	20.00000	Averaged
111 p-Isopropyltoluene	2.73460	2.90008	2.90008	0.010	6.05142	20.00000	Averaged
108 1,3-Dichlorobenzene	1.64707	1.77884	1.77884	0.010	8.00031	20.00000	Averaged
110 1,4-Dichlorobenzene	1.72455	1.80530	1.80530	0.010	4.68255	20.00000	Averaged
114 n-Butylbenzene	2.30670	2.51457	2.51457	0.010	9.01157	20.00000	Averaged
113 1,2-Dichlorobenzene	1.64509	1.75125	1.75125	0.010	6.45317	20.00000	Averaged
115 1,2-Dibromo-3-Chloropropane	0.24338	0.23397	0.23397	0.010	-3.86845	20.00000	Averaged
118 Hexachlorobutadiene	0.49751	0.52556	0.52556	0.010	5.63769	20.00000	Averaged
116 1,2,4-Trichlorobenzene	1.07430	1.20112	1.20112	0.010	11.80465	20.00000	Averaged
117 Naphthalene	50.75453	50.00000	3.00773	0.010	1.50905	20.00000	Linear
119 1,2,3-Trichlorobenzene	1.09658	1.20921	1.20921	0.010	10.27112	20.00000	Averaged
15 tert-Butyl Alcohol	55.73356	50.00000	0.03369	0.010	11.46713	20.00000	Linear
28 Isopropyl Ether	0.85878	0.83833	0.83833	0.010	-2.38141	20.00000	Averaged
27 Chloroprene	0.38186	0.34632	0.34632	0.010	-9.30685	20.00000	Averaged
34 Isobutyl Alcohol	0.01511	0.01307	0.01307	0.010	-13.52613	20.00000	Averaged
51 1,4- Dioxane	1447	1250	0.00241	0.010	15.76990	20.00000	Linear <-

Revision 1

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Lab File ID (Standard): 2151030/j3679D Date Analyzed: 10/30/15 Time: 1426

Instrument ID: MSV8 GC Column: RTX-VMS-30M ID: .25 (mm)

Analytical Batch: 571628 Heated Burge: (Y/N) N

	IS1 Area	RT	IS2 Area	RT	IS3 Area	RT
STANDARD	819869	6.03	358321	9.20	291238	11.31

EPA Sample No.		#		#		#		#		#		#
LCS1505556	682462		6.03		304737		9.20		229875		11.31	
LCSD1505557	692961		6.03		307395		9.20		232735		11.31	
MB1505555	661258		6.03		284166		9.20		189678		11.31	
TB-102115-03RE	651412		6.03		280724		9.20		186904		11.31	

IS 1 ID: Fluorobenzene
IS 2 ID: Chlorobenzene d5
IS 3 ID: 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard values with an asterisk.
* Values outside of QC limits.

FORM VIII VOA

Revision 1

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Lab File ID (Standard): 2151102/k7913d Date Analyzed: 11/02/15 Time: 1234

Instrument ID: MSV9 GC Column: RTX-VMS-30M ID: .25 (mm)

Analytical Batch: 571544 Heated Burge: (Y/N) N

	IS1		IS2		IS3	
	Area	RT	Area	RT	Area	RT
STANDARD	523387	6.52	220808	9.03	174823	10.49

EPA Sample No.		#		#		#		#		#		#
LCS1505251	506893		6.52		217175		9.03		167062		10.49	
LCSD1505252	515343		6.52		218992		9.03		169480		10.49	
MB1505250	500997		6.52		205341		9.03		84578	*	10.49	
TB-102115-03	494569		6.52		202345		9.03		88703		10.49	

IS 1 ID: Fluorobenzene
IS 2 ID: Chlorobenzene d5
IS 3 ID: 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard values with an asterisk.
* Values outside of QC limits.

FORM VIII VOA

Revision 1

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Lab File ID (Standard): 2151101/g9459d Date Analyzed: 11/01/15 Time: 1410

Instrument ID: MSV11 GC Column: RTX-VMS-30M ID: .25 (mm)

Analytical Batch: 571561 Heated Burge: (Y/N) N

	IS1 Area	RT	IS2 Area	RT	IS3 Area	RT
STANDARD	674068	6.72	279170	9.61	309611	11.32
EPA Sample No.	#	#	#	#	#	#
LCS1505317	633684	6.72	269196	9.62	311093	11.32
LCSD1505318	639813	6.72	272067	9.61	306740	11.32
MB1505316	580847	6.72	241367	9.61	242302	11.32
EB-102215-03	589801	6.72	240601	9.61	243879	11.32
305-MW4-01	592739	6.72	239444	9.61	241139	11.32

IS 1 ID: Fluorobenzene
IS 2 ID: Chlorobenzene d5
IS 3 ID: 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50 % of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard values with an asterisk.
* Values outside of QC limits.

FORM VIII VOA

Revision 1

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102310

Lab File ID (Standard): 2151101/g9459d Date Analyzed: 11/01/15 Time: 1410

Instrument ID: MSV11 GC Column: RTX-VMS-30M ID: .25 (mm)

Analytical Batch: 571590 Heated Burge: (Y/N) N

	IS1		IS2		IS3	
	Area	RT	Area	RT	Area	RT
STANDARD	674068	6.72	279170	9.61	309611	11.32

EPA Sample No.		#		#		#		#		#		#
LCS1505414	609605		6.72		261014		9.61		300662		11.32	
LCSD1505415	609031		6.72		262951		9.61		300013		11.32	
MB1505413	582052		6.72		236705		9.62		244073		11.32	
305-MW4-14	599299		6.72		245290		9.61		230526		11.32	
305-MW4-13	577356		6.72		237494		9.62		240811		11.32	
305-MW4-140	581335		6.72		233815		9.61		240140		11.32	
305-18MW16	576739		6.72		234311		9.61		241210		11.32	

IS 1 ID: Fluorobenzene
IS 2 ID: Chlorobenzene d5
IS 3 ID: 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard values with an asterisk.
* Values outside of QC limits.

FORM VIII VOA

Revision 1

LABORATORY CHRONICLE: MSV DEPARTMENT

Date: 30-OCT-2015
Instrument: msv8.i
Analyst(s): CJR

	Standard	Conc	ID	EXP
	8260 IS/SS	50	126-41-4	02/27/16
1000 (BFB)	BFB IS/SS	50	126-41-4	02/27/16
1201-1209 (ICAL)	8260	250	126-45-10	11/11/15
	AC/AC/VA	MC	126-46-1	11/30/15
	2-CVE	250	126-41-3	02/27/16
	APP9-1	250	126-43-10	04/03/16
1600 (ICV)	8260 ICV	250	126-44-9	04/16/16
	AC/AC/VA ICV	MC	126-46-2	11/30/15
	2-CVE ICV	250	126-39-2	01/08/16
	APP9-1 ICV	250	126-40-11	02/19/16

Sample ID	Comments	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS
1000		j3672.d	0.00 ml	30-OCT-2015 11:35	1.0	CJR	2
1000		j3672D.d	0.00 ml	30-OCT-2015 11:35	1.0	CJR	2
1201	not used	j3673.d	5.00 ml	30-OCT-2015 12:29	1.0	CJR	1
1202		j3674.d	5.00 ml	30-OCT-2015 12:48	1.0	CJR	1
1203		j3675.d	5.00 ml	30-OCT-2015 13:08	1.0	CJR	1
1203		j3675D.d	5.00 ml	30-OCT-2015 13:08	1.0	CJR	1
1204		j3676.d	5.00 ml	30-OCT-2015 13:28	1.0	JCK	1
1204		j3676D.d	5.00 ml	30-OCT-2015 13:28	1.0	JCK	1
1205		j3677.d	5.00 ml	30-OCT-2015 13:47	1.0	JCK	1
1205		j3677D.d	5.00 ml	30-OCT-2015 13:47	1.0	JCK	1
1206		j3678.d	5.00 ml	30-OCT-2015 14:07	1.0	JCK	1
1206		j3678D.d	5.00 ml	30-OCT-2015 14:07	1.0	JCK	1
1207		j3679.d	5.00 ml	30-OCT-2015 14:26	1.0	JCK	1
1207		j3679D.d	5.00 ml	30-OCT-2015 14:26	1.0	JCK	1
BLANK		j3680.d	5.00 ml	30-OCT-2015 14:45	1.0	CJR	1
1208		j3681.d	5.00 ml	30-OCT-2015 15:05	1.0	JCK	1
1208		j3681D.d	5.00 ml	30-OCT-2015 15:05	1.0	JCK	1
BLANK		j3682.d	5.00 ml	30-OCT-2015 15:25	1.0	CJR	1
1209		j3683.d	5.00 ml	30-OCT-2015 15:44	1.0	JCK	1
1209		j3683D.d	5.00 ml	30-OCT-2015 15:44	1.0	JCK	1
BLANK		j3684.d	5.00 ml	30-OCT-2015 16:04	1.0	CJR	1
1600	RR	j3685.d	5.00 ml	30-OCT-2015 16:28	1.0	CJR	1
1600		j3686.d	5.00 ml	30-OCT-2015 17:11	1.0	JCK	1
1600		j3686D.d	5.00 ml	30-OCT-2015 17:11	1.0	JCK	1

REVISED 1-28-15 Supervisor Review: JCK TUNE TIME: 23:35

LABORATORY CHRONICLE: MSV DEPARTMENT

Date: 03-NOV-2015
Instrument: msv8.i
Analyst(s): CLH

	Standard	Conc	ID	EXP
	8260 IS/SS	50		
1000 (BFB)	BFB IS/SS	50		
1400 (CCV)	8260	250		
	Ac/Ac/VA	MC		
	CVE	250		

Sample ID	Comments	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS
1000		j3869.d	0.00 ml	03-NOV-2015 09:18	1.0	CLH	2
1000		j3870.d	0.00 ml	03-NOV-2015 09:38	1.0	CLH	2
1000		j3870d.d	0.00 ml	03-NOV-2015 09:38	1.0	CLH	2
1400		j3873.d	5.00 ml	03-NOV-2015 11:49	1.0	JCK	1
1400		j3873d.d	5.00 ml	03-NOV-2015 11:49	1.0	JCK	1
1505548		j3874.d	5.00 ml	03-NOV-2015 12:09	1.0	CLH	1
1505556		j3874d.d	5.00 ml	03-NOV-2015 12:09	1.0	CLH	1
1505549		j3875.d	5.00 ml	03-NOV-2015 12:35	1.0	TJB	1
1505557		j3875d.d	5.00 ml	03-NOV-2015 12:35	1.0	TJB	1
MB		j3876.d	5.00 ml	03-NOV-2015 12:54	1.0	TJB	1
MB		j3877.d	5.00 ml	03-NOV-2015 13:14	1.0	TJB	1
1505547		j3878.d	5.00 ml	03-NOV-2015 13:33	1.0	TJB	1
1505555		j3878d.d	5.00 ml	03-NOV-2015 13:33	1.0	TJB	1
21510231007		j3879A.d	5.00 ml	03-NOV-2015 13:53	1.0	TJB	1
21510230701		j3879.d	5.00 ml	03-NOV-2015 13:53	1.0	TJB	1
21510230702		j3880.d	5.00 ml	03-NOV-2015 14:12	1.0	TJB	1
21510230703		j3881.d	5.00 ml	03-NOV-2015 14:32	1.0	TJB	1
21510230704		j3882.d	5.00 ml	03-NOV-2015 14:51	1.0	TJB	1
21510230705		j3883.d	5.00 ml	03-NOV-2015 15:11	1.0	TJB	1
21510230706		j3884.d	5.00 ml	03-NOV-2015 15:30	1.0	TJB	1
21510230707		j3885.d	5.00 ml	03-NOV-2015 15:50	1.0	TJB	1
21510230708		j3886.d	5.00 ml	03-NOV-2015 16:09	1.0	TJB	1
21510230709		j3887.d	5.00 ml	03-NOV-2015 16:28	1.0	TJB	1
21510230710		j3888.d	5.00 ml	03-NOV-2015 16:48	1.0	TJB	1
21510230711		j3889.d	5.00 ml	03-NOV-2015 17:07	1.0	TJB	1
21510230712		j3890.d	5.00 ml	03-NOV-2015 17:27	1.0	TJB	1
21510230713		j3891.d	5.00 ml	03-NOV-2015 17:46	1.0	CLH	1
21510310901		j3892.d	5.00 ml	03-NOV-2015 18:06	50.0	CLH	1
21510310902		j3893.d	5.00 ml	03-NOV-2015 18:25	10.0	CLH	1
21510310903		j3894.d	5.00 ml	03-NOV-2015 18:45	1.0	CLH	1
21510310904		j3895.d	5.00 ml	03-NOV-2015 19:04	1.0	CLH	1
21510310905		j3896.d	5.00 ml	03-NOV-2015 19:24	1.0	CLH	1
21510310907		j3897.d	5.00 ml	03-NOV-2015 19:43	20.0	CLH	1
21510310906		j3898.d	5.00 ml	03-NOV-2015 20:03	1.0	CLH	1
blank		j3899.d	5.00 ml	03-NOV-2015 20:22	1.0	TJB	1
blank		j3900.d	5.00 ml	03-NOV-2015 20:42	1.0	TJB	2

LABORATORY CHRONICLE: MSV DEPARTMENT

Date: 02-NOV-2015
Instrument: msv9.i
Analyst(s): JCK

	Standard	Conc	ID	EXP
	8260 IS/SS	50		
1000 (BFB)	BFB IS/SS	50		
1400 (CCV)	8260	250		
	Ac/Ac/VA	MC		
	CVE	250		

Sample ID	Comments	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS
1000		k7904.d	0.00 ml	02-NOV-2015 08:46	1.0	JCK	2
1000		k7905bfb.d	0.00 ml	02-NOV-2015 09:06	1.0	JCK	2
1000		k7905bfbd.d	0.00 ml	02-NOV-2015 09:06	1.0	JCK	2
1201		k7906.d	5.00 ml	02-NOV-2015 09:51	1.0	JCK	1
1202		k7907.d	5.00 ml	02-NOV-2015 10:25	1.0	JCK	1
1203		k7908.d	5.00 ml	02-NOV-2015 10:53	1.0	JCK	1
1203		k7908d.d	5.00 ml	02-NOV-2015 10:53	1.0	JCK	1
2PPB		k7909.d	5.00 ml	02-NOV-2015 11:13	1.0	JCK	2
1204		k7910.d	5.00 ml	02-NOV-2015 11:33	1.0	JCK	3
1204		k7910d.d	5.00 ml	02-NOV-2015 11:33	1.0	JCK	3
1205		k7911.d	5.00 ml	02-NOV-2015 11:53	1.0	JCK	4
1205		k7911d.d	5.00 ml	02-NOV-2015 11:53	1.0	JCK	4
1206		k7912.d	5.00 ml	02-NOV-2015 12:13	1.0	JCK	5
1206		k7912d.d	5.00 ml	02-NOV-2015 12:13	1.0	JCK	5
1207		k7913.d	5.00 ml	02-NOV-2015 12:34	1.0	JCK	6
1207		k7913d.d	5.00 ml	02-NOV-2015 12:34	1.0	JCK	6
BLANK		k7914.d	5.00 ml	02-NOV-2015 12:54	1.0	TJB	7
1208		k7915.d	5.00 ml	02-NOV-2015 13:14	1.0	TJB	8
1208		k7915d.d	5.00 ml	02-NOV-2015 13:14	1.0	TJB	8
BLANK		k7916.d	5.00 ml	02-NOV-2015 13:34	1.0	TJB	9
1209		k7917.d	5.00 ml	02-NOV-2015 13:54	1.0	TJB	10
1209		k7917d.d	5.00 ml	02-NOV-2015 13:54	1.0	TJB	10
BLANK		k7918.d	5.00 ml	02-NOV-2015 14:14	1.0	TJB	11
1600		k7919.d	5.00 ml	02-NOV-2015 14:34	1.0	TJB	12
1600		k7919d.d	5.00 ml	02-NOV-2015 14:34	1.0	TJB	12
LCS		k7920Ld.d	5.00 ml	02-NOV-2015 15:22	1.0	TJB	13
LCSD		k7921.d	5.00 ml	02-NOV-2015 15:42	1.0	TJB	14
BLANK		k7922.d	5.00 ml	02-NOV-2015 16:02	1.0	TJB	15
BLANK		k7923.d	5.00 ml	02-NOV-2015 16:23	1.0	TJB	16
1505250		k7924.d	5.00 ml	02-NOV-2015 16:43	1.0	TJB	17
21510230701		k7925.d	5.00 ml	02-NOV-2015 17:03	1.0	TJB	18
21510230702		k7926.d	5.00 ml	02-NOV-2015 17:23	1.0	TJB	19
21510230703		k7927.d	5.00 ml	02-NOV-2015 17:43	1.0	TJB	20
21510230704		k7928.d	5.00 ml	02-NOV-2015 18:03	1.0	TJB	21
21510230705		k7929.d	5.00 ml	02-NOV-2015 18:24	1.0	TJB	22
21510230706		k7930.d	5.00 ml	02-NOV-2015 18:44	1.0	TJB	23

LABORATORY CHRONICLE: MSV DEPARTMENT

Date: 02-NOV-2015
Instrument: msv9.i
Analyst(s): JCK

	Standard	Conc	ID	EXP
	8260 IS/SS	50		
1000 (BFB)	BFB IS/SS	50		
1400 (CCV)	8260	250		
	Ac/Ac/VA	MC		
	CVE	250		

Sample ID	Comments	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS
21510230707		k7931.d	5.00 ml	02-NOV-2015 19:04	1.0	TJB	24
21510230708		k7932.d	5.00 ml	02-NOV-2015 19:24	1.0	TJB	25
21510230709		k7933.d	5.00 ml	02-NOV-2015 19:44	1.0	TJB	26
21510230710		k7934.d	5.00 ml	02-NOV-2015 20:05	1.0	TJB	27
21510230711		k7935.d	5.00 ml	02-NOV-2015 20:25	1.0	TJB	28
21510230712		k7936.d	5.00 ml	02-NOV-2015 20:45	1.0	TJB	29
21510230713		k7937.d	5.00 ml	02-NOV-2015 21:05	1.0	TJB	30
BLANK		k7938.d	5.00 ml	02-NOV-2015 21:25	1.0	JCK	31

REVISED 1-28-15 Supervisor Review: TUNE TIME: :

LABORATORY CHRONICLE: MSV DEPARTMENT

Date: 01-NOV-2015
Instrument: msv11.i
Analyst(s): JCK

	Standard	Conc	ID	EXP
	8260 IS/SS	50	126-41-4	02/27/16
1000 (BFB)	BFB IS/SS	50	126-41-4	02/27/16
1203-1209 (ICAL)	8260	250	126-45-10	11/11/15
	AC/AC/VA	MC	126-46-1	11/30/15
	APP9-1	250	126-43-10	04/03/16
1600 (ICV)	8260 ICV	250	126-44-9	04/16/16
	AC/AC/VA ICV	MC	126-46-2	11/30/15
	APP9-1 ICV	250	126-40-11	02/19/16

Sample ID	Comments	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS
1000	RR	g9453.d	0.00 ml	01-NOV-2015 11:32	1.0	JCK	2
1000		g9453d.d	0.00 ml	01-NOV-2015 11:32	1.0	JCK	2
1000		g9454.d	0.00 ml	01-NOV-2015 11:53	1.0	JCK	2
1203		g9455.d	5.00 ml	01-NOV-2015 12:46	1.0	JCK	1
1203		g9455d.d	5.00 ml	01-NOV-2015 12:46	1.0	LBH	1
1204		g9456.d	5.00 ml	01-NOV-2015 13:07	1.0	JCK	2
1204		g9456d.d	5.00 ml	01-NOV-2015 13:07	1.0	LBH	2
1205		g9457.d	5.00 ml	01-NOV-2015 13:28	1.0	JCK	3
1205		g9457d.d	5.00 ml	01-NOV-2015 13:28	1.0	LBH	3
1206		g9458.d	5.00 ml	01-NOV-2015 13:49	1.0	JCK	4
1206		g9458d.d	5.00 ml	01-NOV-2015 13:49	1.0	LBH	4
1207		g9459.d	5.00 ml	01-NOV-2015 14:10	1.0	JCK	5
1207		g9459d.d	5.00 ml	01-NOV-2015 14:10	1.0	LBH	5
BLANK		g9460.d	5.00 ml	01-NOV-2015 14:32	1.0	JCK	6
1208		g9461.d	5.00 ml	01-NOV-2015 14:53	1.0	JCK	7
1208		g9461d.d	5.00 ml	01-NOV-2015 14:53	1.0	LBH	7
BLANK		g9462.d	5.00 ml	01-NOV-2015 15:14	1.0	JCK	8
1209		g9463.d	5.00 ml	01-NOV-2015 15:35	1.0	JCK	9
1209		g9463d.d	5.00 ml	01-NOV-2015 15:35	1.0	LBH	9
BLANK		g9464.d	5.00 ml	01-NOV-2015 15:56	1.0	JCK	10
1600		g9465.d	5.00 ml	01-NOV-2015 16:17	1.0	JCK	11
1600		g9465d.d	5.00 ml	01-NOV-2015 16:17	1.0	LBH	11
1504811		g9466.d	5.00 ml	01-NOV-2015 16:38	1.0	JCK	12
1504812		g9467.d	5.00 ml	01-NOV-2015 16:59	1.0	JCK	12
MB		g9468.d	5.00 ml	01-NOV-2015 17:21	1.0	JCK	13
MB		g9469.d	5.00 ml	01-NOV-2015 17:42	1.0	JCK	13
1504810 pH		g9470.d	5.00 ml	01-NOV-2015 18:03	1.0	JCK	14
21510220801 1		g9471.d	5.00 ml	01-NOV-2015 18:24	1.0	JCK	15
21510220804 1		g9472.d	5.00 ml	01-NOV-2015 18:45	1.0	JCK	16
21510220805 1		g9473.d	5.00 ml	01-NOV-2015 19:07	1.0	JCK	17
21510220806 1		g9474.d	5.00 ml	01-NOV-2015 19:28	1.0	JCK	18
21510220807 1		g9475.d	5.00 ml	01-NOV-2015 19:49	1.0	JCK	19
21510220809 1		g9476.d	5.00 ml	01-NOV-2015 20:10	1.0	JCK	20
21510220810 1		g9477.d	5.00 ml	01-NOV-2015 20:31	1.0	CLH	21
21510220811 1		g9478.d	5.00 ml	01-NOV-2015 20:52	1.0	CLH	22
21510220812 1		g9479.d	5.00 ml	01-NOV-2015 21:13	1.0	CLH	23

Revision 1

LABORATORY CHRONICLE: MSV DEPARTMENT

Date: 01-NOV-2015
Instrument: msv11.i
Analyst(s): JCK

	Standard	Conc	ID	EXP
	8260 IS/SS	50		
1000 (BFB)	BFB IS/SS	50		
1400 (CCV)	8260	250		
	Ac/Ac/VA	MC		
	CVE	250		

Sample ID	Comments	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS
21510220813 1		g9480.d	5.00 ml	01-NOV-2015 21:34	1.0	CLH	24
21510220814 1		g9481.d	5.00 ml	01-NOV-2015 21:56	1.0	CLH	25
21510220815 1		g9482.d	5.00 ml	01-NOV-2015 22:17	1.0	CLH	26
21510220802 1		g9483.d	5.00 ml	01-NOV-2015 22:41	5.0	CLH	27
21510220803 1		g9484.d	5.00 ml	01-NOV-2015 23:05	5.0	CLH	28
21510220802 1		g9485.d	5.00 ml	01-NOV-2015 23:26	1.0	CLH	27
21510220803 1		g9486.d	5.00 ml	01-NOV-2015 23:48	1.0	CLH	28
BLANK		g9487.d	5.00 ml	02-NOV-2015 00:09	1.0	CLH	29
BLANK		g9488.d	5.00 ml	02-NOV-2015 00:30	1.0	JCK	29
BLANK		g9489.d	5.00 ml	02-NOV-2015 00:51	1.0	JCK	30
BLANK		g9490.d	5.00 ml	02-NOV-2015 01:12	1.0	JCK	30
BLANK		g9491.d	5.00 ml	02-NOV-2015 01:33	1.0	JCK	31
BLANK		g9492.d	5.00 ml	02-NOV-2015 01:54	1.0	JCK	32

REVISED 1-28-15 Supervisor Review: TUNE TIME: 23:53 11/01/15

LABORATORY CHRONICLE: MSV DEPARTMENT

Date: 02-NOV-2015
Instrument: msv11.i
Analyst(s): TJB

	Standard	Conc	ID	EXP
	8260 IS/SS	50	126-41-4	02/27/16
1000 (BFB)	BFB IS/SS	50	126-41-4	02/27/16
1400(ICAL)	8260	250	126-45-10	11/11/15
	AC/AC/VA	MC	126-46-1	11/30/15
	APP9-1	250	126-43-10	04/03/16

Sample ID	Comments	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS
1000		g9521.d	0.00 ml	02-NOV-2015 19:38	1.0	TJB	2
LCS	RR 624	g9522.d	5.00 ml	02-NOV-2015 20:26	1.0	TJB	1
1400	RR	g9523.d	5.00 ml	02-NOV-2015 21:25	1.0	TJB	1
LCSD	RR	g9524.d	5.00 ml	02-NOV-2015 21:46	1.0	CLH	1
1400		g9525.d	5.00 ml	02-NOV-2015 22:45	1.0	TJB	1
1505317		g9525L.d	5.00 ml	02-NOV-2015 22:45	1.0	TJB	1
1505318		g9526.d	5.00 ml	02-NOV-2015 23:06	1.0	TJB	1
BLANK		g9527.d	5.00 ml	02-NOV-2015 23:54	1.0	LBH	1
BLANK		g9528.d	5.00 ml	03-NOV-2015 00:15	1.0	LBH	1
1505316 pH		g9529.d	5.00 ml	03-NOV-2015 00:36	1.0	LBH	1
21510220826 1		g9530.d	5.00 ml	03-NOV-2015 00:57	1.0	LBH	8
21510221001 1		g9531.d	5.00 ml	03-NOV-2015 01:18	1.0	LBH	9
21510230714 1		g9532.d	5.00 ml	03-NOV-2015 01:39	1.0	LBH	10
21510230715 1		g9533.d	5.00 ml	03-NOV-2015 02:00	1.0	LBH	11
21510231001 1		g9534.d	5.00 ml	03-NOV-2015 02:22	1.0	LBH	12
21510231002 1		g9535.d	5.00 ml	03-NOV-2015 02:43	1.0	LBH	13
21510231003 1		g9536.d	5.00 ml	03-NOV-2015 03:04	1.0	LBH	14
21510231004 1		g9537.d	5.00 ml	03-NOV-2015 03:26	1.0	LBH	15
21510231005 1		g9538.d	5.00 ml	03-NOV-2015 03:47	1.0	LBH	16
21510231006 1		g9539.d	5.00 ml	03-NOV-2015 04:08	1.0	LBH	17
21510241301 1		g9540.d	5.00 ml	03-NOV-2015 04:29	1.0	LBH	18
21510241302 1		g9541.d	5.00 ml	03-NOV-2015 04:50	1.0	LBH	19
21510241303 1		g9542.d	5.00 ml	03-NOV-2015 05:11	1.0	LBH	20
21510291201 1		g9543.d	5.00 ml	03-NOV-2015 05:32	1.0	LBH	21
21510291202 1		g9544.d	5.00 ml	03-NOV-2015 05:53	1.0	LBH	22
21510300801 1		g9545.d	5.00 ml	03-NOV-2015 06:15	1.0	LBH	23
21510290811 1		g9546.d	5.00 ml	03-NOV-2015 06:36	1.0	LBH	24
21510290812 1		g9547.d	5.00 ml	03-NOV-2015 06:57	1.0	LBH	25
21510290813 1		g9548.d	5.00 ml	03-NOV-2015 07:18	1.0	LBH	26
BLANK		g9549.d	5.00 ml	03-NOV-2015 07:39	1.0	LBH	27
BLANK		g9550.d	5.00 ml	03-NOV-2015 08:00	1.0	LBH	28

REVISED 1-28-15 Supervisor Review: TUNE TIME: 07:38 11/03/15

Revision 1

LABORATORY CHRONICLE: MSV DEPARTMENT

Date: 03-NOV-2015
Instrument: msv11.i
Analyst(s): LBH

	Standard	Conc	ID	EXP
	8260 IS/SS	50	126-41-4	02/27/16
1000 (BFB)	BFB IS/SS	50	126-41-4	02/27/16
1400(ICAL)	8260	250	126-45-10	11/11/15
	AC/AC/VA	MC	126-46-1	11/30/15
	APP9-1	250	126-43-10	04/03/16

Sample ID	Comments	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS
1000		g9551.d	0.00 ml	03-NOV-2015 08:22	1.0	LBH	2
1400		g9552.d	5.00 ml	03-NOV-2015 09:00	1.0	LBH	1
1505414		g9552L.d	5.00 ml	03-NOV-2015 09:00	1.0	LBH	1
1505415		g9553.d	5.00 ml	03-NOV-2015 09:22	1.0	LBH	1
BLANK		g9554.d	5.00 ml	03-NOV-2015 09:43	1.0	LBH	81
BLANK		g9555.d	5.00 ml	03-NOV-2015 10:04	1.0	LBH	2
1505413 pH		g9556.d	5.00 ml	03-NOV-2015 10:25	1.0	LBH	2
21510230715 1		g9557.d	5.00 ml	03-NOV-2015 10:49	5.0	LBH	3
21510231001 1		g9558.d	5.00 ml	03-NOV-2015 11:10	1.0	LBH	4
21510231002 1		g9559.d	5.00 ml	03-NOV-2015 11:31	1.0	LBH	5
21510231003 1		g9560.d	5.00 ml	03-NOV-2015 11:52	1.0	LBH	6
21510231004 1		g9561.d	5.00 ml	03-NOV-2015 12:13	1.0	LBH	7
21510290814 1		g9562.d	5.00 ml	03-NOV-2015 12:37	10.0	LBH	8
21510290815 1		g9563.d	5.00 ml	03-NOV-2015 12:58	1.0	LBH	9
21510290816 1		g9564.d	5.00 ml	03-NOV-2015 13:19	1.0	LBH	10
21510290817 1		g9565.d	5.00 ml	03-NOV-2015 13:40	1.0	LBH	11
21510290818 1		g9566.d	5.00 ml	03-NOV-2015 14:02	1.0	LBH	12
21510290819 1		g9567.d	5.00 ml	03-NOV-2015 14:23	1.0	LBH	13
21510290820 1		g9568.d	5.00 ml	03-NOV-2015 14:44	1.0	LBH	14
21510290821 1		g9569.d	5.00 ml	03-NOV-2015 15:05	1.0	TJB	15
21510290822 1		g9570.d	5.00 ml	03-NOV-2015 15:26	1.0	TJB	16
21510311301 1		g9571.d	5.00 ml	03-NOV-2015 15:47	1.0	TJB	17
21510311302 1		g9572.d	5.00 ml	03-NOV-2015 16:09	1.0	TJB	18
21510311303 1		g9573.d	5.00 ml	03-NOV-2015 16:30	1.0	TJB	19
21510311304 1		g9574.d	5.00 ml	03-NOV-2015 16:51	1.0	TJB	20
21510311305 1		g9575.d	5.00 ml	03-NOV-2015 17:12	1.0	TJB	21
21510311306 1		g9576.d	5.00 ml	03-NOV-2015 17:33	1.0	TJB	22
BLANK		g9577.d	5.00 ml	03-NOV-2015 17:54	1.0	LBH	81
BLANK		g9578.d	5.00 ml	03-NOV-2015 18:15	1.0	LBH	81

REVISED 1-28-15 Supervisor Review: TUNE TIME: 20:22 11/03/15

Revision 1

Form I

Sample Results

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INORGANIC ANALYSIS DATA SHEET

Report No:	215102310	Client Sample ID:	305-MW4-14
Collect Date:	10/22/15 Time: 0852	GCAL Sample ID:	21510231001
Matrix:	Water % Solids: NA	Instrument ID:	ICPMS2
Sample Amt:	50 mL	Lab File ID:	2151104B_MS2.b\025SMPL.d
Prep Vol.:	50 (mL)	Dilution Factor:	1 Analyst: LWZ
Prep Date:	10/23/15	Analysis Date:	11/04/15 Time: 1412
Prep Batch:	570859	Analytical Batch:	571721
Prep Method:	3010A	Analytical Method:	EPA 6020A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Antimony	0.00050	mg/L	U	0.00050	0.0020
Arsenic	0.013	mg/L		0.00025	0.0010
Barium	0.095	mg/L		0.00025	0.0010
Beryllium	0.0015	mg/L		0.00025	0.0010
Cadmium	0.0044	mg/L		0.00025	0.0010
Calcium	47.7	mg/L		0.13	0.50
Chromium	0.00093	mg/L	J	0.00025	0.0010
Cobalt	0.045	mg/L		0.00025	0.0010
Copper	0.0018	mg/L		0.00025	0.0010
Iron	0.025	mg/L	U	0.025	0.10
Lead	0.0033	mg/L		0.00025	0.0010
Nickel	0.0094	mg/L		0.00050	0.0020
Potassium	3.54	mg/L		0.025	0.10
Selenium	0.0011	mg/L		0.00025	0.0010
Silver	0.00025	mg/L	U	0.00025	0.0010
Sodium	3.68	mg/L		0.025	0.10
Thallium	0.00025	mg/L	U	0.00025	0.0010
Vanadium	0.00025	mg/L	U	0.00025	0.0010
Zinc	0.034	mg/L		0.0050	0.020

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INORGANIC ANALYSIS DATA SHEET

Report No:	215102310	Client Sample ID:	305-MW4-14 DL
Collect Date:	10/22/15 Time: 0852	GCAL Sample ID:	21510231001 DL
Matrix:	Water % Solids: NA	Instrument ID:	ICPMS2
Sample Amt:	50 mL	Lab File ID:	2151104B_MS2.b\020SMPL.d
Prep Vol.:	50 (mL)	Dilution Factor:	20 Analyst: LWZ
Prep Date:	10/23/15	Analysis Date:	11/04/15 Time: 1355
Prep Batch:	570859	Analytical Batch:	571721
Prep Method:	3010A	Analytical Method:	EPA 6020A

ANALYTE	*RESULT*	*UNITS*	*Q*	*DL*	*LOQ*
Aluminum	15.1	mg/L		0.10	0.40
Magnesium	10.2	mg/L		0.50	2.00
Manganese	6.08	mg/L		0.025	0.10

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INORGANIC ANALYSIS DATA SHEET

Report No:	215102310	Client Sample ID:	305-MW4-14
Collect Date:	10/22/15 Time: 0852	GCAL Sample ID:	21510231001
Matrix:	Water % Solids: NA	Instrument ID:	HYDRA
Sample Amt:	20 mL	Lab File ID:	HYDRA
Prep Vol.:	20 (mL)	Dilution Factor:	1 Analyst: JEL2
Prep Date:	10/23/15	Analysis Date:	10/25/15 Time: 1932
Prep Batch:	570860	Analytical Batch:	570977
Prep Method:	7470 Prep	Analytical Method:	EPA 7470A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Mercury	0.00055	mg/L		0.00010	0.00020

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INORGANIC ANALYSIS DATA SHEET

Report No:	215102310	Client Sample ID:	305-MW4-13
Collect Date:	10/22/15 Time: 1122	GCAL Sample ID:	21510231002
Matrix:	Water % Solids: NA	Instrument ID:	ICPMS2
Sample Amt:	50 mL	Lab File ID:	2151104B_MS2.b\031SMPL.d
Prep Vol.:	50 (mL)	Dilution Factor:	1 Analyst: LWZ
Prep Date:	10/23/15	Analysis Date:	11/04/15 Time: 1433
Prep Batch:	570859	Analytical Batch:	571721
Prep Method:	3010A	Analytical Method:	EPA 6020A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Aluminum	0.53	mg/L		0.0050	0.020
Antimony	0.00050	mg/L	U	0.00050	0.0020
Arsenic	0.00061	mg/L	J	0.00025	0.0010
Barium	0.092	mg/L		0.00025	0.0010
Beryllium	0.00053	mg/L	J	0.00025	0.0010
Cadmium	0.0010	mg/L		0.00025	0.0010
Calcium	11.7	mg/L		0.13	0.50
Chromium	0.00031	mg/L	J	0.00025	0.0010
Cobalt	0.0027	mg/L		0.00025	0.0010
Copper	0.00076	mg/L	J	0.00025	0.0010
Iron	0.063	mg/L	J	0.025	0.10
Lead	0.00037	mg/L	J	0.00025	0.0010
Magnesium	2.45	mg/L		0.025	0.10
Nickel	0.0018	mg/L	J	0.00050	0.0020
Potassium	2.96	mg/L		0.025	0.10
Selenium	0.00049	mg/L	J	0.00025	0.0010
Silver	0.00025	mg/L	U	0.00025	0.0010
Sodium	2.27	mg/L		0.025	0.10
Thallium	0.00025	mg/L	U	0.00025	0.0010
Vanadium	0.00036	mg/L	J	0.00025	0.0010
Zinc	0.0056	mg/L	J	0.0050	0.020

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INORGANIC ANALYSIS DATA SHEET

Report No:	215102310	Client Sample ID:	305-MW4-13 DL
Collect Date:	10/22/15 Time: 1122	GCAL Sample ID:	21510231002 DL
Matrix:	Water % Solids: NA	Instrument ID:	ICPMS2
Sample Amt:	50 mL	Lab File ID:	2151104B_MS2.b\030SMPL.d
Prep Vol.:	50 (mL)	Dilution Factor:	10 Analyst: LWZ
Prep Date:	10/23/15	Analysis Date:	11/04/15 Time: 1429
Prep Batch:	570859	Analytical Batch:	571721
Prep Method:	3010A	Analytical Method:	EPA 6020A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Manganese	0.80	mg/L		0.013	0.050

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INORGANIC ANALYSIS DATA SHEET

Report No:	215102310	Client Sample ID:	305-MW4-13
Collect Date:	10/22/15 Time: 1122	GCAL Sample ID:	21510231002
Matrix:	Water % Solids: NA	Instrument ID:	HYDRA
Sample Amt:	20 mL	Lab File ID:	HYDRA
Prep Vol.:	20 (mL)	Dilution Factor:	1 Analyst: JEL2
Prep Date:	10/23/15	Analysis Date:	10/25/15 Time: 1934
Prep Batch:	570860	Analytical Batch:	570977
Prep Method:	7470 Prep	Analytical Method:	EPA 7470A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Mercury	0.00010	mg/L	U	0.00010	0.00020

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INORGANIC ANALYSIS DATA SHEET

Report No:	215102310	Client Sample ID:	305-MW4-140
Collect Date:	10/22/15 Time: 0910	GCAL Sample ID:	21510231003
Matrix:	Water % Solids: NA	Instrument ID:	ICPMS2
Sample Amt:	50 mL	Lab File ID:	2151104B_MS2.b\033SMPL.d
Prep Vol.:	50 (mL)	Dilution Factor:	1 Analyst: LWZ
Prep Date:	10/23/15	Analysis Date:	11/04/15 Time: 1440
Prep Batch:	570859	Analytical Batch:	571721
Prep Method:	3010A	Analytical Method:	EPA 6020A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Antimony	0.00050	mg/L	U	0.00050	0.0020
Arsenic	0.012	mg/L		0.00025	0.0010
Barium	0.089	mg/L		0.00025	0.0010
Beryllium	0.0013	mg/L		0.00025	0.0010
Cadmium	0.0041	mg/L		0.00025	0.0010
Calcium	45.6	mg/L		0.13	0.50
Chromium	0.00086	mg/L	J	0.00025	0.0010
Cobalt	0.043	mg/L		0.00025	0.0010
Copper	0.0018	mg/L		0.00025	0.0010
Iron	0.025	mg/L	U	0.025	0.10
Lead	0.0031	mg/L		0.00025	0.0010
Magnesium	9.51	mg/L		0.025	0.10
Nickel	0.0091	mg/L		0.00050	0.0020
Potassium	3.32	mg/L		0.025	0.10
Selenium	0.00025	mg/L	U	0.00025	0.0010
Silver	0.00025	mg/L	U	0.00025	0.0010
Sodium	3.61	mg/L		0.025	0.10
Thallium	0.00025	mg/L	U	0.00025	0.0010
Vanadium	0.00025	mg/L	U	0.00025	0.0010
Zinc	0.031	mg/L		0.0050	0.020

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INORGANIC ANALYSIS DATA SHEET

Report No:	215102310	Client Sample ID:	305-MW4-140 DL
Collect Date:	10/22/15 Time: 0910	GCAL Sample ID:	21510231003 DL
Matrix:	Water % Solids: NA	Instrument ID:	ICPMS2
Sample Amt:	50 mL	Lab File ID:	2151104B_MS2.b\032SMPL.d
Prep Vol.:	50 (mL)	Dilution Factor:	20 Analyst: LWZ
Prep Date:	10/23/15	Analysis Date:	11/04/15 Time: 1436
Prep Batch:	570859	Analytical Batch:	571721
Prep Method:	3010A	Analytical Method:	EPA 6020A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Aluminum	13.9	mg/L		0.10	0.40
Manganese	5.53	mg/L		0.025	0.10

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INORGANIC ANALYSIS DATA SHEET

Report No:	215102310	Client Sample ID:	305-MW4-140
Collect Date:	10/22/15 Time: 0910	GCAL Sample ID:	21510231003
Matrix:	Water % Solids: NA	Instrument ID:	HYDRA
Sample Amt:	20 mL	Lab File ID:	HYDRA
Prep Vol.:	20 (mL)	Dilution Factor:	1 Analyst: JEL2
Prep Date:	10/23/15	Analysis Date:	10/25/15 Time: 1941
Prep Batch:	570860	Analytical Batch:	570977
Prep Method:	7470 Prep	Analytical Method:	EPA 7470A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Mercury	0.00049	mg/L		0.00010	0.00020

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INORGANIC ANALYSIS DATA SHEET

Report No:	215102310	Client Sample ID:	305-18MW16
Collect Date:	10/22/15 Time: 1548	GCAL Sample ID:	21510231004
Matrix:	Water % Solids: NA	Instrument ID:	ICPMS2
Sample Amt:	50 mL	Lab File ID:	2151104B_MS2.b\035SMPL.d
Prep Vol.:	50 (mL)	Dilution Factor:	1 Analyst: LWZ
Prep Date:	10/23/15	Analysis Date:	11/04/15 Time: 1447
Prep Batch:	570859	Analytical Batch:	571721
Prep Method:	3010A	Analytical Method:	EPA 6020A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Aluminum	0.16	mg/L		0.0050	0.020
Antimony	0.00050	mg/L	U	0.00050	0.0020
Arsenic	0.00025	mg/L	U	0.00025	0.0010
Barium	0.070	mg/L		0.00025	0.0010
Beryllium	0.00025	mg/L	U	0.00025	0.0010
Cadmium	0.00061	mg/L	J	0.00025	0.0010
Calcium	17.3	mg/L		0.13	0.50
Chromium	0.00083	mg/L	J	0.00025	0.0010
Cobalt	0.00074	mg/L	J	0.00025	0.0010
Copper	0.00067	mg/L	J	0.00025	0.0010
Iron	0.025	mg/L	U	0.025	0.10
Lead	0.00025	mg/L	U	0.00025	0.0010
Magnesium	2.60	mg/L		0.025	0.10
Manganese	0.46	mg/L		0.0013	0.0050
Nickel	0.00091	mg/L	J	0.00050	0.0020
Potassium	3.04	mg/L		0.025	0.10
Selenium	0.00051	mg/L	J	0.00025	0.0010
Silver	0.00025	mg/L	U	0.00025	0.0010
Thallium	0.00025	mg/L	U	0.00025	0.0010
Vanadium	0.00066	mg/L	J	0.00025	0.0010
Zinc	0.0050	mg/L	U	0.0050	0.020

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INORGANIC ANALYSIS DATA SHEET

Report No:	215102310	Client Sample ID:	305-18MW16 DL
Collect Date:	10/22/15 Time: 1548	GCAL Sample ID:	21510231004 DL
Matrix:	Water % Solids: NA	Instrument ID:	ICPMS2
Sample Amt:	50 mL	Lab File ID:	2151104B_MS2.b\034SMPL.d
Prep Vol.:	50 (mL)	Dilution Factor:	10 Analyst: LWZ
Prep Date:	10/23/15	Analysis Date:	11/04/15 Time: 1443
Prep Batch:	570859	Analytical Batch:	571721
Prep Method:	3010A	Analytical Method:	EPA 6020A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Sodium	10.7	mg/L		0.25	1.00

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Report No:	215102310	Client Sample ID:	305-18MW16
Collect Date:	10/22/15 Time: 1548	GCAL Sample ID:	21510231004
Matrix:	Water % Solids: NA	Instrument ID:	HYDRA
Sample Amt:	20 mL	Lab File ID:	HYDRA
Prep Vol.:	20 (mL)	Dilution Factor:	1 Analyst: JEL2
Prep Date:	10/23/15	Analysis Date:	10/25/15 Time: 1943
Prep Batch:	570860	Analytical Batch:	570977
Prep Method:	7470 Prep	Analytical Method:	EPA 7470A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Mercury	0.00010	mg/L	U	0.00010	0.00020

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Report No:	215102310	Client Sample ID:	EB-102215-03
Collect Date:	10/22/15 Time: 1455	GCAL Sample ID:	21510231005
Matrix:	Water % Solids: NA	Instrument ID:	ICPMS2
Sample Amt:	50 mL	Lab File ID:	2151104B_MS2.b\039SMPL.d
Prep Vol.:	50 (mL)	Dilution Factor:	1 Analyst: LWZ
Prep Date:	10/23/15	Analysis Date:	11/04/15 Time: 1500
Prep Batch:	570859	Analytical Batch:	571721
Prep Method:	3010A	Analytical Method:	EPA 6020A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Aluminum	0.0060	mg/L	J	0.0050	0.020
Antimony	0.00050	mg/L	U	0.00050	0.0020
Arsenic	0.00025	mg/L	U	0.00025	0.0010
Barium	0.00041	mg/L	J	0.00025	0.0010
Beryllium	0.00025	mg/L	U	0.00025	0.0010
Cadmium	0.00025	mg/L	U	0.00025	0.0010
Calcium	0.13	mg/L	U	0.13	0.50
Chromium	0.00025	mg/L	U	0.00025	0.0010
Cobalt	0.00025	mg/L	U	0.00025	0.0010
Copper	0.00067	mg/L	J	0.00025	0.0010
Iron	0.025	mg/L	U	0.025	0.10
Lead	0.00025	mg/L	U	0.00025	0.0010
Magnesium	0.025	mg/L	U	0.025	0.10
Manganese	0.0013	mg/L	U	0.0013	0.0050
Nickel	0.00050	mg/L	U	0.00050	0.0020
Potassium	0.025	mg/L	U	0.025	0.10
Selenium	0.00025	mg/L	U	0.00025	0.0010
Silver	0.00025	mg/L	U	0.00025	0.0010
Sodium	0.029	mg/L	J	0.025	0.10
Thallium	0.00025	mg/L	U	0.00025	0.0010
Vanadium	0.00025	mg/L	U	0.00025	0.0010
Zinc	0.0050	mg/L	U	0.0050	0.020

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INORGANIC ANALYSIS DATA SHEET

Report No:	215102310	Client Sample ID:	EB-102215-03
Collect Date:	10/22/15 Time: 1455	GCAL Sample ID:	21510231005
Matrix:	Water % Solids: NA	Instrument ID:	HYDRA
Sample Amt:	20 mL	Lab File ID:	HYDRA
Prep Vol.:	20 (mL)	Dilution Factor:	1 Analyst: JEL2
Prep Date:	10/23/15	Analysis Date:	10/25/15 Time: 1945
Prep Batch:	570860	Analytical Batch:	570977
Prep Method:	7470 Prep	Analytical Method:	EPA 7470A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Mercury	0.00010	mg/L	U	0.00010	0.00020

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INORGANIC ANALYSIS DATA SHEET

Report No:	215102310	Client Sample ID:	305-MW4-01
Collect Date:	10/22/15 Time: 1437	GCAL Sample ID:	21510231006
Matrix:	Water % Solids: NA	Instrument ID:	ICPMS2
Sample Amt:	50 mL	Lab File ID:	2151104B_MS2.b\040SMPL.d
Prep Vol.:	50 (mL)	Dilution Factor:	1 Analyst: LWZ
Prep Date:	10/23/15	Analysis Date:	11/04/15 Time: 1504
Prep Batch:	570859	Analytical Batch:	571721
Prep Method:	3010A	Analytical Method:	EPA 6020A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Aluminum	0.049	mg/L		0.0050	0.020
Antimony	0.00050	mg/L	U	0.00050	0.0020
Arsenic	0.00035	mg/L	J	0.00025	0.0010
Barium	0.062	mg/L		0.00025	0.0010
Beryllium	0.00025	mg/L	U	0.00025	0.0010
Cadmium	0.00025	mg/L	U	0.00025	0.0010
Calcium	7.55	mg/L		0.13	0.50
Chromium	0.00025	mg/L	U	0.00025	0.0010
Cobalt	0.0011	mg/L		0.00025	0.0010
Copper	0.00026	mg/L	J	0.00025	0.0010
Iron	0.38	mg/L		0.025	0.10
Lead	0.0033	mg/L		0.00025	0.0010
Magnesium	1.17	mg/L		0.025	0.10
Manganese	0.024	mg/L		0.0013	0.0050
Nickel	0.00050	mg/L	U	0.00050	0.0020
Potassium	2.88	mg/L		0.025	0.10
Selenium	0.00025	mg/L	U	0.00025	0.0010
Silver	0.00025	mg/L	U	0.00025	0.0010
Sodium	4.24	mg/L		0.025	0.10
Thallium	0.00025	mg/L	U	0.00025	0.0010
Vanadium	0.0048	mg/L		0.00025	0.0010
Zinc	0.0050	mg/L	U	0.0050	0.020

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INORGANIC ANALYSIS DATA SHEET

Report No:	215102310	Client Sample ID:	305-MW4-01
Collect Date:	10/22/15 Time: 1437	GCAL Sample ID:	21510231006
Matrix:	Water % Solids: NA	Instrument ID:	HYDRA
Sample Amt:	20 mL	Lab File ID:	HYDRA
Prep Vol.:	20 (mL)	Dilution Factor:	1 Analyst: JEL2
Prep Date:	10/23/15	Analysis Date:	10/25/15 Time: 1947
Prep Batch:	570860	Analytical Batch:	570977
Prep Method:	7470 Prep	Analytical Method:	EPA 7470A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Mercury	0.00010	mg/L	U	0.00010	0.00020

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Form II

Calibration Verifications

II

INITIAL CALIBRATION VERIFICATION

Report No:	215102310	GCAL QC ID:	1600
Instrument ID:	HYDRA	Lab File ID:	HYDRA
Analyst:	JEL2	Analytical Batch:	570977
Analysis Date:	10/25/15 Time: 1839	Analytical Method:	EPA 7470A

ANALYTE	TRUE	FOUND	%RECOVERY	UNITS
Mercury	0.00500	0.00510	102	mg/L

CONTROL LIMITS 90-110%

FORM II - IN

II

CONTINUING CALIBRATION VERIFICATION

Report No:	215102310	GCAL QC ID:	1800
Instrument ID:	HYDRA	Lab File ID:	HYDRA
Analyst:	JEL2	Analytical Batch:	570977
Analysis Date:	10/25/15 Time: 1910	Analytical Method:	EPA 7470A

ANALYTE	TRUE	FOUND	%RECOVERY	UNITS
Mercury	0.00500	0.00550	109	mg/L

CONTROL LIMITS 90-110%

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II

CONTINUING CALIBRATION VERIFICATION

Report No:	215102310	GCAL QC ID:	1800
Instrument ID:	HYDRA	Lab File ID:	HYDRA
Analyst:	JEL2	Analytical Batch:	570977
Analysis Date:	10/25/15 Time: 1936	Analytical Method:	EPA 7470A

ANALYTE	TRUE	FOUND	%RECOVERY	UNITS
Mercury	0.00500	0.00520	104	mg/L

CONTROL LIMITS 90-110%

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II

CONTINUING CALIBRATION VERIFICATION

Report No:	215102310	GCAL QC ID:	1800
Instrument ID:	HYDRA	Lab File ID:	HYDRA
Analyst:	JEL2	Analytical Batch:	570977
Analysis Date:	10/25/15 Time: 1949	Analytical Method:	EPA 7470A

ANALYTE	TRUE	FOUND	%RECOVERY	UNITS
Mercury	0.00500	0.00530	106	mg/L

CONTROL LIMITS 90-110%

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II

LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Report No:	215102310	GCAL QC ID:	1803
Instrument ID:	ICPMS2	Lab File ID:	2151024B_MS2.b\012CCV1.d
Analyst:	JEL2	Analytical Batch:	570937
Analysis Date:	10/24/15 Time: 1317	Analytical Method:	EPA 6020A

ANALYTE	TRUE	FOUND	%RECOVERY	UNITS
Aluminum	20.0	20.0	100	ug/L
Antimony	2.00	2.02	101	ug/L
Arsenic	1.00	0.960	96	ug/L
Barium	1.00	0.960	96	ug/L
Beryllium	1.00	0.930	93	ug/L
Cadmium	1.00	0.990	99	ug/L
Calcium	500	515	103	ug/L
Chromium	1.00	0.960	96	ug/L
Cobalt	1.00	1.00	100	ug/L
Copper	1.00	0.960	96	ug/L
Iron	100	97.9	98	ug/L
Lead	1.00	1.00	100	ug/L
Magnesium	100	98.3	98	ug/L
Manganese	5.00	4.76	95	ug/L
Nickel	2.00	1.92	96	ug/L
Potassium	100	101	101	ug/L
Selenium	1.00	1.01	101	ug/L
Silver	1.00	1.02	102	ug/L
Sodium	100	108	108	ug/L
Thallium	1.00	0.980	98	ug/L
Vanadium	1.00	0.970	97	ug/L
Zinc	20.0	19.9	99	ug/L

CONTROL LIMITS 70-130%; EPA 6020A DOD QSM LIMITS 80-120% for INITIAL LLCCV

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II

INITIAL CALIBRATION VERIFICATION

Report No:	215102310	GCAL QC ID:	1600
Instrument ID:	ICPMS2	Lab File ID:	2151024B_MS2.b\014_ICV.d
Analyst:	JEL2	Analytical Batch:	570937
Analysis Date:	10/24/15 Time: 1324	Analytical Method:	EPA 6020A

ANALYTE	***TRUE***	***FOUND***	***%RECOVERY***	***UNITS***
Aluminum	1000	1020	102	ug/L
Antimony	50.0	49.7	99	ug/L
Arsenic	50.0	51.6	103	ug/L
Barium	50.0	50.1	100	ug/L
Beryllium	50.0	52.0	104	ug/L
Cadmium	50.0	52.5	105	ug/L
Calcium	25000	25900	104	ug/L
Chromium	50.0	51.7	103	ug/L
Cobalt	50.0	51.4	103	ug/L
Copper	50.0	53.2	106	ug/L
Iron	5000	5170	103	ug/L
Lead	50.0	51.8	104	ug/L
Magnesium	5000	5230	105	ug/L
Manganese	50.0	49.8	100	ug/L
Nickel	100	104	104	ug/L
Potassium	5000	5130	103	ug/L
Selenium	25.0	25.4	102	ug/L
Silver	50.0	54.0	108	ug/L
Sodium	5000	5270	105	ug/L
Thallium	50.0	52.1	104	ug/L
Vanadium	50.0	50.7	101	ug/L
Zinc	1000	1030	103	ug/L

CONTROL LIMITS 90-110%

II

LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Report No:	215102310	GCAL QC ID:	1803
Instrument ID:	ICPMS2	Lab File ID:	2151024B_MS2.b\030LCCV.d
Analyst:	JEL2	Analytical Batch:	570937
Analysis Date:	10/24/15 Time: 1442	Analytical Method:	EPA 6020A

ANALYTE	TRUE	FOUND	%RECOVERY	UNITS
Aluminum	20.0	19.3	97	ug/L
Antimony	2.00	2.05	102	ug/L
Arsenic	1.00	1.00	100	ug/L
Barium	1.00	0.950	95	ug/L
Beryllium	1.00	0.960	96	ug/L
Cadmium	1.00	1.03	103	ug/L
Calcium	500	520	104	ug/L
Chromium	1.00	1.02	102	ug/L
Cobalt	1.00	1.02	102	ug/L
Copper	1.00	0.880	88	ug/L
Iron	100	100	100	ug/L
Lead	1.00	1.00	100	ug/L
Magnesium	100	101	101	ug/L
Manganese	5.00	4.76	95	ug/L
Nickel	2.00	2.06	103	ug/L
Potassium	100	103	103	ug/L
Selenium	1.00	1.10	110	ug/L
Silver	1.00	1.03	103	ug/L
Sodium	100	117	117	ug/L
Thallium	1.00	0.960	96	ug/L
Vanadium	1.00	0.990	99	ug/L
Zinc	20.0	20.6	103	ug/L

CONTROL LIMITS 70-130%; EPA 6020A DOD QSM LIMITS 80-120% for INITIAL LLCCV

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II

CONTINUING CALIBRATION VERIFICATION

Report No:	215102310	GCAL QC ID:	1800
Instrument ID:	ICPMS2	Lab File ID:	2151024B_MS2.b\031_CCV.d
Analyst:	JEL2	Analytical Batch:	570937
Analysis Date:	10/24/15 Time: 1445	Analytical Method:	EPA 6020A

ANALYTE	TRUE	FOUND	%RECOVERY	UNITS
Aluminum	200	203	102	ug/L
Antimony	20.0	20.6	103	ug/L
Arsenic	10.0	10.1	101	ug/L
Barium	10.0	9.74	97	ug/L
Beryllium	10.0	9.99	100	ug/L
Cadmium	10.0	10.3	103	ug/L
Calcium	5000	5090	102	ug/L
Chromium	10.0	10.1	101	ug/L
Cobalt	10.0	10.3	103	ug/L
Copper	10.0	10.5	105	ug/L
Iron	1000	1020	102	ug/L
Lead	10.0	10.1	101	ug/L
Magnesium	1000	1020	102	ug/L
Manganese	50.0	49.3	99	ug/L
Nickel	20.0	20.7	103	ug/L
Potassium	1000	1020	102	ug/L
Selenium	10.0	10.4	104	ug/L
Silver	10.0	10.4	104	ug/L
Sodium	1000	1050	105	ug/L
Thallium	10.0	10.1	101	ug/L
Vanadium	10.0	9.91	99	ug/L
Zinc	200	207	104	ug/L

CONTROL LIMITS 90-110%

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II

LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Report No:	215102310	GCAL QC ID:	1803
Instrument ID:	ICPMS2	Lab File ID:	2151104B_MS2.b\011CCV1.d
Analyst:	LWZ	Analytical Batch:	571721
Analysis Date:	11/04/15 Time: 1253	Analytical Method:	EPA 6020A

ANALYTE	TRUE	FOUND	%RECOVERY	UNITS
Aluminum	20.0	21.1	106	ug/L
Antimony	2.00	2.15	107	ug/L
Arsenic	1.00	0.970	97	ug/L
Barium	1.00	1.01	101	ug/L
Beryllium	1.00	1.02	102	ug/L
Cadmium	1.00	1.03	103	ug/L
Calcium	500	529	106	ug/L
Chromium	1.00	1.00	100	ug/L
Cobalt	1.00	1.04	104	ug/L
Copper	1.00	1.12	112	ug/L
Iron	100	103	103	ug/L
Lead	1.00	1.01	101	ug/L
Magnesium	100	103	103	ug/L
Manganese	5.00	4.94	99	ug/L
Nickel	2.00	1.96	98	ug/L
Potassium	100	103	103	ug/L
Selenium	1.00	0.960	96	ug/L
Silver	1.00	1.06	106	ug/L
Sodium	100	107	107	ug/L
Thallium	1.00	1.05	105	ug/L
Vanadium	1.00	1.00	100	ug/L
Zinc	20.0	20.5	102	ug/L

CONTROL LIMITS 70-130%; EPA 6020A DOD QSM LIMITS 80-120% for INITIAL LLCCV

II

INITIAL CALIBRATION VERIFICATION

Report No:	215102310	GCAL QC ID:	1600
Instrument ID:	ICPMS2	Lab File ID:	2151104B_MS2.b\013_ICV.d
Analyst:	LWZ	Analytical Batch:	571721
Analysis Date:	11/04/15 Time: 1259	Analytical Method:	EPA 6020A

ANALYTE	TRUE	FOUND	%RECOVERY	UNITS
Aluminum	1000	993	99	ug/L
Antimony	50.0	52.2	104	ug/L
Arsenic	50.0	50.3	101	ug/L
Barium	50.0	49.8	100	ug/L
Beryllium	50.0	51.6	103	ug/L
Cadmium	50.0	50.7	101	ug/L
Calcium	25000	24800	99	ug/L
Chromium	50.0	49.6	99	ug/L
Cobalt	50.0	49.4	99	ug/L
Copper	50.0	50.8	102	ug/L
Iron	5000	4980	100	ug/L
Lead	50.0	50.0	100	ug/L
Magnesium	5000	5030	101	ug/L
Manganese	50.0	47.8	96	ug/L
Nickel	100	100	100	ug/L
Potassium	5000	4930	99	ug/L
Selenium	25.0	25.0	100	ug/L
Silver	50.0	51.1	102	ug/L
Sodium	5000	5130	103	ug/L
Thallium	50.0	50.6	101	ug/L
Vanadium	50.0	48.7	97	ug/L
Zinc	1000	987	99	ug/L

CONTROL LIMITS 90-110%

FORM II - IN

Revision 1

II

LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Report No:	215102310	GCAL QC ID:	1803
Instrument ID:	ICPMS2	Lab File ID:	2151104B_MS2.b\018LCCV.d
Analyst:	LWZ	Analytical Batch:	571721
Analysis Date:	11/04/15 Time: 1317	Analytical Method:	EPA 6020A

ANALYTE	TRUE	FOUND	%RECOVERY	UNITS
Aluminum	20.0	20.3	102	ug/L
Antimony	2.00	2.09	105	ug/L
Arsenic	1.00	1.01	101	ug/L
Barium	1.00	1.02	102	ug/L
Beryllium	1.00	1.02	102	ug/L
Cadmium	1.00	1.03	103	ug/L
Calcium	500	512	102	ug/L
Chromium	1.00	1.00	100	ug/L
Cobalt	1.00	1.02	102	ug/L
Copper	1.00	1.09	109	ug/L
Iron	100	104	104	ug/L
Lead	1.00	1.03	103	ug/L
Magnesium	100	103	103	ug/L
Manganese	5.00	4.95	99	ug/L
Nickel	2.00	1.99	99	ug/L
Potassium	100	102	102	ug/L
Selenium	1.00	1.12	112	ug/L
Silver	1.00	1.05	105	ug/L
Sodium	100	111	111	ug/L
Thallium	1.00	1.06	106	ug/L
Vanadium	1.00	0.980	98	ug/L
Zinc	20.0	20.3	102	ug/L

CONTROL LIMITS 70-130%; EPA 6020A DOD QSM LIMITS 80-120% for INITIAL LLCCV

FORM II - IN

Revision 1

II

CONTINUING CALIBRATION VERIFICATION

Report No:	215102310	GCAL QC ID:	1800
Instrument ID:	ICPMS2	Lab File ID:	2151104B_MS2.b\019_CCV.d
Analyst:	LWZ	Analytical Batch:	571721
Analysis Date:	11/04/15 Time: 1321	Analytical Method:	EPA 6020A

ANALYTE	TRUE	FOUND	%RECOVERY	UNITS
Aluminum	200	205	103	ug/L
Antimony	20.0	20.6	103	ug/L
Arsenic	10.0	10.1	101	ug/L
Barium	10.0	9.96	100	ug/L
Beryllium	10.0	10.0	100	ug/L
Cadmium	10.0	10.2	102	ug/L
Calcium	5000	5080	102	ug/L
Chromium	10.0	9.94	99	ug/L
Cobalt	10.0	10.1	101	ug/L
Copper	10.0	10.6	106	ug/L
Iron	1000	1020	102	ug/L
Lead	10.0	10.1	101	ug/L
Magnesium	1000	1010	101	ug/L
Manganese	50.0	48.8	98	ug/L
Nickel	20.0	20.2	101	ug/L
Potassium	1000	1010	101	ug/L
Selenium	10.0	10.2	102	ug/L
Silver	10.0	10.4	104	ug/L
Sodium	1000	1040	104	ug/L
Thallium	10.0	10.5	105	ug/L
Vanadium	10.0	9.79	98	ug/L
Zinc	200	202	101	ug/L

CONTROL LIMITS 90-110%

FORM II - IN

Revision 1

II

LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Report No:	215102310	GCAL QC ID:	1803
Instrument ID:	ICPMS2	Lab File ID:	2151104B_MS2.b\037LCCV.d
Analyst:	LWZ	Analytical Batch:	571721
Analysis Date:	11/04/15 Time: 1453	Analytical Method:	EPA 6020A

ANALYTE	TRUE	FOUND	%RECOVERY	UNITS
Aluminum	20.0	20.4	102	ug/L
Antimony	2.00	2.13	107	ug/L
Arsenic	1.00	1.01	101	ug/L
Barium	1.00	1.02	102	ug/L
Beryllium	1.00	0.940	94	ug/L
Cadmium	1.00	1.04	104	ug/L
Calcium	500	527	105	ug/L
Chromium	1.00	1.01	101	ug/L
Cobalt	1.00	1.04	104	ug/L
Copper	1.00	1.12	112	ug/L
Iron	100	102	102	ug/L
Lead	1.00	1.02	102	ug/L
Magnesium	100	103	103	ug/L
Manganese	5.00	4.94	99	ug/L
Nickel	2.00	1.95	97	ug/L
Potassium	100	100	100	ug/L
Selenium	1.00	0.980	98	ug/L
Silver	1.00	1.03	103	ug/L
Sodium	100	111	111	ug/L
Thallium	1.00	1.03	103	ug/L
Vanadium	1.00	0.990	99	ug/L
Zinc	20.0	20.4	102	ug/L

CONTROL LIMITS 70-130%; EPA 6020A DOD QSM LIMITS 80-120% for INITIAL LLCCV

II

CONTINUING CALIBRATION VERIFICATION

Report No:	215102310	GCAL QC ID:	1800
Instrument ID:	ICPMS2	Lab File ID:	2151104B_MS2.b\038_CCV.d
Analyst:	LWZ	Analytical Batch:	571721
Analysis Date:	11/04/15 Time: 1457	Analytical Method:	EPA 6020A

ANALYTE	TRUE	FOUND	%RECOVERY	UNITS
Aluminum	200	201	100	ug/L
Antimony	20.0	20.8	104	ug/L
Arsenic	10.0	9.96	100	ug/L
Barium	10.0	10.1	101	ug/L
Beryllium	10.0	9.30	93	ug/L
Cadmium	10.0	10.3	103	ug/L
Calcium	5000	5000	100	ug/L
Chromium	10.0	10.1	101	ug/L
Cobalt	10.0	10.3	103	ug/L
Copper	10.0	10.8	108	ug/L
Iron	1000	1010	101	ug/L
Lead	10.0	10.0	100	ug/L
Magnesium	1000	1030	103	ug/L
Manganese	50.0	48.0	96	ug/L
Nickel	20.0	20.6	103	ug/L
Potassium	1000	996	100	ug/L
Selenium	10.0	9.95	100	ug/L
Silver	10.0	10.4	104	ug/L
Sodium	1000	1050	105	ug/L
Thallium	10.0	10.4	104	ug/L
Vanadium	10.0	9.91	99	ug/L
Zinc	200	204	102	ug/L

CONTROL LIMITS 90-110%

FORM II - IN

Revision 1

II

LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Report No:	215102310	GCAL QC ID:	1803
Instrument ID:	ICPMS2	Lab File ID:	2151104B_MS2.b\051LCCV.d
Analyst:	LWZ	Analytical Batch:	571721
Analysis Date:	11/04/15 Time: 1541	Analytical Method:	EPA 6020A

ANALYTE	TRUE	FOUND	%RECOVERY	UNITS
Aluminum	20.0	20.6	103	ug/L
Antimony	2.00	2.10	105	ug/L
Arsenic	1.00	0.990	99	ug/L
Barium	1.00	1.03	103	ug/L
Beryllium	1.00	0.950	95	ug/L
Cadmium	1.00	1.02	102	ug/L
Calcium	500	516	103	ug/L
Chromium	1.00	1.01	101	ug/L
Cobalt	1.00	1.04	104	ug/L
Copper	1.00	1.10	110	ug/L
Iron	100	96.8	97	ug/L
Lead	1.00	1.02	102	ug/L
Magnesium	100	102	102	ug/L
Manganese	5.00	4.84	97	ug/L
Nickel	2.00	1.89	94	ug/L
Potassium	100	102	102	ug/L
Selenium	1.00	1.01	101	ug/L
Silver	1.00	1.03	103	ug/L
Sodium	100	108	108	ug/L
Thallium	1.00	1.04	104	ug/L
Vanadium	1.00	1.02	102	ug/L
Zinc	20.0	20.4	102	ug/L

CONTROL LIMITS 70-130%; EPA 6020A DOD QSM LIMITS 80-120% for INITIAL LLCCV

FORM II - IN

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II

CONTINUING CALIBRATION VERIFICATION

Report No:	215102310	GCAL QC ID:	1800
Instrument ID:	ICPMS2	Lab File ID:	2151104B_MS2.b\052_CCV.d
Analyst:	LWZ	Analytical Batch:	571721
Analysis Date:	11/04/15 Time: 1544	Analytical Method:	EPA 6020A

ANALYTE	***TRUE***	***FOUND***	***%RECOVERY***	***UNITS***
Aluminum	200	203	101	ug/L
Antimony	20.0	20.8	104	ug/L
Arsenic	10.0	10.1	101	ug/L
Barium	10.0	10.1	101	ug/L
Beryllium	10.0	9.50	95	ug/L
Cadmium	10.0	10.2	102	ug/L
Calcium	5000	5120	102	ug/L
Chromium	10.0	10.0	100	ug/L
Cobalt	10.0	10.3	103	ug/L
Copper	10.0	10.8	108	ug/L
Iron	1000	1010	101	ug/L
Lead	10.0	10.1	101	ug/L
Magnesium	1000	1030	103	ug/L
Manganese	50.0	48.1	96	ug/L
Nickel	20.0	20.3	101	ug/L
Potassium	1000	1010	101	ug/L
Selenium	10.0	9.64	96	ug/L
Silver	10.0	10.3	103	ug/L
Sodium	1000	1050	105	ug/L
Thallium	10.0	10.5	105	ug/L
Vanadium	10.0	9.86	99	ug/L
Zinc	200	202	101	ug/L

CONTROL LIMITS 90-110%

FORM II - IN

Revision 1

Form III

Blanks

III
INITIAL CALIBRATION BLANK

Report No:	215102310	Blank ID:	1700
Instrument ID:	HYDRA	Lab File ID:	HYDRA
Analyst:	JEL2	Analytical Batch:	570977
Analysis Date:	10/25/15 Time: 1843	Analytical Method:	EPA 7470A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Mercury	0.00020	mg/L	U	0.00010	0.00020

FORM III - IN

Revision 1

III
PREPARATION BLANK

Report No:	215102310	Blank ID:	MB1502029
Instrument ID:	HYDRA	Lab File ID:	HYDRA
Analyst:	JEL2	Analytical Batch:	570977
Analysis Date:	10/25/15 Time: 1857	Analytical Method:	EPA 7470A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Mercury	0.00010	mg/L	U	0.00010	0.00020

FORM III - IN

Revision 1

III

CONTINUING CALIBRATION BLANK

Report No:	215102310	Blank ID:	1900
Instrument ID:	HYDRA	Lab File ID:	HYDRA
Analyst:	JEL2	Analytical Batch:	570977
Analysis Date:	10/25/15 Time: 1912	Analytical Method:	EPA 7470A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Mercury	0.00020	mg/L	U	0.00010	0.00020

FORM III - IN

Revision 1

III
CONTINUING CALIBRATION BLANK

Report No:	215102310	Blank ID:	1900
Instrument ID:	HYDRA	Lab File ID:	HYDRA
Analyst:	JEL2	Analytical Batch:	570977
Analysis Date:	10/25/15 Time: 1938	Analytical Method:	EPA 7470A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Mercury	0.00020	mg/L	U	0.00010	0.00020

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III

CONTINUING CALIBRATION BLANK

Report No:	215102310	Blank ID:	1900
Instrument ID:	HYDRA	Lab File ID:	HYDRA
Analyst:	JEL2	Analytical Batch:	570977
Analysis Date:	10/25/15 Time: 1951	Analytical Method:	EPA 7470A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Mercury	0.00020	mg/L	U	0.00010	0.00020

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Revision 1

III
INITIAL CALIBRATION BLANK

Report No:	215102310	Blank ID:	1700
Instrument ID:	ICPMS2	Lab File ID:	2151024B_MS2.b\010_ICB.d
Analyst:	JEL2	Analytical Batch:	570937
Analysis Date:	10/24/15 Time: 1311	Analytical Method:	EPA 6020A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Aluminum	20.0	ug/L	U	5.00	20.0
Antimony	2.00	ug/L	U	0.50	2.00
Arsenic	1.00	ug/L	U	0.25	1.00
Barium	1.00	ug/L	U	0.25	1.00
Beryllium	1.00	ug/L	U	0.25	1.00
Cadmium	1.00	ug/L	U	0.25	1.00
Calcium	500	ug/L	U	125	500
Chromium	1.00	ug/L	U	0.25	1.00
Cobalt	1.00	ug/L	U	0.25	1.00
Copper	1.00	ug/L	U	0.25	1.00
Iron	100	ug/L	U	25.0	100
Lead	1.00	ug/L	U	0.25	1.00
Magnesium	100	ug/L	U	25.0	100
Manganese	5.00	ug/L	U	1.25	5.00
Nickel	2.00	ug/L	U	0.50	2.00
Potassium	100	ug/L	U	25.0	100
Selenium	1.00	ug/L	U	0.25	1.00
Silver	1.00	ug/L	U	0.25	1.00
Sodium	100	ug/L	U	25.0	100
Thallium	1.00	ug/L	U	0.25	1.00
Vanadium	1.00	ug/L	U	0.25	1.00
Zinc	20.0	ug/L	U	5.00	20.0

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III
PREPARATION BLANK

Report No:	215102310	Blank ID:	MB1502023
Instrument ID:	ICPMS2	Lab File ID:	2151024B_MS2.b\022MBW.d
Analyst:	JEL2	Analytical Batch:	570937
Analysis Date:	10/24/15 Time: 1414	Analytical Method:	EPA 6020A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Aluminum	0.0050	mg/L	U	0.0050	0.020
Antimony	0.00050	mg/L	U	0.00050	0.0020
Arsenic	0.00025	mg/L	U	0.00025	0.0010
Barium	0.00025	mg/L	U	0.00025	0.0010
Beryllium	0.00025	mg/L	U	0.00025	0.0010
Cadmium	0.00025	mg/L	U	0.00025	0.0010
Calcium	0.13	mg/L	U	0.13	0.50
Chromium	0.00025	mg/L	U	0.00025	0.0010
Cobalt	0.00025	mg/L	U	0.00025	0.0010
Copper	0.00025	mg/L	U	0.00025	0.0010
Iron	0.025	mg/L	U	0.025	0.10
Lead	0.00025	mg/L	U	0.00025	0.0010
Magnesium	0.025	mg/L	U	0.025	0.10
Manganese	0.0013	mg/L	U	0.0013	0.0050
Nickel	0.00050	mg/L	U	0.00050	0.0020
Potassium	0.025	mg/L	U	0.025	0.10
Selenium	0.00025	mg/L	U	0.00025	0.0010
Silver	0.00025	mg/L	U	0.00025	0.0010
Sodium	0.025	mg/L	U	0.025	0.10
Thallium	0.00025	mg/L	U	0.00025	0.0010
Vanadium	0.00025	mg/L	U	0.00025	0.0010
Zinc	0.0050	mg/L	U	0.0050	0.020

III
CONTINUING CALIBRATION BLANK

Report No:	215102310	Blank ID:	1900
Instrument ID:	ICPMS2	Lab File ID:	2151024B_MS2.b\028_CCB.d
Analyst:	JEL2	Analytical Batch:	570937
Analysis Date:	10/24/15 Time: 1435	Analytical Method:	EPA 6020A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Aluminum	20.0	ug/L	U	5.00	20.0
Antimony	2.00	ug/L	U	0.50	2.00
Arsenic	1.00	ug/L	U	0.25	1.00
Barium	1.00	ug/L	U	0.25	1.00
Beryllium	1.00	ug/L	U	0.25	1.00
Cadmium	1.00	ug/L	U	0.25	1.00
Calcium	500	ug/L	U	125	500
Chromium	1.00	ug/L	U	0.25	1.00
Cobalt	1.00	ug/L	U	0.25	1.00
Copper	1.00	ug/L	U	0.25	1.00
Iron	100	ug/L	U	25.0	100
Lead	1.00	ug/L	U	0.25	1.00
Magnesium	100	ug/L	U	25.0	100
Manganese	5.00	ug/L	U	1.25	5.00
Nickel	2.00	ug/L	U	0.50	2.00
Potassium	100	ug/L	U	25.0	100
Selenium	1.00	ug/L	U	0.25	1.00
Silver	1.00	ug/L	U	0.25	1.00
Sodium	100	ug/L	U	25.0	100
Thallium	1.00	ug/L	U	0.25	1.00
Vanadium	1.00	ug/L	U	0.25	1.00
Zinc	20.0	ug/L	U	5.00	20.0

FORM III - IN

Revision 1

III

INITIAL CALIBRATION BLANK

Report No:	215102310	Blank ID:	1700
Instrument ID:	ICPMS2	Lab File ID:	2151104B_MS2.b\009_ICB.d
Analyst:	LWZ	Analytical Batch:	571721
Analysis Date:	11/04/15 Time: 1246	Analytical Method:	EPA 6020A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Aluminum	20.0	ug/L	U	5.00	20.0
Antimony	2.00	ug/L	U	0.50	2.00
Arsenic	1.00	ug/L	U	0.25	1.00
Barium	1.00	ug/L	U	0.25	1.00
Beryllium	1.00	ug/L	U	0.25	1.00
Cadmium	1.00	ug/L	U	0.25	1.00
Calcium	500	ug/L	U	125	500
Chromium	1.00	ug/L	U	0.25	1.00
Cobalt	1.00	ug/L	U	0.25	1.00
Copper	1.00	ug/L	U	0.25	1.00
Iron	100	ug/L	U	25.0	100
Lead	1.00	ug/L	U	0.25	1.00
Magnesium	100	ug/L	U	25.0	100
Manganese	5.00	ug/L	U	1.25	5.00
Nickel	2.00	ug/L	U	0.50	2.00
Potassium	100	ug/L	U	25.0	100
Selenium	1.00	ug/L	U	0.25	1.00
Silver	1.00	ug/L	U	0.25	1.00
Sodium	100	ug/L	U	25.0	100
Thallium	1.00	ug/L	U	0.25	1.00
Vanadium	1.00	ug/L	U	0.25	1.00
Zinc	20.0	ug/L	U	5.00	20.0

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Revision 1

III

CONTINUING CALIBRATION BLANK

Report No:	215102310	Blank ID:	1900
Instrument ID:	ICPMS2	Lab File ID:	2151104B_MS2.b\017_CCB.d
Analyst:	LWZ	Analytical Batch:	571721
Analysis Date:	11/04/15 Time: 1314	Analytical Method:	EPA 6020A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Aluminum	20.0	ug/L	U	5.00	20.0
Antimony	2.00	ug/L	U	0.50	2.00
Arsenic	1.00	ug/L	U	0.25	1.00
Barium	1.00	ug/L	U	0.25	1.00
Beryllium	1.00	ug/L	U	0.25	1.00
Cadmium	1.00	ug/L	U	0.25	1.00
Calcium	500	ug/L	U	125	500
Chromium	1.00	ug/L	U	0.25	1.00
Cobalt	1.00	ug/L	U	0.25	1.00
Copper	1.00	ug/L	U	0.25	1.00
Iron	100	ug/L	U	25.0	100
Lead	1.00	ug/L	U	0.25	1.00
Magnesium	100	ug/L	U	25.0	100
Manganese	5.00	ug/L	U	1.25	5.00
Nickel	2.00	ug/L	U	0.50	2.00
Potassium	100	ug/L	U	25.0	100
Selenium	1.00	ug/L	U	0.25	1.00
Silver	1.00	ug/L	U	0.25	1.00
Sodium	100	ug/L	U	25.0	100
Thallium	1.00	ug/L	U	0.25	1.00
Vanadium	1.00	ug/L	U	0.25	1.00
Zinc	20.0	ug/L	U	5.00	20.0

FORM III - IN

Revision 1

III

CONTINUING CALIBRATION BLANK

Report No:	215102310	Blank ID:	1900
Instrument ID:	ICPMS2	Lab File ID:	2151104B_MS2.b\036_CCB.d
Analyst:	LWZ	Analytical Batch:	571721
Analysis Date:	11/04/15 Time: 1450	Analytical Method:	EPA 6020A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Aluminum	20.0	ug/L	U	5.00	20.0
Antimony	2.00	ug/L	U	0.50	2.00
Arsenic	1.00	ug/L	U	0.25	1.00
Barium	1.00	ug/L	U	0.25	1.00
Beryllium	1.00	ug/L	U	0.25	1.00
Cadmium	1.00	ug/L	U	0.25	1.00
Calcium	500	ug/L	U	125	500
Chromium	1.00	ug/L	U	0.25	1.00
Cobalt	1.00	ug/L	U	0.25	1.00
Copper	1.00	ug/L	U	0.25	1.00
Iron	100	ug/L	U	25.0	100
Lead	1.00	ug/L	U	0.25	1.00
Magnesium	100	ug/L	U	25.0	100
Manganese	5.00	ug/L	U	1.25	5.00
Nickel	2.00	ug/L	U	0.50	2.00
Potassium	100	ug/L	U	25.0	100
Selenium	1.00	ug/L	U	0.25	1.00
Silver	1.00	ug/L	U	0.25	1.00
Sodium	100	ug/L	U	25.0	100
Thallium	1.00	ug/L	U	0.25	1.00
Vanadium	1.00	ug/L	U	0.25	1.00
Zinc	20.0	ug/L	U	5.00	20.0

FORM III - IN

Revision 1

III

CONTINUING CALIBRATION BLANK

Report No:	215102310	Blank ID:	1900
Instrument ID:	ICPMS2	Lab File ID:	2151104B_MS2.b\048_CCB.d
Analyst:	LWZ	Analytical Batch:	571721
Analysis Date:	11/04/15 Time: 1531	Analytical Method:	EPA 6020A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Aluminum	20.0	ug/L	U	5.00	20.0
Antimony	2.00	ug/L	U	0.50	2.00
Arsenic	1.00	ug/L	U	0.25	1.00
Barium	1.00	ug/L	U	0.25	1.00
Beryllium	1.00	ug/L	U	0.25	1.00
Cadmium	1.00	ug/L	U	0.25	1.00
Calcium	500	ug/L	U	125	500
Chromium	1.00	ug/L	U	0.25	1.00
Cobalt	1.00	ug/L	U	0.25	1.00
Copper	1.00	ug/L	U	0.25	1.00
Iron	100	ug/L	U	25.0	100
Lead	1.00	ug/L	U	0.25	1.00
Magnesium	100	ug/L	U	25.0	100
Manganese	5.00	ug/L	U	1.25	5.00
Nickel	2.00	ug/L	U	0.50	2.00
Potassium	100	ug/L	U	25.0	100
Selenium	1.00	ug/L	U	0.25	1.00
Silver	1.00	ug/L	U	0.25	1.00
Sodium	100	ug/L	U	25.0	100
Thallium	1.00	ug/L	U	0.25	1.00
Vanadium	1.00	ug/L	U	0.25	1.00
Zinc	20.0	ug/L	U	5.00	20.0

FORM III - IN

Form IV

Interference Checks

IV
ICPMS INTERFERENCE CHECKS

Report No:	215102310	ICSA \ AB ID:	2000 \ 2100
Instrument ID:	ICPMS2	Analytical Batch:	570937
Analyst:	JEL2	Analytical Method:	EPA 6020A
Lab File ID ICSA1:	2151024B_MS2.b\011ICSA.d	Lab File ID ICSAB1:	2151024B_MS2.b\013ICSB.d
Lab File ID ICSA2:		Lab File ID ICSAB2:	

Concentration Units: ug/L

		Analyzed (A/AB):	10/24/15 1314	10/24/15 1321				
ANALYTE	***TRUE A***	***TRUE AB***	***ICSA1***	***ICSAB1***	***%R***	***ICSA2***	***ICSAB2***	***%R***
Aluminum	1000	1000	1030	1030	103			
Antimony	0	0	0.028	0.025				
Arsenic	0	10.0	0.0050	10.5	105			
Barium	0	0	0.026	0.028				
Beryllium	0	0	-0.050	-0.050				
Boron	0	20.0	1.36	20.9	104			
Cadmium	0	10.0	0.022	10.4	104			
Calcium	3000	3000	3020	3110	104			
Chromium	0	20.0	0.017	21.4	107			
Cobalt	0	20.0	0.015	21.8	109			
Copper	0	20.0	-0.068	21.2	106			
Iron	2500	2500	2610	2600	104			
Lead	0	0	0.0090	0.012				
Lithium	0	20.0	-0.11	20.7	104			
Magnesium	1000	1000	1050	1040	104			
Manganese	0	20.0	0.043	19.5	98			
Molybdenum	20.0	20.0	20.5	20.3	102			
Nickel	0	20.0	-0.027	20.7	104			
Potassium	1000	1000	1020	1020	102			
Selenium	0	10.0	0.048	9.93	99			
Silicon	0	1000	-7.3	1060	106			
Silver	0	5.00	0.0070	5.21	104			
Sodium	2500	2500	2630	2650	106			
Strontium	0	10.0	0.053	10.4	104			
Thallium	0	0	0.0010	0.0020				
Tin	0	10.0	0.0090	9.82	98			
Titanium	20.0	20.0	19.9	20.6	103			
Vanadium	0	20.0	-0.0030	20.2	101			
Zinc	0	20.0	-0.14	20.8	104			
Zirconium	0	20.0	0.0040	20.0	100			

FORM IV - IN

Revision 1

IV
ICPMS INTERFERENCE CHECKS

Report No:	215102310	ICSA \ AB ID:	2000 \ 2100
Instrument ID:	ICPMS2	Analytical Batch:	571721
Analyst:	LWZ	Analytical Method:	EPA 6020A
Lab File ID ICSA1:	2151104B_MS2.b\010ICSA.d	Lab File ID ICSAB1:	2151104B_MS2.b\012ICSB.d
Lab File ID ICSA2:		Lab File ID ICSAB2:	

Concentration Units: ug/L

		Analyzed (A/AB):	11/04/15 1249	11/04/15 1256				
ANALYTE	***TRUE A***	***TRUE AB***	***ICSA1***	***ICSAB1***	***%R***	***ICSA2***	***ICSAB2***	***%R***
Aluminum	1000	1000	1000	1010	101			
Antimony	0	0	0.083	0.061				
Arsenic	0	10.0	-0.0020	10.3	103			
Barium	0	0	0.011	0.017				
Beryllium	0	0	0.0010	0.0010				
Boron	0	20.0	1.98	21.1	106			
Cadmium	0	10.0	0.023	10.2	102			
Calcium	3000	3000	2950	3060	102			
Chromium	0	20.0	0.015	20.7	104			
Cobalt	0	20.0	0.012	21.4	107			
Copper	0	20.0	0.0090	20.8	104			
Iron	2500	2500	2490	2550	102			
Lead	0	0	0.0060	0.011				
Lithium	0	20.0	-0.18	20.5	102			
Magnesium	1000	1000	1010	1030	103			
Manganese	0	20.0	0.034	19.1	96			
Molybdenum	20.0	20.0	19.6	19.9	100			
Nickel	0	20.0	0.13	20.5	102			
Potassium	1000	1000	983	997	100			
Selenium	0	10.0	-0.044	9.90	99			
Silicon	0	1000	-12	1020	102			
Silver	0	5.00	0.0060	5.08	102			
Sodium	2500	2500	2560	2620	105			
Strontium	0	10.0	0.045	10.1	101			
Thallium	0	0	0.0010	0.0020				
Tin	0	10.0	-0.011	9.50	95			
Titanium	20.0	20.0	19.6	20.2	101			
Vanadium	0	20.0	-0.0010	19.8	99			
Zinc	0	20.0	-0.27	20.2	101			
Zirconium	0	20.0	0.0060	19.2	96			

FORM IV - IN

Revision 1

Form V1

Matrix Spikes

V1
MS/MSD RECOVERY

Report No:	215102310	Parent Sample ID:	305-MW4-14
Prep Method:	3010A	Parent GCAL ID:	21510231001
Prep Date:	10/23/15 Time: 1445	Prep Batch:	570859
Analytical Method:	EPA 6020A	Analytical Batch:	571721

GCAL QC ID:	**1502025 MS**	Instrument ID:	ICPMS2
Analyst:	LWZ	Lab File ID:	2151104B_MS2.b\026SMPL.d
Analysis Date:	11/04/15 1416	Dilution:	1

ANALYTE	UNITS	SPIKE ADDED	SAMPLE RESULT	MS RESULT	MS % REC	#	QC LIMITS
Antimony	mg/L	.1	0	.11	111		80 - 120
Arsenic	mg/L	.05	.013	.055	84		80 - 120
Barium	mg/L	.05	.095	.15	101		80 - 120
Beryllium	mg/L	.05	.0015	.047	92		80 - 120
Cadmium	mg/L	.05	.0044	.055	102		80 - 120
Calcium	mg/L	25	47.7	72.9	101		80 - 120
Chromium	mg/L	.05	.00093	.044	87		80 - 120
Cobalt	mg/L	.05	.045	.088	84		80 - 120
Copper	mg/L	.05	.0018	.054	105		80 - 120
Iron	mg/L	5	0	4.37	87		80 - 120
Lead	mg/L	.05	.0033	.056	106		80 - 120
Nickel	mg/L	.1	.0094	.096	87		80 - 120
Potassium	mg/L	5	3.54	8.71	103		80 - 120
Selenium	mg/L	.01	.0011	.0078	67	*	80 - 120
Silver	mg/L	.05	0	.052	104		80 - 120
Sodium	mg/L	5	3.68	8.82	103		80 - 120
Thallium	mg/L	.05	0	.054	108		80 - 120
Vanadium	mg/L	.05	0	.044	87		80 - 120
Zinc	mg/L	1	.034	.85	82		80 - 120

RPD : 0 out of 19 outside limits
Spike Recovery: 2 out of 38 outside limits

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

FORM V (PART 1) - IN

Revision 1

V1
MS/MSD RECOVERY

Report No:	215102310	Parent Sample ID:	305-MW4-14
Prep Method:	3010A	Parent GCAL ID:	21510231001
Prep Date:	10/23/15 Time: 1445	Prep Batch:	570859
Analytical Method:	EPA 6020A	Analytical Batch:	571721

GCAL QC ID:	**1502026 MSD**	Instrument ID:	ICPMS2
Analyst:	LWZ	Lab File ID:	2151104B_MS2.b\027SMPL.d
Analysis Date:	11/04/15 1419	Dilution:	1

ANALYTE	UNITS	SPIKE ADDED	MSD RESULT	MSD % REC	#	% RPD	#	QC LIMITS %REC	QC LIMITS RPD
Antimony	mg/L	.1	.11	110		1		80 - 120	0 - 20
Arsenic	mg/L	.05	.054	84		1		80 - 120	0 - 20
Barium	mg/L	.05	.14	95		2		80 - 120	0 - 20
Beryllium	mg/L	.05	.045	88		4		80 - 120	0 - 20
Cadmium	mg/L	.05	.055	102		0		80 - 120	0 - 20
Calcium	mg/L	25	71.7	96		2		80 - 120	0 - 20
Chromium	mg/L	.05	.044	86		0		80 - 120	0 - 20
Cobalt	mg/L	.05	.087	84		0		80 - 120	0 - 20
Copper	mg/L	.05	.055	106		1		80 - 120	0 - 20
Iron	mg/L	5	4.33	87		1		80 - 120	0 - 20
Lead	mg/L	.05	.056	104		1		80 - 120	0 - 20
Nickel	mg/L	.1	.096	86		0		80 - 120	0 - 20
Potassium	mg/L	5	8.61	101		1		80 - 120	0 - 20
Selenium	mg/L	.01	.0063	52	*	20		80 - 120	0 - 20
Silver	mg/L	.05	.051	101		3		80 - 120	0 - 20
Sodium	mg/L	5	8.67	100		2		80 - 120	0 - 20
Thallium	mg/L	.05	.053	106		2		80 - 120	0 - 20
Vanadium	mg/L	.05	.044	87		0		80 - 120	0 - 20
Zinc	mg/L	1	.85	82		0		80 - 120	0 - 20

RPD : 0 out of 19 outside limits
Spike Recovery: 2 out of 38 outside limits

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

FORM V (PART 1) - IN

Revision 1

V1

MS/MSD RECOVERY

Report No:	215102310	Parent Sample ID:	305-MW4-14 DL
Prep Method:	3010A	Parent GCAL ID:	21510231001
Prep Date:	10/23/15 Time: 1445	Prep Batch:	570859
Analytical Method:	EPA 6020A	Analytical Batch:	571721

GCAL QC ID:	**1502025 MS**	Instrument ID:	ICPMS2
Analyst:	LWZ	Lab File ID:	2151104B_MS2.b\021SMPL.d
Analysis Date:	11/04/15 1359	Dilution:	20

ANALYTE	UNITS	SPIKE ADDED	SAMPLE RESULT	MS RESULT	MS % REC	#	QC LIMITS
Aluminum	mg/L	1	15.1	16.2	107		80 - 120
Magnesium	mg/L	5	10.2	15.6	107		80 - 120
Manganese	mg/L	.05	6.08	6.04	0	*	80 - 120

GCAL QC ID:	**1502026 MSD**	Instrument ID:	ICPMS2
Analyst:	LWZ	Lab File ID:	2151104B_MS2.b\022SMPL.d
Analysis Date:	11/04/15 1402	Dilution:	20

ANALYTE	UNITS	SPIKE ADDED	MSD RESULT	MSD % REC	#	% RPD	#	QC LIMITS %REC	QC LIMITS RPD
Aluminum	mg/L	1	16	95		1		80 - 120	0 - 20
Magnesium	mg/L	5	15.5	106		0		80 - 120	0 - 20
Manganese	mg/L	.05	5.98	0	*	1		80 - 120	0 - 20

RPD : 0 out of 3 outside limits

Spike Recovery: 2 out of 6 outside limits

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM V (PART 1) - IN

Revision 1

V1
MS/MSD RECOVERY

Report No:	215102310	Parent Sample ID:	MRD-1B-21
Prep Method:	7470 Prep	Parent GCAL ID:	21510230604
Prep Date:	10/23/15 Time: 1445	Prep Batch:	570860
Analytical Method:	EPA 7470A	Analytical Batch:	570977

GCAL QC ID:	**1502031 MS**	Instrument ID:	HYDRA
Analyst:	JEL2	Lab File ID:	HYDRA
Analysis Date:	10/25/15 1905	Dilution:	1

ANALYTE	UNITS	SPIKE ADDED	SAMPLE RESULT	MS RESULT	MS % REC	#	QC LIMITS
Mercury	mg/L	.005	0	.0051	103		80 - 120

GCAL QC ID:	**1502032 MSD**	Instrument ID:	HYDRA
Analyst:	JEL2	Lab File ID:	HYDRA
Analysis Date:	10/25/15 1915	Dilution:	1

ANALYTE	UNITS	SPIKE ADDED	MSD RESULT	MSD % REC	#	% RPD	#	QC LIMITS %REC	QC LIMITS RPD
Mercury	mg/L	.005	.0055	110		7		80 - 120	0 - 20

RPD : 0 out of 1 outside limits
Spike Recovery: 0 out of 2 outside limits

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

FORM V (PART 1) - IN

Revision 1

Form V2

Post Digestion Spikes

V2

POST DIGEST SPIKE SAMPLE RECOVERY

Report No:	215102310	GCAL PDS ID:	1505076
Matrix:	Water	Parent Sample ID:	305-MW4-14 (21510231001)
Analyst:	LWZ	Instrument ID:	ICPMS2
Analysis Date:	11/04/15 Time: 1423	Lab File ID:	2151104B_MS2.b\028SMPL.d
Analytical Method:	EPA 6020A	Analytical Batch:	571721

ANALYTE	UNITS	SPIKED SAMPLE RESULT	C	SAMPLE RESULT	C	SPIKE ADDED	% R	Q	LCL	UCL
Antimony	mg/L	.1		0	U	.1	102		75	125
Arsenic	mg/L	.053		.013		.05	81		75	125
Barium	mg/L	.14		.095		.05	93		75	125
Beryllium	mg/L	.044		.0015		.05	85		75	125
Cadmium	mg/L	.053		.0044		.05	96		75	125
Calcium	mg/L	71		47.7		25	93		75	125
Chromium	mg/L	.042		.00093	J	.05	82		75	125
Cobalt	mg/L	.085		.045		.05	80		75	125
Copper	mg/L	.052		.0018		.05	101		75	125
Iron	mg/L	4.15		0	U	5	83		75	125
Lead	mg/L	.053		.0033		.05	100		75	125
Nickel	mg/L	.092		.0094		.1	82		75	125
Potassium	mg/L	8.47		3.54		5	99		75	125
Selenium	mg/L	.004		.0011		.01	29	*	75	125
Silver	mg/L	.049		0	U	.05	99		75	125
Sodium	mg/L	8.59		3.68		5	98		75	125
Thallium	mg/L	.051		0	U	.05	102		75	125
Vanadium	mg/L	.041		0	U	.05	82		75	125
Zinc	mg/L	.82		.034		1	78		75	125

FORM V (PART 2) - IN

Revision 1

V2

POST DIGEST SPIKE SAMPLE RECOVERY

Report No:	215102310	GCAL PDS ID:	1505076
Matrix:	Water	Parent Sample ID:	305-MW4-14 DL (21510231001)
Analyst:	LWZ	Instrument ID:	ICPMS2
Analysis Date:	11/04/15 Time: 1406	Lab File ID:	2151104B_MS2.b\023SMPL.d
Analytical Method:	EPA 6020A	Analytical Batch:	571721

ANALYTE	UNITS	SPIKED SAMPLE RESULT	C	SAMPLE RESULT	C	SPIKE ADDED	% R	Q	LCL	UCL
Aluminum	mg/L	35.6		15.1		20	102		75	125
Magnesium	mg/L	116		10.2		100	105		75	125
Manganese	mg/L	6.95		6.08		1	87		75	125

FORM V (PART 2) - IN

Revision 1

Form VII

Lab Control Spikes

VII
LABORATORY CONTROL SAMPLE

Report No:	215102310	GCAL LCS ID:	1502024
Matrix:	Water	Instrument ID:	ICPMS2
Analyst:	JEL2	Lab File ID:	2151024B_MS2.b\023SMPL.d
Prep Date:	10/23/15 Time: 1445	Analysis Date:	10/24/15 Time: 1418
Prep Batch:		Analytical Batch:	570937
Prep Method:		Analytical Method:	EPA 6020A

ANALYTE	UNITS	TRUE	FOUND	% R	Q	LCL	UCL
Aluminum	mg/L	1.00	1.04	104		80	120
Antimony	mg/L	0.10	0.10	103		80	120
Arsenic	mg/L	0.050	0.049	97		80	120
Barium	mg/L	0.050	0.050	99		80	120
Beryllium	mg/L	0.050	0.048	97		80	120
Cadmium	mg/L	0.050	0.050	101		80	120
Calcium	mg/L	25.0	25.3	101		80	120
Chromium	mg/L	0.050	0.052	103		80	120
Cobalt	mg/L	0.050	0.052	104		80	120
Copper	mg/L	0.050	0.052	104		80	120
Iron	mg/L	5.00	5.23	105		80	120
Lead	mg/L	0.050	0.051	103		80	120
Magnesium	mg/L	5.00	5.22	104		80	120
Manganese	mg/L	0.050	0.051	102		80	120
Nickel	mg/L	0.10	0.10	104		80	120
Potassium	mg/L	5.00	5.19	104		80	120
Selenium	mg/L	0.010	0.0095	95		80	120
Silver	mg/L	0.050	0.052	104		80	120
Sodium	mg/L	5.00	5.24	105		80	120
Thallium	mg/L	0.050	0.052	104		80	120
Vanadium	mg/L	0.050	0.051	102		80	120
Zinc	mg/L	1.00	0.98	98		80	120

FORM VII - IN

Revision 1

VII
LABORATORY CONTROL SAMPLE

Report No:	215102310	GCAL LCS ID:	1502030
Matrix:	Water	Instrument ID:	HYDRA
Analyst:	JEL2	Lab File ID:	HYDRA
Prep Date:	10/23/15 Time: 1445	Analysis Date:	10/25/15 Time: 1900
Prep Batch:	570860	Analytical Batch:	570977
Prep Method:	7470 Prep	Analytical Method:	EPA 7470A

ANALYTE	UNITS	TRUE	FOUND	% R	Q	LCL	UCL
Mercury	mg/L	0.0050	0.0060	119		80	120

FORM VII - IN

Revision 1

Form VIII

Tunes

VIII
ICP-MS TUNE

Report No:	215102310	GCAL QC ID:	1150
Instrument ID:	ICPMS2	Lab File ID:	2151024A_MS2.b\QCTune\2151024A_MS2-QCTu
Analyst:	JEL2	Analytical Batch:	570937
Analysis Date:	10/24/15 Time: 1115	Analytical Method:	EPA 6020A

ELEMENT - MASS	AVG MEASURED MASS (amu)	PEAK WIDTH AT PEAK HEIGHT (amu)	%RSD
Be-9	9	.8042	1.2808
Mg-24	24	.7869	.8742
Mg-25	25	.7897	1.026
Mg-26	26	.7878	1.2552
Co-59	59	.7825	.5242
In-115	115.05	.7519	.8506
Pb-206	206	.7628	1.3845
Pb-207	207	.7756	.4938
Pb-208	208	.7799	.3714

FORM VIII - IN

Revision 1

VIII
ICP-MS TUNE

Report No:	215102310	GCAL QC ID:	1150
Instrument ID:	ICPMS2	Lab File ID:	2151104A_MS2.b\QCTune\2151104A_MS2-QCTu
Analyst:	LWZ	Analytical Batch:	571721
Analysis Date:	11/04/15 Time: 0943	Analytical Method:	EPA 6020A

ELEMENT - MASS	***AVG MEASURED MASS (amu)***	***PEAK WIDTH AT PEAK HEIGHT (amu)***	***%RSD***
Be-9	9	.8293	.3903
Mg-24	24	.824	.8748
Mg-25	25	.8176	.6193
Mg-26	25.95	.7937	.7259
Co-59	58.95	.8037	.7205
In-115	115	.7603	2.5242
Pb-206	206	.75	.9589
Pb-207	206.95	.7389	.7624
Pb-208	208	.7771	.8605

FORM VIII - IN

Revision 1

Form IX

Serial Dilutions

IX
SERIAL DILUTIONS

Report No:	215102310	GCAL SD ID:	1505077
Matrix:	Water	Parent Sample ID:	305-MW4-14 (21510231001)
Analyst:	LWZ	Instrument ID:	ICPMS2
Analysis Date:	11/04/15 Time: 1426	Lab File ID:	2151104B_MS2.b\029SMPL.d
Analytical Method:	EPA 6020A	Analytical Batch:	571721

ANALYTE	UNITS	PARENT SAMPLE RESULT	C	SERIAL DILUTION RESULT	C	% DIFF	Q	LCL	UCL
Antimony	mg/L	0	U	0	U				
Arsenic	mg/L	0.013		0.015		15.4			
Barium	mg/L	0.095		0.10		5.3		0	10
Beryllium	mg/L	0.0015	J	0.0015	J				
Cadmium	mg/L	0.0044	J	0.0047	J				
Calcium	mg/L	47.7		52.9		10.9			
Chromium	mg/L	0	U	0.042					
Cobalt	mg/L	0.045		0.059		31.1			
Copper	mg/L	0.0018	J	0.0056					
Iron	mg/L	0	U	0.19	J				
Lead	mg/L	0.0033	J	0.0039	J				
Nickel	mg/L	0.0094	J	0.32		3300			
Potassium	mg/L	3.54		3.90		10.2			
Selenium	mg/L	0	U	0	U				
Silver	mg/L	0	U	0	U				
Sodium	mg/L	3.68		10.2		177			
Thallium	mg/L	0	U	0	U				
Vanadium	mg/L	0	U	0	U				
Zinc	mg/L	0.034	J	0.12					

FORM IX - IN

Revision 1

IX
SERIAL DILUTIONS

Report No:	215102310	GCAL SD ID:	1505077
Matrix:	Water	Parent Sample ID:	305-MW4-14 DL (21510231001)
Analyst:	LWZ	Instrument ID:	ICPMS2
Analysis Date:	11/04/15 Time: 1409	Lab File ID:	2151104B_MS2.b\024SMPL.d
Analytical Method:	EPA 6020A	Analytical Batch:	571721

ANALYTE	UNITS	PARENT SAMPLE RESULT	C	SERIAL DILUTION RESULT	C	% DIFF	Q	LCL	UCL
Aluminum	mg/L	15.1		16.3		7.9		0	10
Magnesium	mg/L	10.2		10.5					
Manganese	mg/L	6.08		6.35		4.4		0	10

FORM IX - IN

Revision 1

Form X

MDLs

METHOD DETECTION LIMITS

Lab Name: GCAL

Instrument ID: (MS) ICPMS1/ICPMS2 (AV) HYDRA

Lab Code: LA024

Analyte	MDL	Units	Type
Aluminum	5	ug/L	MS
Antimony	.5	ug/L	MS
Arsenic	.25	ug/L	MS
Barium	.25	ug/L	MS
Boron	2.50	ug/L	MS
Beryllium	.25	ug/L	MS
Cadmium	.25	ug/L	MS
Calcium	125	ug/L	MS
Chromium	.25	ug/L	MS
Cobalt	.25	ug/L	MS
Copper	.25	ug/L	MS
Iron	25	ug/L	MS
Lead	.25	ug/L	MS
Magnesium	25	ug/L	MS
Manganese	1.25	ug/L	MS
Molybdenum	.25	ug/L	MS
Nickel	.5	ug/L	MS
Potassium	25	ug/L	MS
Selenium	.25	ug/L	MS
Silver	.25	ug/L	MS
Sodium	25	ug/L	MS
Thallium	.25	ug/L	MS
Titanium	.25	ug/L	MS
Vanadium	.25	ug/L	MS
Zinc	5	ug/L	MS
Mercury	0.00007	mg/L	AV

FORM X - IN

Form XIII

Preparation Logs

XIII
PREPARATION LOG

Report No: 215102310

Prep Method: EPA 3010A Prep Batch: 570859

CLIENT SAMPLE ID	GCAL SAMPLE ID	PREP DATE	WEIGHT	UNITS	VOLUME	UNITS
305-18MW16	21510231004	10/23/15			50	mL
305-MW4-01	21510231006	10/23/15			50	mL
305-MW4-13	21510231002	10/23/15			50	mL
305-MW4-14	21510231001	10/23/15			50	mL
305-MW4-140	21510231003	10/23/15			50	mL
305-MW4-14MS	1502025	10/23/15			50	mL
305-MW4-14MSD	1502026	10/23/15			50	mL
EB-102215-03	21510231005	10/23/15			50	mL
LCS1502024	1502024	10/23/15			50	mL
MB1502023	1502023	10/23/15			50	mL

FORM XIII - IN

XIII
PREPARATION LOG

Report No: 215102310

Prep Method: EPA 7470A

Prep Batch: 570860

CLIENT SAMPLE ID	GCAL SAMPLE ID	PREP DATE	WEIGHT	UNITS	VOLUME	UNITS
305-18MW16	21510231004	10/23/15			20	mL
305-MW4-01	21510231006	10/23/15			20	mL
305-MW4-13	21510231002	10/23/15			20	mL
305-MW4-14	21510231001	10/23/15			20	mL
305-MW4-140	21510231003	10/23/15			20	mL
EB-102215-03	21510231005	10/23/15			20	mL
LCS1502030	1502030	10/23/15			20	mL
MB1502029	1502029	10/23/15			20	mL
MRD-1B-21MS	1502031	10/23/15			20	mL
MRD-1B-21MSD	1502032	10/23/15			20	mL

FORM XIII - IN

Form XIV

Run Logs

XIV
ANALYSIS RUN LOG

Report No: 215102310 | Analytical Batch: 570977 | Start Date: 10/25/15

Instrument ID: HYDRA | Analytical Method: EPA 7470A | End Date: 10/25/15

CLIENT SAMPLE ID	GCAL SAMPLE ID	PF	D/F	TIME	Analyte Symbols																													
					Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Li	Mg	Mn	Hg	Mo	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	Ti	V	Zn	Zr
IICALB	1300	*	1	1825																	X													
IICAL1	1301	*	1	1827																	X													
IICAL2	1302	*	1	1829																	X													
IICAL3	1303	*	1	1831																	X													
IICAL4	1304	*	1	1833																	X													
IICAL5	1305	*	1	1836																	X													
ICV	1600	*	1	1839																	X													
ICB	1700	*	1	1843																	X													
MB1502029	1502029	*	1	1857																	X													
LCS1502030	1502030	*	1	1900																	X													
MRD-1B-21MS	1502031	*	1	1905																	X													
CCV	1800	*	1	1910																	X													
CCB	1900	*	1	1912																	X													
MRD-1B-21MSD	1502032	*	1	1915																	X													
305-MW4-14	21510231001	*	1	1932																	X													
305-MW4-13	21510231002	*	1	1934																	X													
CCV	1800	*	1	1936																	X													
CCB	1900	*	1	1938																	X													
305-MW4-140	21510231003	*	1	1941																	X													
305-18MW16	21510231004	*	1	1943																	X													
EB-102215-03	21510231005	*	1	1945																	X													
305-MW4-01	21510231006	*	1	1947																	X													
CCV	1800	*	1	1949																	X													
CCB	1900	*	1	1951																	X													

FORM XIV - IN

XIV
ANALYSIS RUN LOG

Report No: 215102310 | Analytical Batch: 570937 | Start Date: 10/24/15

Instrument ID: ICPMS2 | Analytical Method: EPA 6020A | End Date: 10/24/15

CLIENT SAMPLE ID	GCAL SAMPLE ID	PF	D/F	TIME	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Li	Mg	Mn	Hg	Mo	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	Ti	V	Zn	Zr
					Analyte Symbols																														
ITUNE	1150	*	1	1115	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
IICALB	1300	*	1	1250	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
IICAL2	1302	*	1	1254	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
IICAL4	1304	*	1	1258	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
IICAL5	1305	*	1	1301	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
IICAL6	1306	*	1	1304	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
IICAL1	1301	*	1	1307	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
ICB	1700	*	1	1311	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
ICSA	2000	*	1	1314	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
LLCCV	1803	*	1	1317	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
ICSAB	2100	*	1	1321	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
ICV	1600	*	1	1324	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
MB1502023	1502023	*	1	1414	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
LCS1502024	1502024	*	1	1418	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
CCB	1900	*	1	1435	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
LLCCV	1803	*	1	1442	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
CCV	1800	*	1	1445	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	

FORM XIV - IN

XIV
ANALYSIS RUN LOG

Report No: 215102310 | Analytical Batch: 571721 | Start Date: 11/04/15

Instrument ID: ICPMS2 | Analytical Method: EPA 6020A | End Date: 11/04/15

CLIENT SAMPLE ID	GCAL SAMPLE ID	PF	D/F	TIME	Analyte Symbols																														
					Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Li	Mg	Mn	Hg	Mo	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	Ti	V	Zn	Zr
ITUNE	1150	*	1	0942	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
IICALB	1300	*	1	1225	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
IICAL2	1302	*	1	1229	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
IICAL4	1304	*	1	1233	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
IICAL5	1305	*	1	1236	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
IICAL6	1306	*	1	1239	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
IICAL1	1301	*	1	1242	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
ICB	1700	*	1	1246	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
ICSA	2000	*	1	1249	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
LLCCV	1803	*	1	1253	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
ICSAB	2100	*	1	1256	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
ICV	1600	*	1	1259	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
CCB	1900	*	1	1314	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
LLCCV	1803	*	1	1317	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
CCV	1800	*	1	1321	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
305-MW4-14 DL	21510231001	*	20	1355	X														X	X															
305-MW4-14MS DL	1502025	*	20	1359	X														X	X															
305-MW4-14MSD DL	1502026	*	20	1402	X														X	X															
305-MW4-14PDS DL	1505076	*	20	1406	X														X	X															
305-MW4-14SD DL	1505077	*	100	1409	X														X	X															
305-MW4-14	21510231001	*	1	1412		X	X	X	X		X	X	X	X	X	X	X						X	X	X		X	X		X			X	X	
305-MW4-14MS	1502025	*	1	1416		X	X	X	X		X	X	X	X	X	X	X						X	X	X		X	X		X			X	X	
305-MW4-14MSD	1502026	*	1	1419		X	X	X	X		X	X	X	X	X	X	X						X	X	X		X	X		X			X	X	
305-MW4-14PDS	1505076	*	1	1423		X	X	X	X		X	X	X	X	X	X	X						X	X	X		X	X		X			X	X	
305-MW4-14SD	1505077	*	5	1426		X	X	X	X		X	X	X	X	X	X	X						X	X	X		X	X		X			X	X	
305-MW4-13 DL	21510231002	*	10	1429																X															
305-MW4-13	21510231002	*	1	1433	X	X	X	X	X		X	X	X	X	X	X	X		X				X	X	X		X	X		X			X	X	
305-MW4-140 DL	21510231003	*	20	1436	X															X															
305-MW4-140	21510231003	*	1	1440		X	X	X	X		X	X	X	X	X	X	X		X				X	X	X		X	X		X			X	X	

FORM XIV - IN

XIV
ANALYSIS RUN LOG

Report No: 215102310 | Analytical Batch: 571721 | Start Date: 11/04/15

Instrument ID: ICPMS2 | Analytical Method: EPA 6020A | End Date: 11/04/15

CLIENT SAMPLE ID	GCAL SAMPLE ID	PF	D/F	TIME	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Li	Mg	Mn	Hg	Mo	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	Ti	V	Zn	Zr
					Analyte Symbols																														
305-18MW16 DL	21510231004	*	10	1443																								X							
305-18MW16	21510231004	*	1	1447	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X			X			X	X	
CCB	1900	*	1	1450	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
LLCCV	1803	*	1	1453	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
CCV	1800	*	1	1457	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
EB-102215-03	21510231005	*	1	1500	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
305-MW4-01	21510231006	*	1	1504	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
CCB	1900	*	1	1531	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
LLCCV	1803	*	1	1541	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
CCV	1800	*	1	1544	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	

FORM XIV - IN

Form XV

Internal Standards

XV (He)

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Report No:	215102310	Start Date:	10/24/15
Instrument ID:	ICPMS2	End Date:	10/24/15
Analytical Method	EPA 6020A	Analytical Batch:	570937

			Internal Standanrds %RI For:															
CLIENT SAMPLE ID	***GCAL SAMPLE ID***	***TIME***	***ISTD1***	***Q***	***ISTD2***	***Q***	***ISTD3***	***Q***	***ISTD4***	***Q***	***ISTD5***	***Q***	***ISTD6***	***Q***	***ISTD7***	***Q***
MB1502023	1502023	1414	96		95		95		95		96		97		95	
LCS1502024	1502024	1418	98		97		97		100		97		100		101	

ISTD 1: Bismuth (He)
ISTD 2: Germanium (He)
ISTD 3: Indium (He)
ISTD 4: Lutetium (He)
ISTD 5: Rhodium (He)
ISTD 6: Scandium (He)
ISTD 7: Terbium (He)

FORM XV - IN

Revision 1

XV (No Gas)

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Report No:	215102310	Start Date:	10/24/15
Instrument ID:	ICPMS2	End Date:	10/24/15
Analytical Method	EPA 6020A	Analytical Batch:	570937

			Internal Standanrds %RI For:															
CLIENT SAMPLE ID	***GCAL SAMPLE ID***	***TIME***	***ISTD8***	***Q***	***ISTD9***	***Q***	***ISTD10***	***Q***	***ISTD11***	***Q***	***ISTD12***	***Q***	***ISTD13***	***Q***	***ISTD14***	***Q***
MB1502023	1502023	1414	97		95		97		97		95		94		97	
LCS1502024	1502024	1418	101		98		101		105		99		99		104	

ISTD 8: Bismuth (No Gas)
ISTD 9: Germanium (No Gas)
ISTD 10 Indium (No Gas)
ISTD 11 Lutetium (No Gas)
ISTD 12 Rhodium (No Gas)
ISTD 13 Scandium (No Gas)
ISTD 14 Terbium (No Gas)

FORM XV - IN

Revision 1

XV (He)

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Report No:	215102310	Start Date:	11/04/15
Instrument ID:	ICPMS2	End Date:	11/04/15
Analytical Method	EPA 6020A	Analytical Batch:	571721

			Internal Standanrds %RI For:													
CLIENT SAMPLE ID	***GCAL SAMPLE ID***	***TIME***	***ISTD1***	***Q***	***ISTD2***	***Q***	***ISTD3***	***Q***	***ISTD4***	***Q***	***ISTD5***	***Q***	***ISTD6***	***Q***	***ISTD7***	***Q***
305-MW4-14 DL	21510231001	1355	100		101		99		101		100		99		101	
305-MW4-14MS DL	1502025	1359	99		101		98		100		98		99		101	
305-MW4-14MSD DL	1502026	1402	100		101		99		100		99		99		101	
305-MW4-14SD DL	1505077	1409	99		100		99		99		100		99		100	
305-MW4-14	21510231001	1412	93		113		92		98		94		96		106	
305-MW4-14MS	1502025	1416	92		112		91		97		92		94		105	
305-MW4-14MSD	1502026	1419	93		112		92		97		93		94		106	
305-MW4-14SD	1505077	1426	97		98		93		96		96		92		99	
305-MW4-13	21510231002	1433	96		95		93		96		96		93		98	
305-MW4-140 DL	21510231003	1436	97		95		93		95		96		92		97	
305-MW4-140	21510231003	1440	92		107		88		95		91		90		103	
305-18MW16 DL	21510231004	1443	98		94		92		94		97		91		97	
305-18MW16	21510231004	1447	94		92		91		94		93		90		96	
EB-102215-03	21510231005	1500	97		94		94		96		98		94		98	
305-MW4-01	21510231006	1504	97		96		94		97		96		94		99	

ISTD 1: Bismuth (He)
ISTD 2: Germanium (He)
ISTD 3: Indium (He)
ISTD 4: Lutetium (He)
ISTD 5: Rhodium (He)
ISTD 6: Scandium (He)
ISTD 7: Terbium (He)

FORM XV - IN

Revision 1

XV (No Gas)
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Report No:	215102310	Start Date:	11/04/15
Instrument ID:	ICPMS2	End Date:	11/04/15
Analytical Method	EPA 6020A	Analytical Batch:	571721

			Internal Standanrds %RI For:													
CLIENT SAMPLE ID	GCAL SAMPLE ID	TIME	ISTD8	Q	ISTD9	Q	ISTD10	Q	ISTD11	Q	ISTD12	Q	ISTD13	Q	ISTD14	Q
305-MW4-14 DL	21510231001	1355	100		102		99		99		99		101		101	
305-MW4-14MS DL	1502025	1359	100		101		98		99		99		101		101	
305-MW4-14MSD DL	1502026	1402	101		103		100		100		100		102		101	
305-MW4-14SD DL	1505077	1409	100		101		99		99		100		100		100	
305-MW4-14	21510231001	1412	98		103		98		104		96		101		111	
305-MW4-14MS	1502025	1416	97		101		96		104		94		100		111	
305-MW4-14MSD	1502026	1419	100		103		98		106		95		101		113	
305-MW4-14SD	1505077	1426	106		102		102		108		100		99		108	
305-MW4-13	21510231002	1433	105		101		101		107		100		99		105	
305-MW4-140 DL	21510231003	1436	107		101		102		106		101		98		106	
305-MW4-140	21510231003	1440	103		102		100		109		97		98		115	
305-18MW16 DL	21510231004	1443	109		100		102		107		101		96		106	
305-18MW16	21510231004	1447	104		99		100		106		98		96		105	
EB-102215-03	21510231005	1500	107		101		102		108		102		99		107	
305-MW4-01	21510231006	1504	105		102		102		106		100		99		105	

ISTD 8: Bismuth (No Gas)
ISTD 9: Germanium (No Gas)
ISTD 10 Indium (No Gas)
ISTD 11 Lutetium (No Gas)
ISTD 12 Rhodium (No Gas)
ISTD 13 Scandium (No Gas)
ISTD 14 Terbium (No Gas)

FORM XV - IN

Revision 1

ICPMS ICALs

Tune Step	Mass	Name	R	a	b (blank)	DL	BEC	Units
1	7	Li	0.999995002	0.002206132	0.019264074	0.524887749	8.732057065	ppb
1	9	Be	0.999997204	0.000711848	3.68E-05	0.000619713	0.051758375	ppb
1	11	B	0.999999682	0.000512619	0.000299002	0.103585267	0.583282889	ppb
2	23	Na	0.999999179	0.004496101	0.018638314	0.750132467	4.145439815	ppb
2	24	Mg	0.999995544	0.002327077	0.000563957	0.276146633	0.242345805	ppb
2	27	Al	0.99999896	0.000813262	0.000814053	0.647297165	1.00097254	ppb
2	29	Si	0.999964546	2.26E-05	0.002440057	28.66332172	108.1425896	ppb
2	39	K	0.999993755	0.001460555	0.057596678	1.789641337	39.43478726	ppb
2	44	Ca	0.999997107	7.97E-05	0.001725973	1.347219847	21.65094584	ppb
2	47	Ti	0.999998285	0.000647019	3.28E-06	0.013169474	0.005068879	ppb
2	51	V	0.999986924	0.036391287	0.000457431	0.004159918	0.012569783	ppb
2	52	Cr	0.999997354	0.046335653	0.001975201	0.01891235	0.042628101	ppb
2	55	Mn	0.999986006	0.022999522	0.000753308	0.020987656	0.032753188	ppb
2	57	Fe	0.99999978	0.000924324	0.000410825	0.855447791	0.44445981	ppb
2	59	Co	0.999999564	0.080013266	0.00018176	0.001029652	0.002271622	ppb
2	60	Ni	0.999999549	0.022298602	0.002379216	0.023178035	0.106697967	ppb
2	63	Cu	0.999998775	0.038414871	0.011524149	0.006775254	0.299991858	ppb
2	66	Zn	0.999999769	0.007510468	0.00442331	0.290647811	0.588952673	ppb
2	75	As	0.999994271	0.004467149	5.70E-05	0.015682292	0.012762657	ppb
2	78	Se	0.999995473	0.000267253	7.67E-05	0.29497633	0.287029932	ppb
1	88	Sr	0.999999243	0.040475316	0.000661865	0.000471708	0.016352321	ppb
1	90	Zr	0.999996807	0.027190074	0.000210298	0.00245134	0.007734376	ppb
1	95	Mo	0.999999026	0.001326544	6.44E-06	0.000410155	0.004851987	ppb
1	107	Ag	0.999996093	0.003033388	2.37E-05	0.004262253	0.007805917	ppb
1	111	Cd	0.999999681	0.000641702	1.15E-06	0.004912611	0.001789681	ppb
1	118	(Sn)	0.999999922	0.001899579	0.000104028	0.004781477	0.054763546	ppb
2	118	(Sn)	0.999989783	0.00251983	0.000166918	0.005556316	0.066241637	ppb
2	120	Sn	0.999994404	0.003645406	0.00023261	0.036436541	0.063809148	ppb
1	121	Sb	0.999999651	0.002380974	6.27E-05	0.007155796	0.026313352	ppb
1	137	Ba	0.999990038	0.000922331	1.03E-05	0.003777166	0.01121332	ppb
2	156	[Se]						ppb
1	205	Tl	0.999999929	0.006521463	4.67E-06	0.000355321	0.000715487	ppb
1	206	(Pb)	0.999998716	0.00225221	1.22E-05	0.002944313	0.005395031	ppb
1	207	(Pb)	0.999996028	0.002001252	1.30E-05	0.010606563	0.006517035	ppb
1	208	Pb	0.99999969	0.008935606	6.11E-05	0.004604354	0.006839846	ppb
1	45	Sc						ppb
2	45	Sc						ppb
1	72	Ge						ppb
2	72	Ge						ppb
1	103	Rh						ppb
2	103	Rh						ppb
1	115	In						ppb
2	115	In						ppb
1	159	Tb						ppb
2	159	Tb						ppb
1	175	Lu						ppb
2	175	Lu						ppb
1	209	Bi						ppb
2	209	Bi						ppb

Tune Step	Mass	Name	R	a	b (blank)	DL	BEC	Units
1	7	Li	0.999981423	0.003677969	0.032074782	0.237576738	8.720787189	ppb
1	9	Be	0.99999921	0.001022894	7.65E-07	0.00127909	0.00074806	ppb
1	11	B	0.999997183	0.000688974	0.00018324	0.082988702	0.265959944	ppb
2	23	Na	0.99999027	0.004951778	0.041075911	1.203214329	8.295183619	ppb
2	24	Mg	0.999995458	0.002477842	0.001064249	0.268578586	0.429506263	ppb
2	27	Al	0.999996816	0.000851141	0.000604546	0.261985591	0.710277089	ppb
2	29	Si	0.999938029	2.42E-05	0.003540992	14.23802835	146.5303382	ppb
2	39	K	0.999999656	0.001518753	0.07514537	5.801035658	49.47834793	ppb
2	44	Ca	0.99999915	8.09E-05	0.002403726	10.77360286	29.71104698	ppb
2	47	Ti	0.99999842	0.000648689	1.63E-05	0.056837442	0.025076602	ppb
2	51	V	0.99999998	0.037750727	0.000777711	0.014739982	0.02060123	ppb
2	52	Cr	0.999999661	0.047608807	0.001432506	0.018311112	0.030089088	ppb
2	55	Mn	0.999998149	0.023217452	0.000775822	0.012151054	0.033415458	ppb
2	57	Fe	0.999993902	0.000922275	0.000515392	0.927362806	0.558826375	ppb
2	59	Co	0.999997844	0.079126937	0.000297115	0.00359009	0.003754913	ppb
2	60	Ni	0.999997421	0.021830937	0.002829898	0.05352977	0.12962786	ppb
2	63	Cu	0.99998084	0.035078235	0.001709232	0.00591518	0.048726293	ppb
2	66	Zn	0.999998059	0.007353399	0.006328081	0.683021791	0.860565457	ppb
2	75	As	0.999999967	0.004564347	7.59E-05	0.013518323	0.016626948	ppb
2	78	Se	0.999998404	0.000266346	0.000102114	0.208496504	0.383388165	ppb
1	88	Sr	0.999999276	0.041353961	0.000998082	0.004021344	0.024135095	ppb
1	90	Zr	0.999997456	0.026767913	0.000206223	0.003074966	0.007704097	ppb
1	95	Mo	0.99999999	0.001344887	3.19E-06	0.000982546	0.002369685	ppb
1	107	Ag	0.999991455	0.002985373	1.58E-05	0.003320278	0.005299389	ppb
1	111	Cd	0.999997584	0.000626838	1.35E-06	0.000987831	0.002148566	ppb
1	118	(Sn)	0.99999985	0.001945185	0.0001371	0.013498169	0.070481708	ppb
2	118	(Sn)	0.999998338	0.002565776	0.000160601	0.029151415	0.062593422	ppb
2	120	Sn	0.999999362	0.003718964	0.000248102	0.028879724	0.066712703	ppb
1	121	Sb	0.999997218	0.002345929	7.89E-05	0.005979266	0.033628744	ppb
1	137	Ba	0.9999997	0.000972712	1.38E-05	0.004706227	0.014235492	ppb
2	156	[Se]						ppb
1	205	Tl	0.999988263	0.006484153	1.02E-05	0.002315633	0.001579656	ppb
1	206	(Pb)	0.999999131	0.002292449	1.33E-05	0.001095456	0.005785779	ppb
1	207	(Pb)	0.999999922	0.002040204	1.33E-05	0.010180565	0.006497648	ppb
1	208	Pb	0.999998883	0.009122013	5.72E-05	0.002138012	0.006267109	ppb
1	45	Sc						ppb
2	45	Sc						ppb
1	72	Ge						ppb
2	72	Ge						ppb
1	103	Rh						ppb
2	103	Rh						ppb
1	115	In						ppb
2	115	In						ppb
1	159	Tb						ppb
2	159	Tb						ppb
1	175	Lu						ppb
2	175	Lu						ppb
1	209	Bi						ppb
2	209	Bi						ppb

PrepSheets

HG SAMPLE PREPARATION FORM

EXTRACTION DATE/TIME:	Start: 1445 End: 1645	BATCH NO:	570860
MATRIX:	WATER ☑ SOIL ☐ TCLP EXT ☐ ORGANIC ☐	METHOD:	245.2 ☐ 7470A ☑ 7471B ☐

	CLIENT	CLIENT ID	GCAL ID	INITIAL VOL/WT mL g	FINAL VOLUME (mL)	SAMPLE TYPE	COMMENTS	REAGENTS/ STANDARDS
1	QC ACCOUNT	MB for HBN 570860 [DIGM/40008]	1502029	20	20	MB		HNO3
2	QC ACCOUNT	LCS for HBN 570860 [DIGM/40008	1502030			LCS		7124371
3	4569	MRD-1B-21	21510230604			SAMPLE		H2SO4
4	QC ACCOUNT	MRD-1B-21(1501924MS)	1502031			MS		2123058
5	QC ACCOUNT	MRD-1B-21 (1501924MSD)	1502032			MSD		Aqua Regia
6	4569	MRD-1B-18	21510230605			SAMPLE		
7	4569	3AMW01	21510230901			SAMPLE		KMN04
8	4569	3AMW06	21510230902			SAMPLE		726-203
9	4569	3AMW04	21510230903			SAMPLE		K2S2O6
10	4569	3AMW08	21510230904			SAMPLE		726-204
11	4569	3AMW09	21510230905			SAMPLE		Hg Calib ID
12	4569	3AMW07	21510230906			SAMPLE		
13	4476	305-MW4-14	21510231001			SAMPLE		0.1 ppm CCV Working Solution
14	4476	305-MW4-13	21510231002			SAMPLE		
15	4476	305-MW4-140	21510231003			SAMPLE		0.1 ppm ICV Working Solution
16	4476	305-18MW16	21510231004			SAMPLE		
17	4476	EB-102215-03	21510231005			EQBK		Hg ICV
18	4476	305-MW4-01	21510231006			SAMPLE		
19								SPIKE SOLUTIONS (LCS/MS)
20								
21								Hg Spike 1000ul
22								726-313
23								ORGANOMETALLIC HG SPIKE 0.025g
24								
25								SOLID MATERIAL:
26								

Hg Solid Calibration

Calib Blk	Conc (ug/L)	0.1ppm Spk Added	Final Volume
Standard 1	0.20	60 uL	30mL
Standard 2	0.50	150 uL	30 mL
Standard 3	2.00	600 uL	30 mL
Standard 4	5.00	1500 ul	30 mL
Standard 5	10.0	3000 uL	30 mL
ICV	5.00	1500 uL	30 mL

Hg Water Calibration

Calib Blk	Conc (ug/L)	0.1ppm Spk Added	Final Volume
Standard 1	0.20	40 uL	20 mL
Standard 2	0.50	100 uL	20 mL
Standard 3	2.00	400 uL	20 mL
Standard 4	5.00	1000 ul	20 mL
Standard 5	10.0	2000 uL	20 mL
ICV	5.00	1000 uL	20 mL

BLOCK ID	TECHNICIAN	DATE
DI 1504726	JQ	10-23-15
REPIPET BOTTLES VERIFIED	**REVIEW**	**DATE**
MA	AWG	10/27/15

BALANCE ID: _____ TEMP: 930

Revision 1, 08/10/2010

Revision 1

ICP SAMPLE PREPARATION FORM

EXTRACTION DATE/TIME:	Start: 14:45 End: 16:45	BATCH NO:	570859
MATRIX:	WATER ☑ SOIL ☐ TCLP EXT ☐ ORGANIC ☐	METHOD:	200.0 ☐ 200.7 ☐ 3010A ☑ 3050B ☐ 3051 ☐

	CLIENT	CLIENT ID	GCAL ID	INITIAL VOL/WT mL g	FINAL VOLUME (mL)	SAMPLE TYPE	COMMENTS	REAGENTS/ STANDARDS
1	QC ACCOUNT	MB for HBN 570859 [DIGM/40007]	1502023	50	50	MB		HNO3
2	QC ACCOUNT	LCS for HBN 570859 [DIGM/40007	1502024			LCS		301-1-10
3	4476	305-MW4-14	21510231001			SAMPLE		HCL
4	QC ACCOUNT	305-MW4-14 (1501964MS)	1502025			MS		717583
5	QC ACCOUNT	305-MW4-14 (1501964MSD)	1502026			MSD		H2O2
6	4476	305-MW4-13	21510231002			SAMPLE		
7	4476	305-MW4-140	21510231003			SAMPLE		SOLID MATERIAL:
8	4476	305-18MW16	21510231004			SAMPLE		
9	4476	EB-102215-03	21510231005			EQBK		
10	4476	305-MW4-01	21510231006			SAMPLE		
11	4494	MB-TU020-MW001-G-1	21510234214			SAMPLE	add on 11:50	
12	4494	MB-TU020-MW001-D-G-1-D	21510234216			FLDDUP		
13	4494	MB-TU020-MW003-G-1	21510234218			SAMPLE		
14	4494	MB-TU020-MW003-G-1 MS	21510234219			MS		
15	4494	MB-TU020-MW003-G-1 MSD	21510234220			MSD		
16	4494	MB-TU020-MW002-G-1	21510234221			SAMPLE		
17	4494	MB-TU020-MW004-G-1	21510234222			SAMPLE		SPIKING SOLUTIONS (LCS/MS)
18	4271	LB-3M	21510234601			SAMPLE		
19	0176	U27D18X / 3796659	21510240201			SAMPLE	10-26-15 @ 10:00	GCALI-1 - 250uL
20	0176	U24CRB1 / 3796187	21510240301			SAMPLE		
21	0176	U24CRC1 / 3796688	21510240302			SAMPLE		GCALI-2 - 250uL
22								
23								ORGANOMETALLIC ICP SPIKE 0.025g
24								
25								
26								
27								
28								

COMMENTS:

BALANCE ID: _____ TEMP: 93°

BLOCK ID	TECHNICIAN	DATE
1 19D4711	TCL	10-26-15
REPIPET BOTTLES VERIFIED	REVIEW	DATE
N/A	AWG	10/27/15

Revision 1, 08/10/2010

Revision 1

GCAL ANALYTICAL LABORATORIES, LLC

CHAIN OF CUSTODY RECORD

7979 Innovation Park Dr., Baton Rouge, LA 70820-7402
Phone: 225.769.4900 • Fax: 225.767.5717 • www.gcal.com

Client ID: 4476 - Parsons
SDG: 215102310
PM: RCH2

Report to:
Client: PARSONS
Address: 3577 PARKWAY LANE S-100
NORCROSS, GA 30092
Contact: ANGIE WELCH
Phone: 404-803-3791
E-mail: Angie.Welch@parsons.com

Bill to:
Client: PARSONS
Address:
Contact: STEPHANIE BLISS
Phone: 801-572-5999
E-mail: Stephanie.Bliss@parsons.com

P.O. Number:
Project Name/Number: FT. BRAGG - SITE 305
Sampled By: HUGH/MANGLONA/TEPLY

GCAL use only:
Custody Seal used ☐ yes ☐ no
intact ☐ yes ☐ no
Temperature °C 2.2 EZY

☐ Dissolved Analysis Requested
☐ Field filtered
☐ Lab filtered

Analytical Requests & Method

Matrix[1]	Date	Time (2400)	Comp	Grab	Sample Description	No Containers	VOCs SW8260B	TAL METALS	Preservative
W	10/22/15	08:52		X	305-MW4-14	4	X (HCL)	X (HNO3)	1
W	10/22/15	11:22		X	305-MW4-13	4	X	X	2
W	10/22/15	09:10		X	305-MW4-140	4	X	X	3
W	10/22/15	15:48		X	305-18MW16	4	X	X	4
W	10/22/15	14:55		X	EB-102215-03	4	X	X	5
W	10/22/15	14:37		X	305-MW4-01	4	X	X	6

Air Bill No: 8092 2222 8795

Turn Around Time (Business Days): ☐ 24h* ☐ 48h* ☐ 3 days* ☐ 1 week* ☒ Standard (Per Contract/Quote)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
[signature]	10/22/15	16:45	FEDEX	10/22/15	16:45
Fedex	10-23-15	~~4:45~~ 9:49	[signature]	10-23-15	~~4:45~~ 9:49
Relinquished by: (Signature)	Date:	Time: 9:49	Received by: (Signature)	Date:	Time:

Note: SAMPLES SHIPPED WITH SITE 14C SAMPLES
ONE TRIP BLANK FOR SHIPMENT TB-102215-03

By submitting these samples, you agree to GCAL's terms and conditions contained in our most recent schedule of services.

Matrix[1]: W = water, S = solid, L = liquid, T = tissue

*Requires prior approval, rush charges may apply.

We cannot accept verbal changes. Please email written changes to your PM.

WHITE: CLIENT FINAL REPORT - CANARY: CLIENT

Revision 1

GCAL ANALYTICAL LABORATORIES, LLC

CHAIN OF CUSTODY RECORD

7979 Innovation Park Dr., Baton Rouge, LA 70820-7402
Phone: 225.769.4900 • Fax: 225.767.5717 • www.gcal.com

Client ID: 4476 - Parsons
SDG: 215102307
PM: RCH2

Report to:
Client: PARSONS
Address: 3577 PARKWAY LANE S-100
NORCROSS, GA 30092
Contact: ANGIE WELCH
Phone: 404-803-3791
E-mail: Angie.Welch@parsons.com

Bill to:
Client: PARSONS
Address:
Contact: STEPHANIE BLISS
Phone: 801-572-5999
E-mail: Stephanie.Bliss@parsons.com

P.O. Number
Project Name/Number: FT. BRAGG - SITE 14C (SWMU14C)
Sampled By: HUEY / MANGLONA / TEPLY

Analytical Requests & Method: VOCs SW8260B

GCAL use only:
Custody Seal used ☐ yes ☐ no
intact ☐ yes ☐ no
Temperature °C 2.2 EZ4

☐ Dissolved Analysis Requested
☐ Field filtered
☐ Lab filtered

Matrix[1]	Date	Time (2400)	Comp	Grab	Sample Description	No Containers	HCl	Preservative
W	10/21/15	15:00		X	TB-102115-03	3	X	+ 215102310 07
~~W~~	~~10/21/15~~	~~16:10~~		~~X~~	~~14C-14MW1~~	~~3~~	~~X~~	2
~~W~~	~~10/21/15~~	~~16:00~~		~~X~~	~~14C-14MW5~~	3	X	3
~~W~~	~~10/21/15~~	~~16:00~~		~~X~~	~~14C-14MW12~~	~~3~~	~~X~~	4
~~W~~	~~10/21/15~~	~~16:05~~		~~X~~	~~14C-14MW13~~	~~3~~	~~X~~	5
~~W~~	~~10/21/15~~	~~16:22~~		~~X~~	~~14C-14MW14~~	~~3~~	~~X~~	6
~~W~~	~~10/21/15~~	~~16:30~~		~~X~~	~~14C-14MW15~~	~~3~~	~~X~~	7
~~W~~	~~10/21/15~~	~~16:45~~		~~X~~	~~14C-14MW150~~	~~3~~	~~X~~	8
~~W~~	~~10/21/15~~	~~16:50~~		~~X~~	~~14C-74MW6~~	~~3~~	~~X~~	9
~~W~~	~~10/21/15~~	~~15:30~~		~~X~~	~~14C-74MW7~~	~~3~~	~~X~~	10
~~W~~	~~10/21/15~~	~~16:40~~		~~X~~	~~14C-SW1~~	~~3~~	~~X~~	11
~~W~~	~~10/21/15~~	~~16:30~~		~~X~~	~~14C-SW2~~	3	X	12
~~W~~	~~10/21/15~~	~~16:15~~		~~X~~	~~14C-SW3~~	~~3~~	~~X~~	13

Air Bill No: 8092 2222 8795

Turn Around Time (Business Days): ☐ 24h* ☐ 48h* ☐ 3 days* ☐ 1 week* ☒ Standard (Per Contract/Quote)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
[signature]	10/22/15	16:45	FEDEX	10/22/15	16:45
Fedex	10-23-15	~~948~~ 949	[signature]	10-23-15	~~947~~ 949
		949			08

Note:

By submitting these samples, you agree to GCAL's terms and conditions contained in our most recent schedule of services.

Matrix[1]: W = water, S = solid, L = liquid, T = tissue

*Requires prior approval, rush charges may apply.

We cannot accept verbal changes. Please email written changes to your PM.

WHITE: CLIENT FINAL REPORT - CANARY: CLIENT

Revision 1

215102310 07 8092 2222 8795

GCAL ANALYTICAL LABORATORIES, LLC

SAMPLE RECEIVING CHECKLIST

215102310

SAMPLE DELIVERY GROUP 215102310

Client PM RCH2 4476 - Parsons	**Transport Method** FEDEX
Profile Number 243150	**Received By** Saucier, Charlotte M.
Line Item(s) 6 - Water RCRA	**Receive Date(s)** 10/23/15

CHECKLIST	YES	NO	NA
Were all samples received using proper thermal preservation?	☑	☐	☐
When used, were all custody seals intact?	☑	☐	☐
Were all samples received in proper containers?	☑	☐	☐
Were all samples received using proper chemical preservation?	☑	☐	☐
Was preservative added to any container at the lab?	☐	☑	☐
Were all containers received in good condition?	☑	☐	☐
Were all VOA vials received with no head space?	☑	☐	☐
Do all sample labels match the Chain of Custody?	☑	☐	☐
Did the Chain of Custody list the sampling technician?	☑	☐	☐
Was the COC maintained i.e. all signatures, dates and time of receipt included?	☑	☐	☐

COOLERS

Airbill Thermometer ID: E24	Temp(°C)
8092 2222 8795	2.2

DISCREPANCIES

None

LAB PRESERVATIONS

None

NOTES

GCAL
ANALYTICAL LABORATORIES, LLC

NELAP CERTIFICATE NUMBER: 01955
DOD ELAP CERTIFICATE NUMBER: L14-243

ANALYTICAL RESULTS

PERFORMED BY

GCAL, LLC
7979 Innovation Park Dr.
Baton Rouge, LA 70820

Report Date 11/04/2015

GCAL Report 215102413

Project Ft. Bragg - Site 305

Deliver To Ross Miller Parsons 406 W South Jordan Pkwy Suite 300 South Jordan, UT 84095 801-572-5999

PJLA
Testing
DoD ELAP

ISO
17025

NELAP ACCREDITED
TNI
LABORATORY

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with GCAL's Standard Operating Procedures.

Common Abbreviations that may be Utilized in this Report

ND	Indicates the result was Not Detected at the specified reporting limit
DO	Indicates the result was Diluted Out
MI	Indicates the result was subject to Matrix Interference
TNTC	Indicates the result was Too Numerous To Count
SUBC	Indicates the analysis was Sub-Contracted
FLD	Indicates the analysis was performed in the Field
DL	Detection Limit
DL	Diluted analysis – when appended to Client Sample ID
LOD	Limit of Detection
LOQ	Limit of Quantitation
RE	Re-analysis
00:01	Reported as a time equivalent to 12:00 AM

Reporting Flags that may be Utilized in this Report

J or I	Indicates the result is between the MDL and LOQ
J	DOD flag on analyte in the parent sample for MS/MSD outside acceptance criteria
U	Indicates the compound was analyzed for but not detected
B or V	Indicates the analyte was detected in the associated Method Blank
Q	Indicates a non-compliant QC Result (See Q Flag Application Report)
*****	Indicates a non-compliant or not applicable QC recovery or RPD – see narrative
E	The result is estimated because it exceeded the instrument calibration range
E	Metals - % diference for the serial dilution is > 10%

Sample receipt at GCAL is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of GCAL. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with the NELAC Institute standard and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.

Authorized Signature
GCAL Report 215102413

Case Narrative

Client: Parsons **Report:** 215102413

Gulf Coast Analytical Laboratories received and analyzed the sample(s) listed on the Report Sample Summary page of this report. Receipt of the sample(s) is documented by the attached chain of custody. This applies only to the sample(s) listed in this report. No sample integrity or quality control exceptions were identified unless noted below.

No anomalies were found in the analyzed sample(s).

Q Flag Summary

NO Q FLAGS FOR THIS WORKORDER

Sample/Test Summary 215102413

LabID	SampleID	Matrix	Procedure
21510241301	TB-102315-04	W	EPA 8260B DOD Water
21510241302	305-18MW07	W	EPA 6020A
21510241302	305-18MW07	W	EPA 6020A Water Prep
21510241302	305-18MW07	W	EPA 7470A
21510241302	305-18MW07	W	EPA 7470A
21510241302	305-18MW07	W	EPA 8260B DOD Water
21510241303	305-18MW19	W	EPA 6020A
21510241303	305-18MW19	W	EPA 6020A Water Prep
21510241303	305-18MW19	W	EPA 7470A
21510241303	305-18MW19	W	EPA 7470A
21510241303	305-18MW19	W	EPA 8260B DOD Water

Manual Integrations 215102413

LabID	SampleID	Procedure	CAS	Analyte
21510241301	TB-102315-04	EPA 8260B	75-09-2	Methylene chloride
21510241303	305-18MW19	EPA 8260B	156-59-2	cis-1,2-Dichloroethene
21510241303	305-18MW19	EPA 8260B	75-69-4	Trichlorofluoromethane

Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21510241301	TB-102315-04	Water	10/23/2015 07:30	10/24/2015 10:00
21510241302	305-18MW07	Water	10/23/2015 14:25	10/24/2015 10:00
21510241303	305-18MW19	Water	10/23/2015 14:05	10/24/2015 10:00

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

TB-102315-04

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102413

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 21510241301

Level: (low/med)

Lab File ID: 2151102p/g9540

% Moisture: not dec.

Date Collected: 10/23/15 Time: 0730

GC Column: RTX-VMS-30 ID: .25 (mm)

Date Received: 10/24/15

Instrument ID: MSV11

Date Analyzed: 11/03/15 Time: 0429

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: LBH

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 571561

Analytical Method: EPA 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	LOQ
71-55-6	1,1,1-Trichloroethane	0.200	U	0.200	1.00
79-34-5	1,1,2,2-Tetrachloroethane	0.200	U	0.200	1.00
79-00-5	1,1,2-Trichloroethane	0.200	U	0.200	1.00
75-34-3	1,1-Dichloroethane	0.200	U	0.200	1.00
75-35-4	1,1-Dichloroethene	0.200	U	0.200	1.00
563-58-6	1,1-Dichloropropene	0.200	U	0.200	1.00
87-61-6	1,2,3-Trichlorobenzene	0.200	U	0.200	1.00
96-18-4	1,2,3-Trichloropropane	0.200	U	0.200	1.00
120-82-1	1,2,4-Trichlorobenzene	0.200	U	0.200	1.00
95-63-6	1,2,4-Trimethylbenzene	0.200	U	0.200	1.00
106-93-4	1,2-Dibromoethane	0.200	U	0.200	1.00
95-50-1	1,2-Dichlorobenzene	0.200	U	0.200	1.00
107-06-2	1,2-Dichloroethane	0.200	U	0.200	1.00
78-87-5	1,2-Dichloropropane	0.200	U	0.200	1.00
108-67-8	1,3,5-Trimethylbenzene	0.200	U	0.200	1.00
541-73-1	1,3-Dichlorobenzene	0.200	U	0.200	1.00
142-28-9	1,3-Dichloropropane	0.200	U	0.200	1.00
106-46-7	1,4-Dichlorobenzene	0.200	U	0.200	1.00
594-20-7	2,2-Dichloropropane	0.200	U	0.200	1.00
78-93-3	2-Butanone	0.200	U	0.200	5.00
95-49-8	2-Chlorotoluene	0.200	U	0.200	1.00
591-78-6	2-Hexanone	0.500	U	0.500	5.00
106-43-4	4-Chlorotoluene	0.200	U	0.200	1.00
99-87-6	4-Isopropyltoluene	0.200	U	0.200	1.00
108-10-1	4-Methyl-2-pentanone	0.200	U	0.200	5.00
67-64-1	Acetone	0.500	U	0.500	5.00
71-43-2	Benzene	0.200	U	0.200	1.00
108-86-1	Bromobenzene	0.200	U	0.200	1.00
74-97-5	Bromochloromethane	0.200	U	0.200	1.00
75-27-4	Bromodichloromethane	0.200	U	0.200	1.00
75-25-2	Bromoform	0.250	U	0.250	1.00

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

TB-102315-04

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102413

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 21510241301

Level: (low/med)

Lab File ID: 2151102p/g9540

% Moisture: not dec.

Date Collected: 10/23/15 Time: 0730

GC Column: RTX-VMS-30 ID: .25 (mm)

Date Received: 10/24/15

Instrument ID: MSV11

Date Analyzed: 11/03/15 Time: 0429

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: LBH

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 571561

Analytical Method: EPA 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	LOQ
74-83-9	Bromomethane	0.500	U	0.500	1.00
56-23-5	Carbon tetrachloride	0.250	U	0.250	1.00
108-90-7	Chlorobenzene	0.200	U	0.200	1.00
75-00-3	Chloroethane	0.250	U	0.250	1.00
67-66-3	Chloroform	0.200	U	0.200	1.00
74-87-3	Chloromethane	0.200	U	0.200	1.00
124-48-1	Dibromochloromethane	0.200	U	0.200	1.00
75-71-8	Dichlorodifluoromethane	0.200	U	0.200	1.00
100-41-4	Ethylbenzene	0.200	U	0.200	1.00
98-82-8	Isopropylbenzene (Cumene)	0.200	U	0.200	1.00
75-09-2	Methylene chloride	1.27	J	0.200	5.00
100-42-5	Styrene	0.200	U	0.200	1.00
127-18-4	Tetrachloroethene	0.200	U	0.200	1.00
108-88-3	Toluene	0.200	U	0.200	1.00
79-01-6	Trichloroethene	0.200	U	0.200	1.00
75-69-4	Trichlorofluoromethane	0.200	U	0.200	1.00
108-05-4	Vinyl acetate	0.200	U	0.200	1.00
75-01-4	Vinyl chloride	0.200	U	0.200	1.00
1330-20-7	Xylene (total)	0.400	U	0.400	3.00
156-59-2	cis-1,2-Dichloroethene	0.200	U	0.200	1.00
10061-01-5	cis-1,3-Dichloropropene	0.200	U	0.200	1.00
108-20-3	diisopropyl Ether (DIPE)	0.500	U	0.500	5.00
136777-61-2	m,p-Xylene	0.200	U	0.200	2.00
104-51-8	n-Butylbenzene	0.200	U	0.200	1.00
103-65-1	n-Propylbenzene	1.00	U	1.00	5.00
95-47-6	o-Xylene	0.200	U	0.200	1.00
135-98-8	sec-Butylbenzene	0.200	U	0.200	1.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200	U	0.200	1.00
98-06-6	tert-Butylbenzene	0.200	U	0.200	1.00
156-60-5	trans-1,2-Dichloroethene	0.200	U	0.200	1.00
10061-02-6	trans-1,3-Dichloropropene	0.200	U	0.200	1.00

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

305-18MW07

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102413

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21510241302

Level: (low/med) Lab File ID: 2151102p/g9541

% Moisture: not dec. Date Collected: 10/23/15 Time: 1425

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 10/24/15

Instrument ID: MSV11 Date Analyzed: 11/03/15 Time: 0450

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: LBH

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 571561

Analytical Method: EPA 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	LOQ
71-55-6	1,1,1-Trichloroethane	0.200	U	0.200	1.00
79-34-5	1,1,2,2-Tetrachloroethane	0.200	U	0.200	1.00
79-00-5	1,1,2-Trichloroethane	0.200	U	0.200	1.00
75-34-3	1,1-Dichloroethane	0.200	U	0.200	1.00
75-35-4	1,1-Dichloroethene	0.200	U	0.200	1.00
563-58-6	1,1-Dichloropropene	0.200	U	0.200	1.00
87-61-6	1,2,3-Trichlorobenzene	0.200	U	0.200	1.00
96-18-4	1,2,3-Trichloropropane	0.200	U	0.200	1.00
120-82-1	1,2,4-Trichlorobenzene	0.200	U	0.200	1.00
95-63-6	1,2,4-Trimethylbenzene	0.200	U	0.200	1.00
106-93-4	1,2-Dibromoethane	0.200	U	0.200	1.00
95-50-1	1,2-Dichlorobenzene	0.200	U	0.200	1.00
107-06-2	1,2-Dichloroethane	0.200	U	0.200	1.00
78-87-5	1,2-Dichloropropane	0.200	U	0.200	1.00
108-67-8	1,3,5-Trimethylbenzene	0.200	U	0.200	1.00
541-73-1	1,3-Dichlorobenzene	0.200	U	0.200	1.00
142-28-9	1,3-Dichloropropane	0.200	U	0.200	1.00
106-46-7	1,4-Dichlorobenzene	0.200	U	0.200	1.00
594-20-7	2,2-Dichloropropane	0.200	U	0.200	1.00
78-93-3	2-Butanone	0.200	U	0.200	5.00
95-49-8	2-Chlorotoluene	0.200	U	0.200	1.00
591-78-6	2-Hexanone	0.500	U	0.500	5.00
106-43-4	4-Chlorotoluene	0.200	U	0.200	1.00
99-87-6	4-Isopropyltoluene	0.200	U	0.200	1.00
108-10-1	4-Methyl-2-pentanone	0.200	U	0.200	5.00
67-64-1	Acetone	0.500	U	0.500	5.00
71-43-2	Benzene	0.200	U	0.200	1.00
108-86-1	Bromobenzene	0.200	U	0.200	1.00
74-97-5	Bromochloromethane	0.200	U	0.200	1.00
75-27-4	Bromodichloromethane	0.200	U	0.200	1.00
75-25-2	Bromoform	0.250	U	0.250	1.00

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

305-18MW07

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102413

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 21510241302

Level: (low/med)

Lab File ID: 2151102p/g9541

% Moisture: not dec.

Date Collected: 10/23/15 Time: 1425

GC Column: RTX-VMS-30 ID: .25 (mm)

Date Received: 10/24/15

Instrument ID: MSV11

Date Analyzed: 11/03/15 Time: 0450

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: LBH

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 571561

Analytical Method: EPA 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	LOQ
74-83-9	Bromomethane	0.500	U	0.500	1.00
56-23-5	Carbon tetrachloride	0.250	U	0.250	1.00
108-90-7	Chlorobenzene	0.200	U	0.200	1.00
75-00-3	Chloroethane	0.250	U	0.250	1.00
67-66-3	Chloroform	0.200	U	0.200	1.00
74-87-3	Chloromethane	0.200	U	0.200	1.00
124-48-1	Dibromochloromethane	0.200	U	0.200	1.00
75-71-8	Dichlorodifluoromethane	0.200	U	0.200	1.00
100-41-4	Ethylbenzene	0.200	U	0.200	1.00
98-82-8	Isopropylbenzene (Cumene)	0.200	U	0.200	1.00
75-09-2	Methylene chloride	0.200	U	0.200	5.00
100-42-5	Styrene	0.200	U	0.200	1.00
127-18-4	Tetrachloroethene	0.510	J	0.200	1.00
108-88-3	Toluene	0.200	U	0.200	1.00
79-01-6	Trichloroethene	0.200	U	0.200	1.00
75-69-4	Trichlorofluoromethane	1.40		0.200	1.00
108-05-4	Vinyl acetate	0.200	U	0.200	1.00
75-01-4	Vinyl chloride	0.200	U	0.200	1.00
1330-20-7	Xylene (total)	0.400	U	0.400	3.00
156-59-2	cis-1,2-Dichloroethene	0.200	U	0.200	1.00
10061-01-5	cis-1,3-Dichloropropene	0.200	U	0.200	1.00
108-20-3	diisopropyl Ether (DIPE)	0.500	U	0.500	5.00
136777-61-2	m,p-Xylene	0.200	U	0.200	2.00
104-51-8	n-Butylbenzene	0.200	U	0.200	1.00
103-65-1	n-Propylbenzene	1.00	U	1.00	5.00
95-47-6	o-Xylene	0.200	U	0.200	1.00
135-98-8	sec-Butylbenzene	0.200	U	0.200	1.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200	U	0.200	1.00
98-06-6	tert-Butylbenzene	0.200	U	0.200	1.00
156-60-5	trans-1,2-Dichloroethene	0.200	U	0.200	1.00
10061-02-6	trans-1,3-Dichloropropene	0.200	U	0.200	1.00

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

305-18MW19

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102413

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21510241303

Level: (low/med) Lab File ID: 2151102p/g9542

% Moisture: not dec. Date Collected: 10/23/15 Time: 1405

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 10/24/15

Instrument ID: MSV11 Date Analyzed: 11/03/15 Time: 0511

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: LBH

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 571561

Analytical Method: EPA 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	LOQ
71-55-6	1,1,1-Trichloroethane	0.200	U	0.200	1.00
79-34-5	1,1,2,2-Tetrachloroethane	0.200	U	0.200	1.00
79-00-5	1,1,2-Trichloroethane	0.200	U	0.200	1.00
75-34-3	1,1-Dichloroethane	0.200	U	0.200	1.00
75-35-4	1,1-Dichloroethene	0.200	U	0.200	1.00
563-58-6	1,1-Dichloropropene	0.200	U	0.200	1.00
87-61-6	1,2,3-Trichlorobenzene	0.200	U	0.200	1.00
96-18-4	1,2,3-Trichloropropane	0.200	U	0.200	1.00
120-82-1	1,2,4-Trichlorobenzene	0.200	U	0.200	1.00
95-63-6	1,2,4-Trimethylbenzene	0.200	U	0.200	1.00
106-93-4	1,2-Dibromoethane	0.200	U	0.200	1.00
95-50-1	1,2-Dichlorobenzene	0.200	U	0.200	1.00
107-06-2	1,2-Dichloroethane	0.200	U	0.200	1.00
78-87-5	1,2-Dichloropropane	0.200	U	0.200	1.00
108-67-8	1,3,5-Trimethylbenzene	0.200	U	0.200	1.00
541-73-1	1,3-Dichlorobenzene	0.200	U	0.200	1.00
142-28-9	1,3-Dichloropropane	0.200	U	0.200	1.00
106-46-7	1,4-Dichlorobenzene	0.200	U	0.200	1.00
594-20-7	2,2-Dichloropropane	0.200	U	0.200	1.00
78-93-3	2-Butanone	0.200	U	0.200	5.00
95-49-8	2-Chlorotoluene	0.200	U	0.200	1.00
591-78-6	2-Hexanone	0.500	U	0.500	5.00
106-43-4	4-Chlorotoluene	0.200	U	0.200	1.00
99-87-6	4-Isopropyltoluene	0.200	U	0.200	1.00
108-10-1	4-Methyl-2-pentanone	0.200	U	0.200	5.00
67-64-1	Acetone	0.500	U	0.500	5.00
71-43-2	Benzene	0.200	U	0.200	1.00
108-86-1	Bromobenzene	0.200	U	0.200	1.00
74-97-5	Bromochloromethane	0.200	U	0.200	1.00
75-27-4	Bromodichloromethane	0.200	U	0.200	1.00
75-25-2	Bromoform	0.250	U	0.250	1.00

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

305-18MW19

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102413

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 21510241303

Level: (low/med)

Lab File ID: 2151102p/g9542

% Moisture: not dec.

Date Collected: 10/23/15 Time: 1405

GC Column: RTX-VMS-30 ID: .25 (mm)

Date Received: 10/24/15

Instrument ID: MSV11

Date Analyzed: 11/03/15 Time: 0511

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: LBH

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 571561

Analytical Method: EPA 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	LOQ
74-83-9	Bromomethane	0.500	U	0.500	1.00
56-23-5	Carbon tetrachloride	0.250	U	0.250	1.00
108-90-7	Chlorobenzene	0.200	U	0.200	1.00
75-00-3	Chloroethane	0.250	U	0.250	1.00
67-66-3	Chloroform	0.200	U	0.200	1.00
74-87-3	Chloromethane	0.200	U	0.200	1.00
124-48-1	Dibromochloromethane	0.200	U	0.200	1.00
75-71-8	Dichlorodifluoromethane	0.200	U	0.200	1.00
100-41-4	Ethylbenzene	0.200	U	0.200	1.00
98-82-8	Isopropylbenzene (Cumene)	0.200	U	0.200	1.00
75-09-2	Methylene chloride	0.200	U	0.200	5.00
100-42-5	Styrene	0.200	U	0.200	1.00
127-18-4	Tetrachloroethene	0.899	J	0.200	1.00
108-88-3	Toluene	0.200	U	0.200	1.00
79-01-6	Trichloroethene	4.72		0.200	1.00
75-69-4	Trichlorofluoromethane	0.853	J	0.200	1.00
108-05-4	Vinyl acetate	0.200	U	0.200	1.00
75-01-4	Vinyl chloride	0.200	U	0.200	1.00
1330-20-7	Xylene (total)	0.400	U	0.400	3.00
156-59-2	cis-1,2-Dichloroethene	0.889	J	0.200	1.00
10061-01-5	cis-1,3-Dichloropropene	0.200	U	0.200	1.00
108-20-3	diisopropyl Ether (DIPE)	0.500	U	0.500	5.00
136777-61-2	m,p-Xylene	0.200	U	0.200	2.00
104-51-8	n-Butylbenzene	0.200	U	0.200	1.00
103-65-1	n-Propylbenzene	1.00	U	1.00	5.00
95-47-6	o-Xylene	0.200	U	0.200	1.00
135-98-8	sec-Butylbenzene	0.200	U	0.200	1.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200	U	0.200	1.00
98-06-6	tert-Butylbenzene	0.200	U	0.200	1.00
156-60-5	trans-1,2-Dichloroethene	0.200	U	0.200	1.00
10061-02-6	trans-1,3-Dichloropropene	0.200	U	0.200	1.00

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MB1505316

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102413

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 1505316

Level: (low/med) Lab File ID: 2151102p/g9529

% Moisture: not dec. Date Collected: Time:

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received:

Instrument ID: MSV11 Date Analyzed: 11/03/15 Time: 0036

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: LBH

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 571561

Analytical Method: EPA 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	LOQ
67-64-1	Acetone	0.500	U	0.500	5.00
74-97-5	Bromochloromethane	0.200	U	0.200	1.00
75-27-4	Bromodichloromethane	0.200	U	0.200	1.00
75-25-2	Bromoform	0.250	U	0.250	1.00
74-83-9	Bromomethane	0.500	U	0.500	1.00
56-23-5	Carbon tetrachloride	0.250	U	0.250	1.00
75-00-3	Chloroethane	0.250	U	0.250	1.00
136777-61-2	m,p-Xylene	0.200	U	0.200	2.00
67-66-3	Chloroform	0.200	U	0.200	1.00
74-87-3	Chloromethane	0.200	U	0.200	1.00
124-48-1	Dibromochloromethane	0.200	U	0.200	1.00
75-71-8	Dichlorodifluoromethane	0.200	U	0.200	1.00
75-34-3	1,1-Dichloroethane	0.200	U	0.200	1.00
107-06-2	1,2-Dichloroethane	0.200	U	0.200	1.00
156-59-2	cis-1,2-Dichloroethene	0.200	U	0.200	1.00
156-60-5	trans-1,2-Dichloroethene	0.200	U	0.200	1.00
75-09-2	Methylene chloride	0.200	U	0.200	5.00
78-87-5	1,2-Dichloropropane	0.200	U	0.200	1.00
10061-01-5	cis-1,3-Dichloropropene	0.200	U	0.200	1.00
10061-02-6	trans-1,3-Dichloropropene	0.200	U	0.200	1.00
100-41-4	Ethylbenzene	0.200	U	0.200	1.00
591-78-6	2-Hexanone	0.500	U	0.500	5.00
98-82-8	Isopropylbenzene (Cumene)	0.200	U	0.200	1.00
78-93-3	2-Butanone	0.200	U	0.200	5.00
108-10-1	4-Methyl-2-pentanone	0.200	U	0.200	5.00
103-65-1	n-Propylbenzene	1.00	U	1.00	5.00
100-42-5	Styrene	0.200	U	0.200	1.00
127-18-4	Tetrachloroethene	0.200	U	0.200	1.00
79-34-5	1,1,2,2-Tetrachloroethane	0.200	U	0.200	1.00
120-82-1	1,2,4-Trichlorobenzene	0.200	U	0.200	1.00
71-55-6	1,1,1-Trichloroethane	0.200	U	0.200	1.00

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MB1505316

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102413

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 1505316

Level: (low/med)

Lab File ID: 2151102p/g9529

% Moisture: not dec.

Date Collected: Time:

GC Column: RTX-VMS-30 ID: .25 (mm)

Date Received:

Instrument ID: MSV11

Date Analyzed: 11/03/15 Time: 0036

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: LBH

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 571561

Analytical Method: EPA 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	LOQ
79-00-5	1,1,2-Trichloroethane	0.200	U	0.200	1.00
75-69-4	Trichlorofluoromethane	0.200	U	0.200	1.00
96-18-4	1,2,3-Trichloropropane	0.200	U	0.200	1.00
95-63-6	1,2,4-Trimethylbenzene	0.200	U	0.200	1.00
108-67-8	1,3,5-Trimethylbenzene	0.200	U	0.200	1.00
75-01-4	Vinyl chloride	0.200	U	0.200	1.00
95-47-6	o-Xylene	0.200	U	0.200	1.00
106-93-4	1,2-Dibromoethane	0.200	U	0.200	1.00
108-05-4	Vinyl acetate	0.200	U	0.200	1.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200	U	0.200	1.00
99-87-6	4-Isopropyltoluene	0.200	U	0.200	1.00
1330-20-7	Xylene (total)	0.400	U	0.400	3.00
594-20-7	2,2-Dichloropropane	0.200	U	0.200	1.00
563-58-6	1,1-Dichloropropene	0.200	U	0.200	1.00
142-28-9	1,3-Dichloropropane	0.200	U	0.200	1.00
108-86-1	Bromobenzene	0.200	U	0.200	1.00
95-49-8	2-Chlorotoluene	0.200	U	0.200	1.00
106-43-4	4-Chlorotoluene	0.200	U	0.200	1.00
98-06-6	tert-Butylbenzene	0.200	U	0.200	1.00
135-98-8	sec-Butylbenzene	0.200	U	0.200	1.00
541-73-1	1,3-Dichlorobenzene	0.200	U	0.200	1.00
106-46-7	1,4-Dichlorobenzene	0.200	U	0.200	1.00
104-51-8	n-Butylbenzene	0.200	U	0.200	1.00
95-50-1	1,2-Dichlorobenzene	0.200	U	0.200	1.00
87-61-6	1,2,3-Trichlorobenzene	0.200	U	0.200	1.00
108-20-3	diisopropyl Ether (DIPE)	0.500	U	0.500	5.00
75-35-4	1,1-Dichloroethene	0.200	U	0.200	1.00
71-43-2	Benzene	0.200	U	0.200	1.00
79-01-6	Trichloroethene	0.200	U	0.200	1.00
108-88-3	Toluene	0.200	U	0.200	1.00
108-90-7	Chlorobenzene	0.200	U	0.200	1.00

FORM I VOA

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102413

Method: EPA 8260B

	SAMPLE NO.	SMC1	#	SMC2	#	SMC3	#	SMC4	#	TOT OUT
1.	TB-102315-04	98		106		104		103		0
2.	305-18MW07	99		103		102		103		0
3.	305-18MW19	99		105		103		101		0
4.	MB1505316	95		104		103		101		0
5.	LCS1505317	103		103		101		100		0
6.	LCSD1505318	101		102		100		98		0

		QC LIMITS
SMC 1	4-Bromofluorobenzene	75 - 120
SMC 2	Dibromofluoromethane	85 - 115
SMC 3	Toluene-d8	85 - 120
SMC 4	1,2-Dichloroethane-d4	70 - 120

Column to be used to flag recovery values

* Values outside of contract required QC limits

FORM II VOA-1

3A

WATER VOLATILE LCS/LCSD RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102413

Analytical Batch: 571561

SAMPLE NO. : 1505317

COMPOUND	*UNITS*	*SPIKE ADDED*	*SAMPLE CONCENTRATION*	*LCS CONCENTRATION*	*LCS % REC*	*#*	*QC. LIMITS*
1,1,1-Trichloroethane	ug/L	50	0	47.3	95		65 - 130
1,1,2,2-Tetrachloroethane	ug/L	50	0	44.6	89		65 - 130
1,1,2-Trichloroethane	ug/L	50	0	48.1	96		75 - 125
1,1-Dichloroethane	ug/L	50	0	48.4	97		70 - 135
1,1-Dichloroethene	ug/L	50	0	48.1	96		70 - 130
1,1-Dichloropropene	ug/L	50	0	48.7	97		75 - 130
1,2,3-Trichlorobenzene	ug/L	50	0	52	104		55 - 140
1,2,3-Trichloropropane	ug/L	50	0	44.9	90		75 - 125
1,2,4-Trichlorobenzene	ug/L	50	0	52.8	106		65 - 135
1,2,4-Trimethylbenzene	ug/L	50	0	52.4	105		75 - 130
1,2-Dibromoethane	ug/L	50	0	51.4	103		80 - 120
1,2-Dichlorobenzene	ug/L	50	0	50	100		70 - 120
1,2-Dichloroethane	ug/L	50	0	46.6	93		70 - 130
1,2-Dichloropropane	ug/L	50	0	49.7	99		75 - 125
1,3,5-Trimethylbenzene	ug/L	50	0	51.7	103		75 - 130
1,3-Dichlorobenzene	ug/L	50	0	50.9	102		75 - 125
1,3-Dichloropropane	ug/L	50	0	49.6	99		75 - 125
1,4-Dichlorobenzene	ug/L	50	0	49.6	99		75 - 125
2,2-Dichloropropane	ug/L	50	0	48	96		70 - 135
2-Butanone	ug/L	50	0	42.2	84		30 - 150
2-Chlorotoluene	ug/L	50	0	50.2	100		75 - 125
2-Hexanone	ug/L	50	0	44.5	89		55 - 130
4-Chlorotoluene	ug/L	50	0	50.4	101		75 - 130
4-Isopropyltoluene	ug/L	50	0	52.4	105		75 - 130
4-Methyl-2-pentanone	ug/L	50	0	44.8	90		60 - 135
Acetone	ug/L	50	0	43.6	87		40 - 140
Benzene	ug/L	50	0	49.5	99		80 - 120
Bromobenzene	ug/L	50	0	47.3	95		75 - 125
Bromochloromethane	ug/L	50	0	50.6	101		65 - 130
Bromodichloromethane	ug/L	50	0	50	100		75 - 120
Bromoform	ug/L	50	0	48.8	98		70 - 130
Bromomethane	ug/L	50	0	52.9	106		30 - 145
Carbon tetrachloride	ug/L	50	0	48.3	97		65 - 140
Chlorobenzene	ug/L	50	0	49.3	99		80 - 120
Chloroethane	ug/L	50	0	56.3	113		60 - 135

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD : 0 out of 62 outside limits

Spike Recovery: 0 out of 124 outside limits

FORM III VOA-1

3A

WATER VOLATILE LCS/LCSD RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102413

Analytical Batch: 571561

Chloroform	ug/L	50	0	48.7	97		65 - 135
Chloromethane	ug/L	50	0	54.3	109		40 - 125
Dibromochloromethane	ug/L	50	0	50.3	101		60 - 135
Dichlorodifluoromethane	ug/L	50	0	44.9	90		30 - 155
Ethylbenzene	ug/L	50	0	52.9	106		75 - 125
Isopropylbenzene (Cumene)	ug/L	50	0	53.8	108		75 - 125
Methylene chloride	ug/L	50	0	49.3	99		55 - 140
Styrene	ug/L	50	0	54.2	108		65 - 135
Tetrachloroethene	ug/L	50	0	49.6	99		45 - 150
Toluene	ug/L	50	0	50.3	101		75 - 120
Trichloroethene	ug/L	50	0	49.4	99		70 - 125
Trichlorofluoromethane	ug/L	50	0	48.9	98		60 - 145
Vinyl acetate	ug/L	50	0	56.5	113		66 - 145
Vinyl chloride	ug/L	50	0	51.3	103		50 - 145
Xylene (total)	ug/L	150	0	157	105		75 - 130
cis-1,2-Dichloroethene	ug/L	50	0	48.1	96		70 - 125
cis-1,3-Dichloropropene	ug/L	50	0	51.9	104		70 - 130
diisopropyl Ether (DIPE)	ug/L	50	0	47	94		60 - 140
m,p-Xylene	ug/L	100	0	106	106		75 - 130
n-Butylbenzene	ug/L	50	0	52.5	105		70 - 135
n-Propylbenzene	ug/L	50	0	51.2	102		70 - 130
o-Xylene	ug/L	50	0	51	102		80 - 120
sec-Butylbenzene	ug/L	50	0	52	104		70 - 125
tert-Butyl methyl ether (MTBE)	ug/L	50	0	47.2	94		65 - 125
tert-Butylbenzene	ug/L	50	0	50.3	101		70 - 130
trans-1,2-Dichloroethene	ug/L	50	0	49.7	99		60 - 140
trans-1,3-Dichloropropene	ug/L	50	0	53.5	107		55 - 140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD : 0 out of 62 outside limits

Spike Recovery: 0 out of 124 outside limits

FORM III VOA-1

3A

WATER VOLATILE LCS/LCSD RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102413

Analytical Batch: 571561

SAMPLE NO. : 1505318

COMPOUND	UNITS	SPIKE ADDED	LCSD CONC.	LCSD % REC	#	% RPD	#	QC. LIMITS REC	QC. LIMITS RPD
1,1,1-Trichloroethane	ug/L	50	43.1	86		9		65 - 130	0 - 30
1,1,2,2-Tetrachloroethane	ug/L	50	45	90		.9		65 - 130	0 - 30
1,1,2-Trichloroethane	ug/L	50	47.1	94		2		75 - 125	0 - 30
1,1-Dichloroethane	ug/L	50	44.5	89		8		70 - 135	0 - 30
1,1-Dichloroethene	ug/L	50	44.4	89		8		70 - 130	0 - 30
1,1-Dichloropropene	ug/L	50	44.5	89		9		75 - 130	0 - 30
1,2,3-Trichlorobenzene	ug/L	50	48.7	97		7		55 - 140	0 - 30
1,2,3-Trichloropropane	ug/L	50	46.2	92		3		75 - 125	0 - 30
1,2,4-Trichlorobenzene	ug/L	50	48.6	97		8		65 - 135	0 - 30
1,2,4-Trimethylbenzene	ug/L	50	48.4	97		8		75 - 130	0 - 30
1,2-Dibromoethane	ug/L	50	48.4	97		6		80 - 120	0 - 30
1,2-Dichlorobenzene	ug/L	50	47.2	94		6		70 - 120	0 - 30
1,2-Dichloroethane	ug/L	50	43.8	88		6		70 - 130	0 - 30
1,2-Dichloropropane	ug/L	50	47.8	96		4		75 - 125	0 - 30
1,3,5-Trimethylbenzene	ug/L	50	48.5	97		6		75 - 130	0 - 30
1,3-Dichlorobenzene	ug/L	50	46.8	94		8		75 - 125	0 - 30
1,3-Dichloropropane	ug/L	50	47.9	96		3		75 - 125	0 - 30
1,4-Dichlorobenzene	ug/L	50	45.8	92		8		75 - 125	0 - 30
2,2-Dichloropropane	ug/L	50	44.6	89		7		70 - 135	0 - 30
2-Butanone	ug/L	50	43.1	86		2		30 - 150	0 - 30
2-Chlorotoluene	ug/L	50	47	94		7		75 - 125	0 - 30
2-Hexanone	ug/L	50	43.7	87		2		55 - 130	0 - 30
4-Chlorotoluene	ug/L	50	46.8	94		7		75 - 130	0 - 30
4-Isopropyltoluene	ug/L	50	47.7	95		9		75 - 130	0 - 30
4-Methyl-2-pentanone	ug/L	50	45.2	90		.9		60 - 135	0 - 30
Acetone	ug/L	50	40.9	82		6		40 - 140	0 - 30
Benzene	ug/L	50	46.4	93		6		80 - 120	0 - 30
Bromobenzene	ug/L	50	44.9	90		5		75 - 125	0 - 30
Bromochloromethane	ug/L	50	46.1	92		9		65 - 130	0 - 30
Bromodichloromethane	ug/L	50	47.2	94		6		75 - 120	0 - 30
Bromoform	ug/L	50	46.8	94		4		70 - 130	0 - 30
Bromomethane	ug/L	50	45.7	91		15		30 - 145	0 - 30
Carbon tetrachloride	ug/L	50	44	88		9		65 - 140	0 - 30
Chlorobenzene	ug/L	50	46.3	93		6		80 - 120	0 - 30
Chloroethane	ug/L	50	45.5	91		21		60 - 135	0 - 30

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD : 0 out of 62 outside limits

Spike Recovery: 0 out of 124 outside limits

FORM III VOA-1

3A

WATER VOLATILE LCS/LCSD RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102413

Analytical Batch: 571561

Chloroform	ug/L	50	45.7	91		6		65 - 135	0 - 30
Chloromethane	ug/L	50	46.1	92		16		40 - 125	0 - 30
Dibromochloromethane	ug/L	50	47.7	95		5		60 - 135	0 - 30
Dichlorodifluoromethane	ug/L	50	39.4	79		13		30 - 155	0 - 30
Ethylbenzene	ug/L	50	47.3	95		11		75 - 125	0 - 30
Isopropylbenzene (Cumene)	ug/L	50	48.8	98		10		75 - 125	0 - 30
Methylene chloride	ug/L	50	41.4	83		17		55 - 140	0 - 30
Styrene	ug/L	50	49.8	100		8		65 - 135	0 - 30
Tetrachloroethene	ug/L	50	45.9	92		8		45 - 150	0 - 30
Toluene	ug/L	50	46.4	93		8		75 - 120	0 - 30
Trichloroethene	ug/L	50	46.3	93		6		70 - 125	0 - 30
Trichlorofluoromethane	ug/L	50	41.6	83		16		60 - 145	0 - 30
Vinyl acetate	ug/L	50	53.6	107		5		66 - 145	0 - 30
Vinyl chloride	ug/L	50	42.5	85		19		50 - 145	0 - 30
Xylene (total)	ug/L	150	143	95		9		75 - 130	0 - 30
cis-1,2-Dichloroethene	ug/L	50	45.9	92		5		70 - 125	0 - 30
cis-1,3-Dichloropropene	ug/L	50	48.7	97		6		70 - 130	0 - 30
diisopropyl Ether (DIPE)	ug/L	50	43.2	86		8		60 - 140	0 - 30
m,p-Xylene	ug/L	100	96.2	96		10		75 - 130	0 - 30
n-Butylbenzene	ug/L	50	47.3	95		10		70 - 135	0 - 30
n-Propylbenzene	ug/L	50	47.4	95		8		70 - 130	0 - 30
o-Xylene	ug/L	50	46.4	93		9		80 - 120	0 - 30
sec-Butylbenzene	ug/L	50	47.3	95		9		70 - 125	0 - 30
tert-Butyl methyl ether (MTBE)	ug/L	50	44.7	89		5		65 - 125	0 - 30
tert-Butylbenzene	ug/L	50	46.4	93		8		70 - 130	0 - 30
trans-1,2-Dichloroethene	ug/L	50	44.1	88		12		60 - 140	0 - 30
trans-1,3-Dichloropropene	ug/L	50	49.3	99		8		55 - 140	0 - 30

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD : 0 out of 62 outside limits

Spike Recovery: 0 out of 124 outside limits

FORM III VOA-1

4A

VOLATILE METHOD BLANK SUMMARY

SAMPLE NO.

MB1505316

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 215102413

Lab File ID: 2151102p/g9529

Lab Sample ID: 1505316 Date Extracted:

GC Column: RTX-VMS-30 ID: .25 (mm)

Date Analyzed: 11/03/15 Time: 0036

Instrument ID: MSV11 Matrix: Water

Heated Purge: N

Level:

Prep Batch: Analytical Batch: 571561

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	LCS1505317	1505317	2151102p/g9525	11/02/15	2245
2.	LCSD1505318	1505318	2151102p/g9526	11/02/15	2306
3.	TB-102315-04	21510241301	2151102p/g9540	11/03/15	0429
4.	305-18MW07	21510241302	2151102p/g9541	11/03/15	0450
5.	305-18MW19	21510241303	2151102p/g9542	11/03/15	0511

FORM IV VOA

5A

VOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 215102413

Lab File ID: 2151101/g9454d

BFB Injection Date: 11/01/15

Instrument ID: MSV11

BFB Injection Time: 1153

GC Column: RTX-VMS-30 ID: .25 (mm)

Analytical Batch: 571466

m / e	ION ABUNDANCE CRITERIA	% Relative Abundance			
50	15.0 - 40.0% of mass 95	18.93	(	)	
75	30.0 - 60.0% of mass 95	52.26	(	)	
95	Base Peak, 100% relative abundance	100	(	)	
96	5.0 -9.0% of mass 95	7.2	(	)	
173	Less than 2.0% of mass 174	.88	(.93	)	1
174	50.0 - 120.0% of mass 95	95.22	(	)	
175	5.0 - 9.0% of mass 174	7.62	(8.01	)	1
176	95.0 - 101.0% of mass 174	90.85	(95.42	)	1
177	5.0 - 9.0% of mass 176	5.67	(6.25	)	2

1- Value is % mass 174 2- Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	V11STD001	1203	2151101/g9455d	11/01/15	1246
2.	V11STD005	1204	2151101/g9456d	11/01/15	1307
3.	V11STD010	1205	2151101/g9457d	11/01/15	1328
4.	V11STD020	1206	2151101/g9458d	11/01/15	1349
5.	V11STD050	1207	2151101/g9459d	11/01/15	1410
6.	V11STD100	1208	2151101/g9461d	11/01/15	1453
7.	V11STD200	1209	2151101/g9463d	11/01/15	1535
8.	ICV050	1600	2151101/g9465d	11/01/15	1617

FORM V VOA

5A

VOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 215102413

Lab File ID: 2151102p/g9521

BFB Injection Date: 11/02/15

Instrument ID: MSV11

BFB Injection Time: 1938

GC Column: RTX-VMS-30 ID: .25 (mm)

Analytical Batch: 571561

m / e	ION ABUNDANCE CRITERIA	% Relative Abundance			
50	15.0 - 40.0% of mass 95	19.32	(	)	
75	30.0 - 60.0% of mass 95	49.94	(	)	
95	Base Peak, 100% relative abundance	100	(	)	
96	5.0 -9.0% of mass 95	7.19	(	)	
173	Less than 2.0% of mass 174	1.25	(1.32	)	1
174	50.0 - 120.0% of mass 95	94.92	(	)	
175	5.0 - 9.0% of mass 174	7.42	(7.82	)	1
176	95.0 - 101.0% of mass 174	91.27	(96.16	)	1
177	5.0 - 9.0% of mass 176	6.09	(6.68	)	2

1- Value is % mass 174

2- Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	LCS1505317	1505317	2151102p/g9525	11/02/15	2245
2.	V11STD050	1400	2151102p/g9525	11/02/15	2245
3.	LCSD1505318	1505318	2151102p/g9526	11/02/15	2306
4.	MB1505316	1505316	2151102p/g9529	11/03/15	0036
5.	TB-102315-04	21510241301	2151102p/g9540	11/03/15	0429
6.	305-18MW07	21510241302	2151102p/g9541	11/03/15	0450
7.	305-18MW19	21510241303	2151102p/g9542	11/03/15	0511

FORM V VOA

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-NOV-2015 12:46
End Cal Date : 01-NOV-2015 15:35
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv11.i/2151101.s.b/8260bw11.m
Cal Date : 01-Nov-2015 16:01 jck2

Calibration File Names:
Level 3: /var/chem/msv11.i/2151101.s.b/g9455.d
Level 4: /var/chem/msv11.i/2151101.s.b/g9456.d
Level 5: /var/chem/msv11.i/2151101.s.b/g9457.d
Level 6: /var/chem/msv11.i/2151101.s.b/g9458.d
Level 7: /var/chem/msv11.i/2151101.s.b/g9459.d
Level 8: /var/chem/msv11.i/2151101.s.b/g9461.d
Level 9: /var/chem/msv11.i/2151101.s.b/g9463.d

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 9											
1 Dichlorodifluoromethane	0.38300	0.34453	0.34721	0.33481	0.35629	0.33391						
	0.31733						AVRG		0.34530		5.99178	
2 Chloromethane ++	0.40724	0.39606	0.35147	0.33365	0.37185	0.33200						
	0.32401						AVRG		0.35947		9.16848	
3 Vinyl Chloride +	0.44223	0.37312	0.35296	0.35633	0.37787	0.34755						
	0.33024						AVRG		0.36861		9.80484	
4 1-3 Butadiene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-

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Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
5 Bromomethane	0.22019	0.18364	0.17841	0.17473	0.18978	0.18953						
	0.18300						AVRG		0.18847		7.96496	
6 Chloroethane	0.13413	0.18638	0.18582	0.17500	0.18333	0.18800						
	0.17058						AVRG		0.17475		10.89373	
9 Trichlorofluoromethane	0.53822	0.51529	0.48773	0.46842	0.50322	0.49298						
	0.48997						AVRG		0.49941		4.47789	
7 2-Chloropropene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
12 Ethyl Ether	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
13 1,1-Dichloroethene +	0.31157	0.28125	0.26664	0.26049	0.27085	0.26729						
	0.24842						AVRG		0.27236		7.32994	
11 Carbon Disulfide	0.86725	0.72113	0.70405	0.67954	0.78515	0.77340						
	0.73803						AVRG		0.75265		8.32125	

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Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
19 1,1,2Trichlotrifluoroethane	0.27376 0.24649	0.28050	0.27429	0.25304	0.27268	0.26611	AVRG		0.26670		4.66592	
14 Methyl Iodide	+++++ 517396	1066	4088	12959	73591	213149	LINR	0.27051	0.20519		0.99067	
8 Acrolein	0.01789 0.01496	0.01589	0.01850	0.01544	0.01472	0.01449	AVRG		0.01599		9.92672	
17 Allyl chloride	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
18 Methylene Chloride	5847 836874	27510	48591	93820	235136	446394	LINR	-0.05366	0.31752		0.99824	
21 Acetone	+++++ 0.17554	0.22040	0.18558	0.18241	0.19209	0.18083	AVRG		0.18948		8.50182	
22 trans-1,2-Dichloroethene	0.44942 0.34124	0.36758	0.35876	0.35219	0.37481	0.36756	AVRG		0.37308		9.50649	

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Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
20 Methyl Acetate	0.52101 0.39594	0.48005	0.42618	0.42218	0.43777	0.42519	AVRG		0.44405		9.52197	
32 Hexane	0.35383 0.29480	0.33159	0.30883	0.30688	0.32111	0.32101	AVRG		0.31972		6.00611	
25 MTBE	0.79938 0.75693	0.79586	0.78065	0.77759	0.81972	0.80671	AVRG		0.79098		2.63828	
156 Ethanol	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
15 tert-Butyl Alcohol	+++++ 76228	2716	5154	8420	21767	37882	LINR	-0.07479	0.02832		0.99945	
30 Acetonitrile	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
18 Isopropyl Ether	0.85352 0.81848	0.88611	0.84422	0.84110	0.88887	0.87919	AVRG		0.85878		3.09732	

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Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
27 Chloroprene	0.35505	0.37932	0.37728	0.38663	0.40636	0.39863					
	0.36979						AVRG		0.38186		4.53105
26 1,1-Dichloroethane ++	0.54873	0.52310	0.51003	0.49298	0.51089	0.51105					
	0.47917						AVRG		0.51085		4.30978
16 Acrylonitrile	0.10840	0.10220	0.11008	0.10160	0.09869	0.09931					
	0.10103						AVRG		0.10305		4.30362
152 Ethyl Tert-butyl Ether	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+00		0.000e+00 <-
29 Vinyl Acetate	0.23812	0.21819	0.25129	0.23504	0.22547	0.23437					
	0.21853						AVRG		0.23157		5.10344
23 cis-1,2-Dichloroethene	0.40514	0.37156	0.35797	0.36382	0.39056	0.38703					
	0.36831						AVRG		0.37777		4.47335
M 30 Total 1,2-Dichloroethene	0.42728	0.36957	0.35836	0.35800	0.38269	0.37730					
	0.35478						AVRG		0.37542		6.70412

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Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
38 2,2-Dichloropropane	0.51196	0.44963	0.42834	0.41821	0.43546	0.43781					
	0.40869						AVRG		0.44144		7.66722
45 Cyclohexane	0.38430	0.41136	0.41601	0.42453	0.44882	0.45140					
	0.42535						AVRG		0.42311		5.42677
36 Bromochloromethane	0.14294	0.16807	0.15407	0.14906	0.14924	0.14082					
	0.13064						AVRG		0.14783		7.91092
37 Chloroform +	0.54226	0.54161	0.49638	0.48803	0.50887	0.49909					
	0.47161						AVRG		0.50684		5.24014
46 Carbon Tetrachloride	0.37016	0.36685	0.36542	0.37577	0.39327	0.39549					
	0.37758						AVRG		0.37779		3.22021
43 Ethyl Acetate	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+00		0.000e+00 <-
35 Tetrahydrofuran	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+00		0.000e+00 <-

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Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
43 1,1,1-Trichloroethane	0.49766 0.42438	0.47485	0.45265	0.43785	0.45336	0.44904	AVRG		0.45569		5.28928	
31 sec-butanol	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
44 1,1-Dichloropropene	0.36175 0.35395	0.35399	0.35419	0.34714	0.37264	0.37070	AVRG		0.35920		2.65290	
33 2-Butanone	0.18350 0.19822	0.21518	0.20038	0.19242	0.20995	0.19955	AVRG		0.19989		5.25691	
154 Tert-butyl formate	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
44 2,2,4 Trimethylpentane	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
37 Benzene	1.14949 1.03481	1.13935	1.13642	1.09524	1.14518	1.12781	AVRG		1.11833		3.66155	

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Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
162 Heptane	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
24 Propionitrile	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
30 Methylacrylonitrile	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
42 1,2-Dichloroethane	0.47681	0.44074	0.42355	0.40283	0.42350	0.41276						
	0.39569						AVRG		0.42513		6.39655	
34 Isobutyl Alcohol	0.01530	0.01862	0.01580	0.01357	0.01439	0.01405						
	0.01407						AVRG		0.01511		11.43539	
153 tert-amyl Methyl Ether	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
155 Tert-amyl alcohol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-

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Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
61 Methyl Cyclohexane	0.38979	0.42116	0.42448	0.40903	0.44674	0.45324						
	0.42938						AVRG		0.42483		5.08380	
57 Trichloroethene	0.34470	0.33232	0.31066	0.30400	0.32619	0.32582						
	0.31200						AVRG		0.32224		4.39980	
40 n-Butanol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
55 Dibromomethane	0.17267	0.20265	0.19674	0.18313	0.19017	0.18847						
	0.18444						AVRG		0.18832		5.16005	
157 1,3-difluorobenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
158 1,4-difluorobenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
159 1,2-difluorobenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-

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Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
M 161 Total Difluorobenzene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
48 2-3 Dichloro-1-Proprene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
56 1,2-Dichloropropane +	0.26422 0.27494	0.28443	0.28837	0.28180	0.29617	0.29305	AVRG		0.28328		3.87708	
58 Bromodichloromethane	0.41347 0.38858	0.40141	0.38137	0.38343	0.41057	0.41142	AVRG		0.39861		3.49431	
52 Methyl methacrylate	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
21 1,4- Dioxane	+++++ 133597	4713	7847	15118	34061	68271	LINR	-1.16937	0.00200		0.99959	
20 1-Bromo-2-chloroethane	0.41153 0.40196	0.39837	0.41134	0.39509	0.42753	0.42092	AVRG		0.40954		2.90901	

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Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
62 2-Chloroethyl vinyl ether	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
63 cis-1,3-Dichloropropene	0.40838 0.47695	0.41305	0.42259	0.43448	0.48527	0.49696	AVRG		0.44824		8.26966	
70 Toluene +	3.14602 2.54551	3.05858	2.94829	2.92681	3.10427	2.91125	AVRG		2.94868		6.77788	
160 Methyldisulfide	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
49 2-Nitropropane	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
68 Tetrachloroethene	0.66836 0.57119	0.60773	0.63726	0.59345	0.64185	0.61093	AVRG		0.61868		5.28823	
95 4-methyl-2-pentanone	0.75728 0.77269	0.73707	0.74019	0.78188	0.85102	0.80327	AVRG		0.77763		5.12957	

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Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
66 trans-1,3-Dichloropropene	0.37953	0.39680	0.40852	0.41268	0.46815	0.47649						
	0.45937						AVRG		0.42879		8.97215	
M 87 1-3 Dichloropropene total	0.39395	0.40492	0.41556	0.42358	0.47671	0.48673						
	0.46816						AVRG		0.43852		8.59661	
67 1,1,2-Trichloroethane	0.75265	0.66172	0.67050	0.66214	0.70553	0.66687						
	0.62506						AVRG		0.67778		5.97194	
64 Ethyl Methacrylate	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
72 Dibromochloromethane	0.67280	0.77285	0.75769	0.76670	0.82309	0.81052						
	0.77551						AVRG		0.76845		6.30686	
115 3,4-dichloro-1-butene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
71 1,3-Dichloropropane	1.01113	1.16892	1.16308	1.17639	1.24857	1.17362						
	1.10103						AVRG		1.14896		6.47180	

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Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
59 1-Nitropropane	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00 <-
74 1,2-Dibromoethane(EDB)	0.63210 / 0.68058	0.64232	0.64262	0.69354	0.72895	0.69939	AVRG		0.67422		5.35904
73 2-Hexanone	0.68264 / 0.67239	0.56156	0.59738	0.63103	0.72423	0.68964	AVRG		0.65127		8.77308
86 1-Chlorohexane	1.04623 / 0.84861	0.79851	0.80673	0.85916	0.91643	0.91266	AVRG		0.88405		9.61395
85 Chlorobenzene ++	2.14994 / 1.82722	2.21272	1.99513	1.96961	2.09752	2.00192	AVRG		2.03629		6.30265
88 Ethylbenzene +	1.11451 / 1.01418	1.00194	1.02111	1.04419	1.13520	1.07422	AVRG		1.05791		4.88619
92 1,1,1,2-Tetrachloroethane	0.82190 / 0.69368	0.72513	0.70449	0.67230	0.74064	0.71683	AVRG		0.72500		6.63422

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-NOV-2015 12:46
End Cal Date : 01-NOV-2015 15:35
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv11.i/2151101.s.b/8260bw11.m
Cal Date : 01-Nov-2015 16:01 jck2

Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
89 p,m-Xylene	1.23536 1.17619	1.28257	1.31118	1.29091	1.38872	1.32351	AVRG		1.28692		5.23629
93 o-Xylene	1.26092 1.27071	1.29540	1.21028	1.28698	1.37611	1.35705	AVRG		1.29392		4.39625
91 Styrene	1.87893 2.02081	2.11542	1.99420	2.11615	2.31588	2.27467	AVRG		2.10230		7.36680
M 120 TOTAL XYLENE	1.24388 1.20770	1.28685	1.27755	1.28960	1.38452	1.33469	AVRG		1.28925		4.47737
90 Bromoform ++	0.59564 0.63231	0.50382	0.56202	0.55573	0.63395	0.62925	AVRG		0.58753		8.40592
126 1,5-Cyclooctadiene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00 <-
96 Isopropylbenzene	3.08912 2.81346	3.17814	3.20057	3.29090	3.57351	3.38824	AVRG		3.21913		7.42555

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-NOV-2015 12:46
End Cal Date : 01-NOV-2015 15:35
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv11.i/2151101.s.b/8260bw11.m
Cal Date : 01-Nov-2015 16:01 jck2

Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
151 3,3 Dimethyl-1-butanol	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
164 cis-1,4-Dichloro-2-Butene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
98 Bromobenzene	1.66058 1.31854	1.71358	1.46502	1.39186	1.53596	1.47700	AVRG		1.50893		9.31393	
100 n-Propylbenzene	3.66203 2.54652	3.80277	3.73886	3.55040	3.79901	3.35676	AVRG		3.49377		12.78058	
92 1,1,2,2-Tetrachloroethane++	1.08279 0.75630	0.90152	0.86574	0.82430	0.87924	0.82932	AVRG		0.87703		11.65602	
101 2-Chlorotoluene	2.47917 2.04343	2.60742	2.50481	2.41680	2.62565	2.43287	AVRG		2.44431		7.93932	
134 1,3,5-Trimethylbenzene	2.62361 2.06366	2.59830	2.62726	2.60420	2.82154	2.56299	AVRG		2.55737		9.12450	

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-NOV-2015 12:46
End Cal Date : 01-NOV-2015 15:35
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv11.i/2151101.s.b/8260bw11.m
Cal Date : 01-Nov-2015 16:01 jck2

Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
94 1,2,3-Trichloropropane	0.77106 0.65565	0.79418	0.78017	0.74032	0.80653	0.71793	AVRG		0.75226		6.96893	
95 trans-1,4-Dichloro-2-Butene	0.24712 0.24265	0.29372	0.24408	0.25267	0.27703	0.25688	AVRG		0.25917		7.39947	
76 Cyclohexanone	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
102 4-Chlorotoluene	2.38986 1.84571	2.53636	2.28299	2.22095	2.39690	2.25487	AVRG		2.27538		9.56231	
105 tert-butylbenzene	1.44094 1.27775	1.48675	1.37026	1.39948	1.54572	1.45146	AVRG		1.42462		6.05665	
24 Pentachloroethane	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
106 1,2,4-Trimethylbenzene	2.32395 2.11303	2.83371	2.67394	2.64609	2.89483	2.63987	AVRG		2.58934		10.73128	

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-NOV-2015 12:46
End Cal Date : 01-NOV-2015 15:35
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv11.i/2151101.s.b/8260bw11.m
Cal Date : 01-Nov-2015 16:01 jck2

Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
107 sec-Butylbenzene	3.15313 2.41090	3.22213	3.19066	3.14835	3.42844	3.11676	AVRG		3.09577		10.30960	
112 Dicyclopentadiene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
111 p-Isopropyltoluene	2.83973 2.20072	2.81029	2.72860	2.74817	3.00613	2.80857	AVRG		2.73460		9.21770	
108 1,3-Dichlorobenzene	1.64331 1.43993	1.77961	1.62800	1.61998	1.75355	1.66511	AVRG		1.64707		6.70835	
110 1,4-Dichlorobenzene	1.88764 1.45640	1.92973	1.72031	1.64313	1.74983	1.68478	AVRG		1.72455		9.15218	
114 n-Butylbenzene	2.46339 1.96961	2.27504	2.29575	2.28194	2.40858	2.45258	AVRG		2.30670		7.33100	
113 1,2-Dichlorobenzene	1.65204 1.44452	1.82211	1.62889	1.55986	1.74697	1.66126	AVRG		1.64509		7.43584	

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-NOV-2015 12:46
End Cal Date : 01-NOV-2015 15:35
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv11.i/2151101.s.b/8260bw11.m
Cal Date : 01-Nov-2015 16:01 jck2

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
69 3-ethyltoluene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
75 2-ethyltoluene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
81 1-3 Diethylbenzene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
79 1-4 Diethylbenzene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
77 1-2 Diethylbenzene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
115 1,2-Dibromo-3-Chloropropane	0.25956 / 0.24459	0.25307	0.22511	0.22181	0.24989	0.24965	AVRG		0.24338		5.90142	
M 101 Total Diethylbenzene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-NOV-2015 12:46
End Cal Date : 01-NOV-2015 15:35
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv11.i/2151101.s.b/8260bw11.m
Cal Date : 01-Nov-2015 16:01 jck2

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
99 Benzal Chloride	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
118 Hexachlorobutadiene	0.55365 / 0.50224	0.48464	0.46698	0.45207	0.50714	0.51584	AVRG		0.49751		6.74944	
116 1,2,4-Trichlorobenzene	0.91811 / 1.16648	1.04780	0.98286	0.99183	1.17848	1.23453	AVRG		1.07430		11.09763	
117 Naphthalene	+++++ / 2.44672	2.13129	2.25370	2.48713	3.04039	3.00934	AVRG		2.56143		14.90127	
119 1,2,3-Trichlorobenzene	0.99237 / 1.12937	1.08020	1.03132	1.05004	1.17103	1.22171	AVRG		1.09658		7.42995	
123 2-methylnapthalene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
$ 139 Dibromofluoromethane	0.25318 / 0.24418	0.25012	0.24948	0.23916	0.24283	0.24469	AVRG		0.24623		1.97642	

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-NOV-2015 12:46
End Cal Date : 01-NOV-2015 15:35
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv11.i/2151101.s.b/8260bw11.m
Cal Date : 01-Nov-2015 16:01 jck2

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
$ 41 1,2-Dichloroethane-d4	0.16448	0.16095	0.15676	0.15260	0.15148	0.15160					
	0.15637						AVRG		0.15632		3.17446
$ 68 Toluene-d8	2.38687	2.28047	2.34659	2.36915	2.36197	2.32047					
	2.26624						AVRG		2.33311		1.96464
$ 97 Bromofluorobenzene	0.83792	0.82692	0.84197	0.83624	0.88236	0.87109					
	0.88737						AVRG		0.85484		2.88795

Data File: /var/chem/msv11.i/2151101.s.b/g9465d.d
Report Date: 02-Nov-2015 19:55

GCAL, Inc.

RECOVERY REPORT

Client Name:
Sample Matrix: LIQUID
Lab Smp Id: 1600
Level: LOW
Data Type: MS DATA
SpikeList File: ICV.spk
Sublist File: 8260b+A9-1.sub
Method File: /var/chem/msv11.i/2151101.s.b/8260bw11dod.m
Misc Info: MSV~34714~*1*JCK

Client SDG: 2151101.s
Fraction: VOA
Client Smp ID: ICV050
Operator: LBH
SampleType: LCS
Quant Type: ISTD

	SPIKE	COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
	1	Dichlorodifluoromethane	50.0	48.5	96.99	80-120
	2	Chloromethane ++	50.0	47.8	95.58	80-120
	3	Vinyl Chloride +	50.0	47.2	94.46	80-120
	5	Bromomethane	50.0	49.1	98.17	80-120
	6	Chloroethane	50.0	53.3	106.53	80-120
	9	Trichlorofluoromethane	50.0	50.2	100.41	80-120
	13	1,1-Dichloroethene +	50.0	49.1	98.20	80-120
	21	Carbon Disulfide	50.0	52.8	105.64	80-120
	19	1,1,2Trichlotrifluoroethane	50.0	50.6	101.18	80-120
	14	Methyl Iodide	50.0	50.3	100.64	80-120
	8	Acrolein	250	242	97.00	80-120
	18	Methylene Chloride	50.0	46.9	93.71	80-120
	11	Acetone	50.0	49.6	99.18	80-120
	22	trans-1,2-Dichloroethene	50.0	48.5	96.95	80-120
	20	Methyl Acetate	50.0	47.1	94.24	80-120
	32	Hexane	50.0	48.6	97.24	80-120
	25	MTBE	50.0	51.5	103.04	80-120
	26	1,1-Dichloroethane ++	50.0	49.8	99.58	80-120
	16	Acrylonitrile	250	249	99.48	80-120
	29	Vinyl Acetate	50.0	46.6	93.30	80-120
	23	cis-1,2-Dichloroethene	50.0	49.7	99.34	80-120
	38	2,2-Dichloropropane	50.0	48.4	96.74	80-120
	45	Cyclohexane	50.0	52.3	104.52	80-120
	36	Bromochloromethane	50.0	49.9	99.78	80-120
	37	Chloroform +	50.0	49.2	98.38	80-120
	46	Carbon Tetrachloride	50.0	51.2	102.49	80-120
	43	1,1,1-Trichloroethane	50.0	49.5	98.98	80-120
	33	2-Butanone	50.0	49.1	98.17	80-120
	44	1,1-Dichloropropene	50.0	50.8	101.55	80-120
	47	Benzene	50.0	50.0	99.97	80-120
	42	1,2-Dichloroethane	50.0	49.6	99.21	80-120
M	80	Total 1,2-Dichloroethene	100	98.1	98.15	80-120
	61	Methyl Cyclohexane	50.0	50.7	101.50	80-120

SPIKE	COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
57	Trichloroethene	50.0	50.1	100.26	80-120
55	Dibromomethane	50.0	50.4	100.82	80-120
56	1,2-Dichloropropane +	50.0	51.4	102.78	80-120
58	Bromodichloromethane	50.0	50.6	101.21	80-120
60	1-Bromo-2-chloroethane	50.0	51.2	102.36	80-120
63	cis-1,3-Dichloropropene	50.0	52.7	105.46	80-120
70	Toluene +	50.0	50.6	101.13	80-120
78	Tetrachloroethene	50.0	50.0	100.07	80-120
65	4-methyl-2-pentanone	50.0	51.8	103.65	80-120
66	trans-1,3-Dichloropropene	50.0	53.9	107.73	80-120
67	1,1,2-Trichloroethane	50.0	48.7	97.38	80-120
72	Dibromochloromethane	50.0	51.6	103.22	80-120
71	1,3-Dichloropropane	50.0	52.6	105.10	80-120
74	1,2-Dibromoethane(EDB)	50.0	52.8	105.53	80-120
73	2-Hexanone	50.0	51.3	102.61	80-120
M 87	1-3 Dichloropropene total	100	107	106.59	80-120
86	1-Chlorohexane	50.0	52.6	105.15	80-120
85	Chlorobenzene ++	50.0	49.9	99.90	80-120
88	Ethylbenzene +	50.0	51.2	102.48	80-120
82	1,1,1,2-Tetrachloroethane	50.0	48.5	97.05	80-120
89	p,m-Xylene	100	105	104.50	80-120
93	o-Xylene	50.0	51.3	102.54	80-120
91	Styrene	50.0	54.8	109.58	80-120
90	Bromoform ++	50.0	52.6	105.25	80-120
96	Isopropylbenzene	50.0	53.8	107.69	80-120
M 120	TOTAL XYLENE	150	156	103.85	80-120
98	Bromobenzene	50.0	50.7	101.45	80-120
100	n-Propylbenzene	50.0	52.2	104.39	80-120
92	1,1,2,2-Tetrachloroethane++	50.0	47.7	95.43	80-120
101	2-Chlorotoluene	50.0	51.8	103.51	80-120
104	1,3,5-Trimethylbenzene	50.0	52.9	105.78	80-120
94	1,2,3-Trichloropropane	50.0	51.6	103.27	80-120
95	trans-1,4-Dichloro-2-Butene	50.0	50.6	101.16	80-120
102	4-Chlorotoluene	50.0	51.7	103.38	80-120
105	tert-butylbenzene	50.0	51.6	103.27	80-120
106	1,2,4-Trimethylbenzene	50.0	53.4	106.79	80-120
107	sec-Butylbenzene	50.0	52.9	105.88	80-120
111	p-Isopropyltoluene	50.0	53.0	106.04	80-120
108	1,3-Dichlorobenzene	50.0	52.2	104.48	80-120
110	1,4-Dichlorobenzene	50.0	50.6	101.24	80-120
114	n-Butylbenzene	50.0	53.6	107.28	80-120
113	1,2-Dichlorobenzene	50.0	51.7	103.50	80-120
115	1,2-Dibromo-3-Chloropropane	50.0	49.5	99.00	80-120
118	Hexachlorobutadiene	50.0	49.4	98.87	80-120
116	1,2,4-Trichlorobenzene	50.0	54.7	109.45	80-120
117	Naphthalene	50.0	50.6	101.25	80-120
119	1,2,3-Trichlorobenzene	50.0	53.6	107.11	80-120

Data File: /var/chem/msv11.i/2151102p.s.b/g9525d.d
Report Date: 04-Nov-2015 11:32

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv11.i
Lab File ID: g9525d.d
Analysis Type: WATER
Lab Sample ID: 1400
Method: /var/chem/msv11.i/2151102p.s.b/8260bw11dod.m

Injection Date: 02-NOV-2015 22:45
Init. Cal. Date(s): 01-NOV-2015 01-NOV-2015
Init. Cal. Times: 12:46 15:35
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
1 Dichlorodifluoromethane	0.34530	0.31011	0.31011	0.010	-10.19120	20.00000	Averaged
2 Chloromethane ++	0.35947	0.39061	0.39061	0.100	8.66486	20.00000	Averaged
3 Vinyl Chloride +	0.36861	0.37803	0.37803	0.010	2.55429	20.00000	Averaged
5 Bromomethane	0.18847	0.19931	0.19931	0.010	5.75149	20.00000	Averaged
6 Chloroethane	0.17475	0.19665	0.19665	0.010	12.53263	20.00000	Averaged
9 Trichlorofluoromethane	0.49941	0.48812	0.48812	0.010	-2.26012	20.00000	Averaged
13 1,1-Dichloroethene +	0.27236	0.26206	0.26206	0.010	-3.78127	20.00000	Averaged
19 1,1,2Trichlotrifluoroethane	0.26670	0.26048	0.26048	0.010	-2.33204	20.00000	Averaged
21 Carbon Disulfide	0.75265	0.77517	0.77517	0.010	2.99234	20.00000	Averaged
14 Methyl Iodide	51.82296	50.00000	0.15716	0.010	3.64591	20.00000	Linear
8 Acrolein	0.01599	0.01664	0.01664	0.010	4.08012	20.00000	Averaged
18 Methylene Chloride	0.36338	0.32998	0.32998	0.010	-9.19056	20.00000	Averaged
11 Acetone	0.18948	0.16514	0.16514	0.010	-12.84508	20.00000	Averaged
20 Methyl Acetate	0.44405	0.38491	0.38491	0.010	-13.31695	20.00000	Averaged
22 trans-1,2-Dichloroethene	0.37308	0.37104	0.37104	0.010	-0.54677	20.00000	Averaged
32 Hexane	0.31972	0.30195	0.30195	0.010	-5.55881	20.00000	Averaged
25 MTBE	0.79098	0.74662	0.74662	0.010	-5.60770	20.00000	Averaged
26 1,1-Dichloroethane ++	0.51085	0.49419	0.49419	0.100	-3.26179	20.00000	Averaged
16 Acrylonitrile	0.10305	0.10242	0.10242	0.010	-0.60503	20.00000	Averaged
29 Vinyl Acetate	0.23157	0.26172	0.26172	0.010	13.01766	20.00000	Averaged
23 cis-1,2-Dichloroethene	0.37777	0.36354	0.36354	0.010	-3.76702	20.00000	Averaged
M 80 Total 1,2-Dichloroethene	0.37542	0.36729	0.36729	0.010	-2.16695	20.00000	Averaged
38 2,2-Dichloropropane	0.44144	0.42398	0.42398	0.010	-3.95568	20.00000	Averaged
36 Bromochloromethane	0.14783	0.14967	0.14967	0.010	1.24289	20.00000	Averaged
45 Cyclohexane	0.42311	0.40151	0.40151	0.010	-5.10463	20.00000	Averaged
37 Chloroform +	0.50684	0.49368	0.49368	0.010	-2.59609	20.00000	Averaged
46 Carbon Tetrachloride	0.37779	0.36504	0.36504	0.010	-3.37585	20.00000	Averaged
$ 39 Dibromofluoromethane	0.24623	0.25285	0.25285	0.010	2.68714	20.00000	Averaged
43 1,1,1-Trichloroethane	0.45569	0.43079	0.43079	0.010	-5.46256	20.00000	Averaged
33 2-Butanone	0.19989	0.16872	0.16872	0.010	-15.59081	20.00000	Averaged
44 1,1-Dichloropropene	0.35920	0.34962	0.34962	0.010	-2.66511	20.00000	Averaged
47 Benzene	1.11833	1.10800	1.10800	0.010	-0.92307	20.00000	Averaged
$ 41 1,2-Dichloroethane-d4	0.15632	0.15687	0.15687	0.010	0.34883	20.00000	Averaged
42 1,2-Dichloroethane	0.42513	0.39649	0.39649	0.010	-6.73653	20.00000	Averaged
57 Trichloroethene	0.32224	0.31844	0.31844	0.010	-1.17828	20.00000	Averaged

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv11.i
Lab File ID: g9525d.d
Analysis Type: WATER
Lab Sample ID: 1400
Method: /var/chem/msv11.i/2151102p.s.b/8260bw11dod.m

Injection Date: 02-NOV-2015 22:45
Init. Cal. Date(s): 01-NOV-2015 01-NOV-2015
Init. Cal. Times: 12:46 15:35
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	%D / %DRIFT	CURVE TYPE
61 Methyl Cyclohexane	0.42483	0.40898	0.40898	0.010	-3.73021	20.00000	Averaged
55 Dibromomethane	0.18832	0.18262	0.18262	0.010	-3.02878	20.00000	Averaged
56 1,2-Dichloropropane +	0.28328	0.28171	0.28171	0.010	-0.55553	20.00000	Averaged
58 Bromodichloromethane	0.39861	0.39894	0.39894	0.010	0.08498	20.00000	Averaged
60 1-Bromo-2-chloroethane	0.40954	0.40473	0.40473	0.010	-1.17291	20.00000	Averaged
62 2-Chloroethyl vinyl ether	++++	++++	0.00000	0.010	++++	20.00000	Averaged <-
63 cis-1,3-Dichloropropene	0.44824	0.46523	0.46523	0.010	3.78949	20.00000	Averaged
$ 68 Toluene-d8	2.33311	2.36404	2.36404	0.010	1.32595	20.00000	Averaged
70 Toluene +	2.94868	2.96572	2.96572	0.010	0.57790	20.00000	Averaged
65 4-methyl-2-pentanone	0.77763	0.69739	0.69739	0.010	-10.31813	20.00000	Averaged
78 Tetrachloroethene	0.61868	0.61391	0.61391	0.010	-0.77184	20.00000	Averaged
66 trans-1,3-Dichloropropene	0.42879	0.45901	0.45901	0.010	7.04710	20.00000	Averaged
M 87 1-3 Dichloropropene total	0.43852	0.46212	0.46212	0.010	5.38218	20.00000	Averaged
67 1,1,2-Trichloroethane	0.67778	0.65213	0.65213	0.010	-3.78525	20.00000	Averaged
72 Dibromochloromethane	0.76845	0.77308	0.77308	0.010	0.60216	20.00000	Averaged
71 1,3-Dichloropropane	1.14896	1.13935	1.13935	0.010	-0.83634	20.00000	Averaged
74 1,2-Dibromoethane(EDB)	0.67422	0.69325	0.69325	0.010	2.82375	20.00000	Averaged
73 2-Hexanone	0.65127	0.57973	0.57973	0.010	-10.98496	20.00000	Averaged
86 1-Chlorohexane	0.88405	0.85569	0.85569	0.010	-3.20770	20.00000	Averaged
85 Chlorobenzene ++	2.03629	2.00821	2.00821	0.300	-1.37941	20.00000	Averaged
88 Ethylbenzene +	1.05791	1.11863	1.11863	0.010	5.73992	20.00000	Averaged
82 1,1,1,2-Tetrachloroethane	0.72500	0.71397	0.71397	0.010	-1.52078	20.00000	Averaged
89 p,m-Xylene	1.28692	1.36144	1.36144	0.010	5.79074	20.00000	Averaged
93 o-Xylene	1.29392	1.31931	1.31931	0.010	1.96186	20.00000	Averaged
M 120 TOTAL XYLENE	1.28925	1.34740	1.34740	0.010	4.50982	20.00000	Averaged
91 Styrene	2.10230	2.28097	2.28097	0.010	8.49886	20.00000	Averaged
90 Bromoform ++	0.58753	0.57306	0.57306	0.100	-2.46337	20.00000	Averaged
96 Isopropylbenzene	3.21913	3.46675	3.46675	0.010	7.69212	20.00000	Averaged
$ 97 Bromofluorobenzene	0.85484	0.88468	0.88468	0.010	3.49130	20.00000	Averaged
98 Bromobenzene	1.50893	1.42620	1.42620	0.010	-5.48272	20.00000	Averaged
100 n-Propylbenzene	3.49377	3.57929	3.57929	0.010	2.44791	20.00000	Averaged
92 1,1,2,2-Tetrachloroethane++	0.87703	0.78251	0.78251	0.300	-10.77730	20.00000	Averaged
101 2-Chlorotoluene	2.44431	2.45519	2.45519	0.010	0.44500	20.00000	Averaged
104 1,3,5-Trimethylbenzene	2.55737	2.64653	2.64653	0.010	3.48640	20.00000	Averaged
94 1,2,3-Trichloropropane	0.75226	0.67495	0.67495	0.010	-10.27794	20.00000	Averaged

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv11.i
Lab File ID: g9525d.d
Analysis Type: WATER
Lab Sample ID: 1400
Method: /var/chem/msv11.i/2151102p.s.b/8260bw11dod.m

Injection Date: 02-NOV-2015 22:45
Init. Cal. Date(s): 01-NOV-2015 01-NOV-2015
Init. Cal. Times: 12:46 15:35
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
95 trans-1,4-Dichloro-2-Butene	0.25917	0.23303	0.23303	0.010	-10.08313	20.00000	Averaged	
102 4-Chlorotoluene	2.27538	2.29332	2.29332	0.010	0.78849	20.00000	Averaged	
105 tert-butylbenzene	1.42462	1.43347	1.43347	0.010	0.62103	20.00000	Averaged	
106 1,2,4-Trimethylbenzene	2.58934	2.71486	2.71486	0.010	4.84738	20.00000	Averaged	
107 sec-Butylbenzene	3.09577	3.22215	3.22215	0.010	4.08235	20.00000	Averaged	
111 p-Isopropyltoluene	2.73460	2.86402	2.86402	0.010	4.73279	20.00000	Averaged	
108 1,3-Dichlorobenzene	1.64707	1.67752	1.67752	0.010	1.84895	20.00000	Averaged	
110 1,4-Dichlorobenzene	1.72455	1.71054	1.71054	0.010	-0.81203	20.00000	Averaged	
114 n-Butylbenzene	2.30670	2.42359	2.42359	0.010	5.06765	20.00000	Averaged	
113 1,2-Dichlorobenzene	1.64509	1.64503	1.64503	0.010	-0.00381	20.00000	Averaged	
115 1,2-Dibromo-3-Chloropropane	0.24338	0.21014	0.21014	0.010	-13.65853	20.00000	Averaged	
118 Hexachlorobutadiene	0.49751	0.49711	0.49711	0.010	-0.07982	20.00000	Averaged	
116 1,2,4-Trichlorobenzene	1.07430	1.13519	1.13519	0.010	5.66838	20.00000	Averaged	
117 Naphthalene	46.94941	50.00000	2.77374	0.010	-6.10118	20.00000	Linear	
119 1,2,3-Trichlorobenzene	1.09658	1.13975	1.13975	0.010	3.93665	20.00000	Averaged	
15 tert-Butyl Alcohol	47.78803	50.00000	0.02919	0.010	-4.42395	20.00000	Linear	
28 Isopropyl Ether	0.85878	0.80722	0.80722	0.010	-6.00439	20.00000	Averaged	
27 Chloroprene	0.38186	0.35056	0.35056	0.010	-8.19856	20.00000	Averaged	
34 Isobutyl Alcohol	0.01511	0.01141	0.01141	0.010	-24.49661	20.00000	Averaged	<- IT
51 1,4- Dioxane	1289	1250	0.00216	0.010	3.09072	20.00000	Linear	<-

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 215102413

Lab File ID (Standard): 2151101/g9459d Date Analyzed: 11/01/15 Time: 1410

Instrument ID: MSV11 GC Column: RTX-VMS-30M ID: .25 (mm)

Analytical Batch: 571561 Heated Burge: (Y/N) N

	IS1 Area	RT	IS2 Area	RT	IS3 Area	RT
STANDARD	674068	6.72	279170	9.61	309611	11.32
EPA Sample No.	#	#	#	#	#	#
LCS1505317	633684	6.72	269196	9.62	311093	11.32
LCSD1505318	639813	6.72	272067	9.61	306740	11.32
MB1505316	580847	6.72	241367	9.61	242302	11.32
TB-102315-04	566730	6.72	227735	9.61	234329	11.32
305-18MW07	568977	6.72	232493	9.61	235347	11.32
305-18MW19	574528	6.72	231678	9.62	237949	11.32

IS 1 ID: Fluorobenzene
IS 2 ID: Chlorobenzene d5
IS 3 ID: 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard values with an asterisk.
* Values outside of QC limits.

FORM VIII VOA

LABORATORY CHRONICLE: MSV DEPARTMENT

Date: 01-NOV-2015
Instrument: msv11.i
Analyst(s): JCK

	Standard	Conc	ID	EXP
	8260 IS/SS	50	126-41-4	02/27/16
1000 (BFB)	BFB IS/SS	50	126-41-4	02/27/16
1203-1209 (ICAL)	8260	250	126-45-10	11/11/15
	AC/AC/VA	MC	126-46-1	11/30/15
	APP9-1	250	126-43-10	04/03/16
1600 (ICV)	8260 ICV	250	126-44-9	04/16/16
	AC/AC/VA ICV	MC	126-46-2	11/30/15
	APP9-1 ICV	250	126-40-11	02/19/16

Sample ID	Comments	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS
1000	RR	g9453.d	0.00 ml	01-NOV-2015 11:32	1.0	JCK	2
1000		g9453d.d	0.00 ml	01-NOV-2015 11:32	1.0	JCK	2
1000		g9454.d	0.00 ml	01-NOV-2015 11:53	1.0	JCK	2
1203		g9455.d	5.00 ml	01-NOV-2015 12:46	1.0	JCK	1
1203		g9455d.d	5.00 ml	01-NOV-2015 12:46	1.0	LBH	1
1204		g9456.d	5.00 ml	01-NOV-2015 13:07	1.0	JCK	2
1204		g9456d.d	5.00 ml	01-NOV-2015 13:07	1.0	LBH	2
1205		g9457.d	5.00 ml	01-NOV-2015 13:28	1.0	JCK	3
1205		g9457d.d	5.00 ml	01-NOV-2015 13:28	1.0	LBH	3
1206		g9458.d	5.00 ml	01-NOV-2015 13:49	1.0	JCK	4
1206		g9458d.d	5.00 ml	01-NOV-2015 13:49	1.0	LBH	4
1207		g9459.d	5.00 ml	01-NOV-2015 14:10	1.0	JCK	5
1207		g9459d.d	5.00 ml	01-NOV-2015 14:10	1.0	LBH	5
BLANK		g9460.d	5.00 ml	01-NOV-2015 14:32	1.0	JCK	6
1208		g9461.d	5.00 ml	01-NOV-2015 14:53	1.0	JCK	7
1208		g9461d.d	5.00 ml	01-NOV-2015 14:53	1.0	LBH	7
BLANK		g9462.d	5.00 ml	01-NOV-2015 15:14	1.0	JCK	8
1209		g9463.d	5.00 ml	01-NOV-2015 15:35	1.0	JCK	9
1209		g9463d.d	5.00 ml	01-NOV-2015 15:35	1.0	LBH	9
BLANK		g9464.d	5.00 ml	01-NOV-2015 15:56	1.0	JCK	10
1600		g9465.d	5.00 ml	01-NOV-2015 16:17	1.0	JCK	11
1600		g9465d.d	5.00 ml	01-NOV-2015 16:17	1.0	LBH	11
1504811		g9466.d	5.00 ml	01-NOV-2015 16:38	1.0	JCK	12
1504812		g9467.d	5.00 ml	01-NOV-2015 16:59	1.0	JCK	12
MB		g9468.d	5.00 ml	01-NOV-2015 17:21	1.0	JCK	13
MB		g9469.d	5.00 ml	01-NOV-2015 17:42	1.0	JCK	13
1504810	pH	g9470.d	5.00 ml	01-NOV-2015 18:03	1.0	JCK	14
21510220801	1	g9471.d	5.00 ml	01-NOV-2015 18:24	1.0	JCK	15
21510220804	1	g9472.d	5.00 ml	01-NOV-2015 18:45	1.0	JCK	16
21510220805	1	g9473.d	5.00 ml	01-NOV-2015 19:07	1.0	JCK	17
21510220806	1	g9474.d	5.00 ml	01-NOV-2015 19:28	1.0	JCK	18
21510220807	1	g9475.d	5.00 ml	01-NOV-2015 19:49	1.0	JCK	19
21510220809	1	g9476.d	5.00 ml	01-NOV-2015 20:10	1.0	JCK	20
21510220810	1	g9477.d	5.00 ml	01-NOV-2015 20:31	1.0	CLH	21
21510220811	1	g9478.d	5.00 ml	01-NOV-2015 20:52	1.0	CLH	22
21510220812	1	g9479.d	5.00 ml	01-NOV-2015 21:13	1.0	CLH	23

LABORATORY CHRONICLE: MSV DEPARTMENT

Date: 01-NOV-2015
Instrument: msv11.i
Analyst(s): JCK

	Standard	Conc	ID	EXP
	8260 IS/SS	50		
1000 (BFB)	BFB IS/SS	50		
1400 (CCV)	8260	250		
	Ac/Ac/VA	MC		
	CVE	250		

Sample ID	Comments	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS
21510220813 1		g9480.d	5.00 ml	01-NOV-2015 21:34	1.0	CLH	24
21510220814 1		g9481.d	5.00 ml	01-NOV-2015 21:56	1.0	CLH	25
21510220815 1		g9482.d	5.00 ml	01-NOV-2015 22:17	1.0	CLH	26
21510220802 1		g9483.d	5.00 ml	01-NOV-2015 22:41	5.0	CLH	27
21510220803 1		g9484.d	5.00 ml	01-NOV-2015 23:05	5.0	CLH	28
21510220802 1		g9485.d	5.00 ml	01-NOV-2015 23:26	1.0	CLH	27
21510220803 1		g9486.d	5.00 ml	01-NOV-2015 23:48	1.0	CLH	28
BLANK		g9487.d	5.00 ml	02-NOV-2015 00:09	1.0	CLH	29
BLANK		g9488.d	5.00 ml	02-NOV-2015 00:30	1.0	JCK	29
BLANK		g9489.d	5.00 ml	02-NOV-2015 00:51	1.0	JCK	30
BLANK		g9490.d	5.00 ml	02-NOV-2015 01:12	1.0	JCK	30
BLANK		g9491.d	5.00 ml	02-NOV-2015 01:33	1.0	JCK	31
BLANK		g9492.d	5.00 ml	02-NOV-2015 01:54	1.0	JCK	32

REVISED 1-28-15 Supervisor Review: TUNE TIME: 23:53 11/01/15

LABORATORY CHRONICLE: MSV DEPARTMENT

Date: 02-NOV-2015
Instrument: msv11.i
Analyst(s): TJB

	Standard	Conc	ID	EXP
	8260 IS/SS	50	126-41-4	02/27/16
1000 (BFB)	BFB IS/SS	50	126-41-4	02/27/16
1400(ICAL)	8260	250	126-45-10	11/11/15
	AC/AC/VA	MC	126-46-1	11/30/15
	APP9-1	250	126-43-10	04/03/16

Sample ID	Comments	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS
1000		g9521.d	0.00 ml	02-NOV-2015 19:38	1.0	TJB	2
LCS	RR 624	g9522.d	5.00 ml	02-NOV-2015 20:26	1.0	TJB	1
1400	RR	g9523.d	5.00 ml	02-NOV-2015 21:25	1.0	TJB	1
LCSD	RR	g9524.d	5.00 ml	02-NOV-2015 21:46	1.0	CLH	1
1400		g9525.d	5.00 ml	02-NOV-2015 22:45	1.0	TJB	1
1505317		g9525L.d	5.00 ml	02-NOV-2015 22:45	1.0	TJB	1
1505318		g9526.d	5.00 ml	02-NOV-2015 23:06	1.0	TJB	1
BLANK		g9527.d	5.00 ml	02-NOV-2015 23:54	1.0	LBH	1
BLANK		g9528.d	5.00 ml	03-NOV-2015 00:15	1.0	LBH	1
1505316	pH	g9529.d	5.00 ml	03-NOV-2015 00:36	1.0	LBH	1
21510220826	1	g9530.d	5.00 ml	03-NOV-2015 00:57	1.0	LBH	8
21510221001	1	g9531.d	5.00 ml	03-NOV-2015 01:18	1.0	LBH	9
21510230714	1	g9532.d	5.00 ml	03-NOV-2015 01:39	1.0	LBH	10
21510230715	1	g9533.d	5.00 ml	03-NOV-2015 02:00	1.0	LBH	11
21510231001	1	g9534.d	5.00 ml	03-NOV-2015 02:22	1.0	LBH	12
21510231002	1	g9535.d	5.00 ml	03-NOV-2015 02:43	1.0	LBH	13
21510231003	1	g9536.d	5.00 ml	03-NOV-2015 03:04	1.0	LBH	14
21510231004	1	g9537.d	5.00 ml	03-NOV-2015 03:26	1.0	LBH	15
21510231005	1	g9538.d	5.00 ml	03-NOV-2015 03:47	1.0	LBH	16
21510231006	1	g9539.d	5.00 ml	03-NOV-2015 04:08	1.0	LBH	17
21510241301	1	g9540.d	5.00 ml	03-NOV-2015 04:29	1.0	LBH	18
21510241302	1	g9541.d	5.00 ml	03-NOV-2015 04:50	1.0	LBH	19
21510241303	1	g9542.d	5.00 ml	03-NOV-2015 05:11	1.0	LBH	20
21510291201	1	g9543.d	5.00 ml	03-NOV-2015 05:32	1.0	LBH	21
21510291202	1	g9544.d	5.00 ml	03-NOV-2015 05:53	1.0	LBH	22
21510300801	1	g9545.d	5.00 ml	03-NOV-2015 06:15	1.0	LBH	23
21510290811	1	g9546.d	5.00 ml	03-NOV-2015 06:36	1.0	LBH	24
21510290812	1	g9547.d	5.00 ml	03-NOV-2015 06:57	1.0	LBH	25
21510290813	1	g9548.d	5.00 ml	03-NOV-2015 07:18	1.0	LBH	26
BLANK		g9549.d	5.00 ml	03-NOV-2015 07:39	1.0	LBH	27
BLANK		g9550.d	5.00 ml	03-NOV-2015 08:00	1.0	LBH	28

REVISED 1-28-15 Supervisor Review: TUNE TIME: 07:38 11/03/15

Form I

Sample Results

I

INORGANIC ANALYSIS DATA SHEET

Report No:	215102413	Client Sample ID:	305-18MW07
Collect Date:	10/23/15 Time: 1425	GCAL Sample ID:	21510241302
Matrix:	Water % Solids: NA	Instrument ID:	ICPMS2
Sample Amt:	50 mL	Lab File ID:	2151026B_MS2.b\018SMPL_2151027B_MS2.D
Prep Vol.:	50 (mL)	Dilution Factor:	1 Analyst: AWG
Prep Date:	10/24/15	Analysis Date:	10/27/15 Time: 1342
Prep Batch:	570926	Analytical Batch:	571111
Prep Method:	3010A	Analytical Method:	EPA 6020A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Aluminum	0.098	mg/L		0.0050	0.020
Antimony	0.00050	mg/L	U	0.00050	0.0020
Arsenic	0.00025	mg/L	U	0.00025	0.0010
Barium	0.081	mg/L		0.00025	0.0010
Beryllium	0.00025	mg/L	U	0.00025	0.0010
Cadmium	0.00057	mg/L	J	0.00025	0.0010
Calcium	21.3	mg/L		0.13	0.50
Chromium	0.0070	mg/L		0.00025	0.0010
Cobalt	0.00025	mg/L	U	0.00025	0.0010
Copper	0.00025	mg/L	U	0.00025	0.0010
Iron	0.025	mg/L	U	0.025	0.10
Lead	0.00025	mg/L	U	0.00025	0.0010
Magnesium	3.28	mg/L		0.025	0.10
Manganese	0.17	mg/L		0.0013	0.0050
Nickel	0.00050	mg/L	U	0.00050	0.0020
Potassium	3.31	mg/L		0.025	0.10
Selenium	0.00092	mg/L	J	0.00025	0.0010
Silver	0.00025	mg/L	U	0.00025	0.0010
Sodium	4.89	mg/L		0.025	0.10
Thallium	0.00025	mg/L	U	0.00025	0.0010
Vanadium	0.00059	mg/L	J	0.00025	0.0010
Zinc	0.0050	mg/L	U	0.0050	0.020

FORM I - IN

I

INORGANIC ANALYSIS DATA SHEET

Report No:	215102413	Client Sample ID:	305-18MW07
Collect Date:	10/23/15 Time: 1425	GCAL Sample ID:	21510241302
Matrix:	Water % Solids: NA	Instrument ID:	HYDRA
Sample Amt:	20 mL	Lab File ID:	HYDRA
Prep Vol.:	20 (mL)	Dilution Factor:	1 Analyst: LWZ
Prep Date:	10/24/15	Analysis Date:	10/27/15 Time: 1333
Prep Batch:	570927	Analytical Batch:	571083
Prep Method:	7470 Prep	Analytical Method:	EPA 7470A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Mercury	0.00010	mg/L	U	0.00010	0.00020

FORM I - IN

I

INORGANIC ANALYSIS DATA SHEET

Report No:	215102413	Client Sample ID:	305-18MW19
Collect Date:	10/23/15 Time: 1405	GCAL Sample ID:	21510241303
Matrix:	Water % Solids: NA	Instrument ID:	ICPMS2
Sample Amt:	50 mL	Lab File ID:	2151026B_MS2.b\020SMPL_2151027B_MS2.D
Prep Vol.:	50 (mL)	Dilution Factor:	1 Analyst: AWG
Prep Date:	10/24/15	Analysis Date:	10/27/15 Time: 1349
Prep Batch:	570926	Analytical Batch:	571111
Prep Method:	3010A	Analytical Method:	EPA 6020A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Aluminum	0.48	mg/L		0.0050	0.020
Antimony	0.00050	mg/L	U	0.00050	0.0020
Arsenic	0.00058	mg/L	J	0.00025	0.0010
Barium	0.11	mg/L		0.00025	0.0010
Beryllium	0.00043	mg/L	J	0.00025	0.0010
Cadmium	0.00025	mg/L	U	0.00025	0.0010
Calcium	8.14	mg/L		0.13	0.50
Chromium	0.0043	mg/L		0.00025	0.0010
Cobalt	0.0026	mg/L		0.00025	0.0010
Copper	0.0014	mg/L		0.00025	0.0010
Iron	0.42	mg/L		0.025	0.10
Lead	0.00035	mg/L	J	0.00025	0.0010
Magnesium	2.57	mg/L		0.025	0.10
Manganese	0.056	mg/L		0.0013	0.0050
Nickel	0.0039	mg/L		0.00050	0.0020
Potassium	2.37	mg/L		0.025	0.10
Selenium	0.00025	mg/L	U	0.00025	0.0010
Silver	0.00025	mg/L	U	0.00025	0.0010
Thallium	0.00025	mg/L	U	0.00025	0.0010
Vanadium	0.0041	mg/L		0.00025	0.0010
Zinc	0.0060	mg/L	J	0.0050	0.020

FORM I - IN

I

INORGANIC ANALYSIS DATA SHEET

Report No:	215102413	Client Sample ID:	305-18MW19 DL
Collect Date:	10/23/15 Time: 1405	GCAL Sample ID:	21510241303 DL
Matrix:	Water % Solids: NA	Instrument ID:	ICPMS1
Sample Amt:	50 mL	Lab File ID:	2151028A_MS1.b\089SMPL.d
Prep Vol.:	50 (mL)	Dilution Factor:	5 Analyst: LWZ
Prep Date:	10/24/15	Analysis Date:	10/28/15 Time: 1810
Prep Batch:	570926	Analytical Batch:	571189
Prep Method:	3010A	Analytical Method:	EPA 6020A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Sodium	13.1	mg/L		0.13	0.50

FORM I - IN

I

INORGANIC ANALYSIS DATA SHEET

Report No:	215102413	Client Sample ID:	305-18MW19
Collect Date:	10/23/15 Time: 1405	GCAL Sample ID:	21510241303
Matrix:	Water % Solids: NA	Instrument ID:	HYDRA
Sample Amt:	20 mL	Lab File ID:	HYDRA
Prep Vol.:	20 (mL)	Dilution Factor:	1 Analyst: LWZ
Prep Date:	10/24/15	Analysis Date:	10/27/15 Time: 1335
Prep Batch:	570927	Analytical Batch:	571083
Prep Method:	7470 Prep	Analytical Method:	EPA 7470A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Mercury	0.00010	mg/L	U	0.00010	0.00020

FORM I - IN

Form II

Calibration Verifications

II

INITIAL CALIBRATION VERIFICATION

Report No:	215102413	GCAL QC ID:	1600
Instrument ID:	HYDRA	Lab File ID:	HYDRA
Analyst:	LWZ	Analytical Batch:	571083
Analysis Date:	10/27/15 Time: 1105	Analytical Method:	EPA 7470A

ANALYTE	***TRUE***	***FOUND***	***%RECOVERY***	***UNITS***
Mercury	0.00500	0.00500	100	mg/L

CONTROL LIMITS 90-110%

FORM II - IN

II

CONTINUING CALIBRATION VERIFICATION

Report No:	215102413	GCAL QC ID:	1800
Instrument ID:	HYDRA	Lab File ID:	HYDRA
Analyst:	LWZ	Analytical Batch:	571083
Analysis Date:	10/27/15 Time: 1251	Analytical Method:	EPA 7470A

ANALYTE	***TRUE***	***FOUND***	***%RECOVERY***	***UNITS***
Mercury	0.00500	0.00550	109	mg/L

CONTROL LIMITS 90-110%

FORM II - IN

II

CONTINUING CALIBRATION VERIFICATION

Report No:	215102413	GCAL QC ID:	1800
Instrument ID:	HYDRA	Lab File ID:	HYDRA
Analyst:	LWZ	Analytical Batch:	571083
Analysis Date:	10/27/15 Time: 1319	Analytical Method:	EPA 7470A

ANALYTE	***TRUE***	***FOUND***	***%RECOVERY***	***UNITS***
Mercury	0.00500	0.00530	106	mg/L

CONTROL LIMITS 90-110%

FORM II - IN

II

CONTINUING CALIBRATION VERIFICATION

Report No:	215102413	GCAL QC ID:	1800
Instrument ID:	HYDRA	Lab File ID:	HYDRA
Analyst:	LWZ	Analytical Batch:	571083
Analysis Date:	10/27/15 Time: 1343	Analytical Method:	EPA 7470A

ANALYTE	***TRUE***	***FOUND***	***%RECOVERY***	***UNITS***
Mercury	0.00500	0.00520	103	mg/L

CONTROL LIMITS 90-110%

FORM II - IN

II

CONTINUING CALIBRATION VERIFICATION

Report No:	215102413	GCAL QC ID:	1800
Instrument ID:	HYDRA	Lab File ID:	HYDRA
Analyst:	LWZ	Analytical Batch:	571083
Analysis Date:	10/27/15 Time: 1410	Analytical Method:	EPA 7470A

ANALYTE	***TRUE***	***FOUND***	***%RECOVERY***	***UNITS***
Mercury	0.00500	0.00510	102	mg/L

CONTROL LIMITS 90-110%

FORM II - IN

II

LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Report No:	215102413	GCAL QC ID:	1803
Instrument ID:	ICPMS2	Lab File ID:	2151026B_MS2.b\012CCV1_2151027B_MS2.D
Analyst:	AWG	Analytical Batch:	571111
Analysis Date:	10/27/15 Time: 1320	Analytical Method:	EPA 6020A

ANALYTE	***TRUE***	***FOUND***	***%RECOVERY***	***UNITS***
Aluminum	20.0	20.1	100	ug/L
Antimony	2.00	2.02	101	ug/L
Arsenic	1.00	1.04	104	ug/L
Barium	1.00	0.910	91	ug/L
Beryllium	1.00	1.01	101	ug/L
Cadmium	1.00	1.00	100	ug/L
Calcium	500	521	104	ug/L
Chromium	1.00	0.990	99	ug/L
Cobalt	1.00	0.990	99	ug/L
Copper	1.00	1.09	109	ug/L
Iron	100	97.7	98	ug/L
Lead	1.00	0.990	99	ug/L
Magnesium	100	100	100	ug/L
Manganese	5.00	4.91	98	ug/L
Nickel	2.00	1.98	99	ug/L
Potassium	100	95.0	95	ug/L
Selenium	1.00	1.00	100	ug/L
Silver	1.00	1.01	101	ug/L
Sodium	100	103	103	ug/L
Thallium	1.00	1.00	100	ug/L
Vanadium	1.00	0.960	96	ug/L
Zinc	20.0	20.4	102	ug/L

CONTROL LIMITS 70-130%; EPA 6020A DOD QSM LIMITS 80-120% for INITIAL LLCCV

FORM II - IN

II

INITIAL CALIBRATION VERIFICATION

Report No:	215102413	GCAL QC ID:	1600
Instrument ID:	ICPMS2	Lab File ID:	2151026B_MS2.b\014_ICV_2151027B_MS2.D
Analyst:	AWG	Analytical Batch:	571111
Analysis Date:	10/27/15 Time: 1327	Analytical Method:	EPA 6020A

ANALYTE	***TRUE***	***FOUND***	***%RECOVERY***	***UNITS***
Aluminum	1000	1030	103	ug/L
Antimony	50.0	49.9	100	ug/L
Arsenic	50.0	51.1	102	ug/L
Barium	50.0	47.4	95	ug/L
Beryllium	50.0	53.4	107	ug/L
Cadmium	50.0	51.7	103	ug/L
Calcium	25000	25600	103	ug/L
Chromium	50.0	50.6	101	ug/L
Cobalt	50.0	50.5	101	ug/L
Copper	50.0	53.0	106	ug/L
Iron	5000	5060	101	ug/L
Lead	50.0	50.6	101	ug/L
Magnesium	5000	5170	103	ug/L
Manganese	50.0	50.4	101	ug/L
Nickel	100	102	102	ug/L
Potassium	5000	4890	98	ug/L
Selenium	25.0	24.9	100	ug/L
Silver	50.0	51.8	104	ug/L
Sodium	5000	5380	108	ug/L
Thallium	50.0	50.5	101	ug/L
Vanadium	50.0	49.7	99	ug/L
Zinc	1000	1020	102	ug/L

CONTROL LIMITS 90-110%

FORM II - IN

II

LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Report No:	215102413	GCAL QC ID:	1803
Instrument ID:	ICPMS2	Lab File ID:	2151026B_MS2.b\033LCCV_2151027B_MS2.D
Analyst:	AWG	Analytical Batch:	571111
Analysis Date:	10/27/15 Time: 1433	Analytical Method:	EPA 6020A

ANALYTE	TRUE	FOUND	%RECOVERY	UNITS
Aluminum	20.0	20.3	102	ug/L
Antimony	2.00	1.99	100	ug/L
Arsenic	1.00	1.00	100	ug/L
Barium	1.00	0.910	91	ug/L
Beryllium	1.00	1.01	101	ug/L
Cadmium	1.00	0.990	99	ug/L
Calcium	500	510	102	ug/L
Chromium	1.00	0.960	96	ug/L
Cobalt	1.00	1.00	100	ug/L
Copper	1.00	1.05	105	ug/L
Iron	100	97.2	97	ug/L
Lead	1.00	0.990	99	ug/L
Magnesium	100	99.6	100	ug/L
Manganese	5.00	4.93	99	ug/L
Nickel	2.00	1.96	98	ug/L
Potassium	100	92.7	93	ug/L
Selenium	1.00	1.10	110	ug/L
Silver	1.00	1.00	100	ug/L
Sodium	100	104	104	ug/L
Thallium	1.00	1.00	100	ug/L
Vanadium	1.00	0.960	96	ug/L
Zinc	20.0	20.5	103	ug/L

CONTROL LIMITS 70-130%; EPA 6020A DOD QSM LIMITS 80-120% for INITIAL LLCCV

FORM II - IN

II

CONTINUING CALIBRATION VERIFICATION

Report No:	215102413	GCAL QC ID:	1800
Instrument ID:	ICPMS2	Lab File ID:	2151026B_MS2.b\034_CCV_2151027B_MS2.D
Analyst:	AWG	Analytical Batch:	571111
Analysis Date:	10/27/15 Time: 1436	Analytical Method:	EPA 6020A

ANALYTE	TRUE	FOUND	%RECOVERY	UNITS
Aluminum	200	204	102	ug/L
Antimony	20.0	20.1	101	ug/L
Arsenic	10.0	9.80	98	ug/L
Barium	10.0	9.22	92	ug/L
Beryllium	10.0	10.2	102	ug/L
Cadmium	10.0	9.96	100	ug/L
Calcium	5000	5060	101	ug/L
Chromium	10.0	9.97	100	ug/L
Cobalt	10.0	10.1	101	ug/L
Copper	10.0	10.5	105	ug/L
Iron	1000	1000	100	ug/L
Lead	10.0	9.82	98	ug/L
Magnesium	1000	1000	100	ug/L
Manganese	50.0	50.2	100	ug/L
Nickel	20.0	20.5	102	ug/L
Potassium	1000	972	97	ug/L
Selenium	10.0	9.92	99	ug/L
Silver	10.0	10.1	101	ug/L
Sodium	1000	1020	102	ug/L
Thallium	10.0	10.1	101	ug/L
Vanadium	10.0	9.90	99	ug/L
Zinc	200	203	101	ug/L

CONTROL LIMITS 90-110%

FORM II - IN

II

LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Report No:	215102413	GCAL QC ID:	1803
Instrument ID:	ICPMS1	Lab File ID:	2151028A_MS1.b\012CCV1.d
Analyst:	LWZ	Analytical Batch:	571189
Analysis Date:	10/28/15 Time: 1005	Analytical Method:	EPA 6020A

ANALYTE	***TRUE***	***FOUND***	***%RECOVERY***	***UNITS***
Sodium	100	106	106	ug/L

CONTROL LIMITS 70-130%; EPA 6020A DOD QSM LIMITS 80-120% for INITIAL LLCCV

FORM II - IN

II

INITIAL CALIBRATION VERIFICATION

Report No:	215102413	GCAL QC ID:	1600
Instrument ID:	ICPMS1	Lab File ID:	2151028A_MS1.b\015_ICV.d
Analyst:	LWZ	Analytical Batch:	571189
Analysis Date:	10/28/15 Time: 1048	Analytical Method:	EPA 6020A

ANALYTE	***TRUE***	***FOUND***	***%RECOVERY***	***UNITS***
Sodium	5000	5280	106	ug/L

CONTROL LIMITS 90-110%

FORM II - IN

II

LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Report No:	215102413	GCAL QC ID:	1803
Instrument ID:	ICPMS1	Lab File ID:	2151028A_MS1.b\072LCCV.d
Analyst:	LWZ	Analytical Batch:	571189
Analysis Date:	10/28/15 Time: 1639	Analytical Method:	EPA 6020A

ANALYTE	***TRUE***	***FOUND***	***%RECOVERY***	***UNITS***
Sodium	100	105	105	ug/L

CONTROL LIMITS 70-130%; EPA 6020A DOD QSM LIMITS 80-120% for INITIAL LLCCV

FORM II - IN

II

CONTINUING CALIBRATION VERIFICATION

Report No:	215102413	GCAL QC ID:	1800
Instrument ID:	ICPMS1	Lab File ID:	2151028A_MS1.b\073_CCV.d
Analyst:	LWZ	Analytical Batch:	571189
Analysis Date:	10/28/15 Time: 1644	Analytical Method:	EPA 6020A

ANALYTE	***TRUE***	***FOUND***	***%RECOVERY***	***UNITS***
Sodium	1000	1030	103	ug/L

CONTROL LIMITS 90-110%

FORM II - IN

II

LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Report No:	215102413	GCAL QC ID:	1803
Instrument ID:	ICPMS1	Lab File ID:	2151028A_MS1.b\093LCCV.d
Analyst:	LWZ	Analytical Batch:	571189
Analysis Date:	10/28/15 Time: 1831	Analytical Method:	EPA 6020A

ANALYTE	***TRUE***	***FOUND***	***%RECOVERY***	***UNITS***
Sodium	100	109	109	ug/L

CONTROL LIMITS 70-130%; EPA 6020A DOD QSM LIMITS 80-120% for INITIAL LLCCV

FORM II - IN

II

CONTINUING CALIBRATION VERIFICATION

Report No:	215102413	GCAL QC ID:	1800
Instrument ID:	ICPMS1	Lab File ID:	2151028A_MS1.b\094_CCV.d
Analyst:	LWZ	Analytical Batch:	571189
Analysis Date:	10/28/15 Time: 1836	Analytical Method:	EPA 6020A

ANALYTE	***TRUE***	***FOUND***	***%RECOVERY***	***UNITS***
Sodium	1000	1050	105	ug/L

CONTROL LIMITS 90-110%

FORM II - IN

Form III

Blanks

III

INITIAL CALIBRATION BLANK

Report No:	215102413	Blank ID:	1700
Instrument ID:	HYDRA	Lab File ID:	HYDRA
Analyst:	LWZ	Analytical Batch:	571083
Analysis Date:	10/27/15 Time: 1108	Analytical Method:	EPA 7470A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Mercury	0.00020	mg/L	U	0.00010	0.00020

FORM III - IN

III

CONTINUING CALIBRATION BLANK

Report No:	215102413	Blank ID:	1900
Instrument ID:	HYDRA	Lab File ID:	HYDRA
Analyst:	LWZ	Analytical Batch:	571083
Analysis Date:	10/27/15 Time: 1253	Analytical Method:	EPA 7470A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Mercury	0.00020	mg/L	U	0.00010	0.00020

FORM III - IN

III
PREPARATION BLANK

Report No:	215102413	Blank ID:	MB1502430
Instrument ID:	HYDRA	Lab File ID:	HYDRA
Analyst:	LWZ	Analytical Batch:	571083
Analysis Date:	10/27/15 Time: 1310	Analytical Method:	EPA 7470A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Mercury	0.00010	mg/L	U	0.00010	0.00020

FORM III - IN

III

CONTINUING CALIBRATION BLANK

Report No:	215102413	Blank ID:	1900
Instrument ID:	HYDRA	Lab File ID:	HYDRA
Analyst:	LWZ	Analytical Batch:	571083
Analysis Date:	10/27/15 Time: 1321	Analytical Method:	EPA 7470A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Mercury	0.00020	mg/L	U	0.00010	0.00020

FORM III - IN

III

CONTINUING CALIBRATION BLANK

Report No:	215102413	Blank ID:	1900
Instrument ID:	HYDRA	Lab File ID:	HYDRA
Analyst:	LWZ	Analytical Batch:	571083
Analysis Date:	10/27/15 Time: 1346	Analytical Method:	EPA 7470A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Mercury	0.00020	mg/L	U	0.00010	0.00020

FORM III - IN

III

CONTINUING CALIBRATION BLANK

Report No:	215102413	Blank ID:	1900
Instrument ID:	HYDRA	Lab File ID:	HYDRA
Analyst:	LWZ	Analytical Batch:	571083
Analysis Date:	10/27/15 Time: 1412	Analytical Method:	EPA 7470A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Mercury	0.00020	mg/L	U	0.00010	0.00020

FORM III - IN

III

INITIAL CALIBRATION BLANK

Report No:	215102413	Blank ID:	1700
Instrument ID:	ICPMS2	Lab File ID:	2151026B_MS2.b\010_ICB_2151027B_MS2.D
Analyst:	AWG	Analytical Batch:	571111
Analysis Date:	10/27/15 Time: 1313	Analytical Method:	EPA 6020A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Aluminum	20.0	ug/L	U	5.00	20.0
Antimony	2.00	ug/L	U	0.50	2.00
Arsenic	1.00	ug/L	U	0.25	1.00
Barium	1.00	ug/L	U	0.25	1.00
Beryllium	1.00	ug/L	U	0.25	1.00
Cadmium	1.00	ug/L	U	0.25	1.00
Calcium	500	ug/L	U	125	500
Chromium	1.00	ug/L	U	0.25	1.00
Cobalt	1.00	ug/L	U	0.25	1.00
Copper	1.00	ug/L	U	0.25	1.00
Iron	100	ug/L	U	25.0	100
Lead	1.00	ug/L	U	0.25	1.00
Magnesium	100	ug/L	U	25.0	100
Manganese	5.00	ug/L	U	1.25	5.00
Nickel	2.00	ug/L	U	0.50	2.00
Potassium	100	ug/L	U	25.0	100
Selenium	1.00	ug/L	U	0.25	1.00
Silver	1.00	ug/L	U	0.25	1.00
Sodium	100	ug/L	U	25.0	100
Thallium	1.00	ug/L	U	0.25	1.00
Vanadium	1.00	ug/L	U	0.25	1.00
Zinc	20.0	ug/L	U	5.00	20.0

FORM III - IN

III

PREPARATION BLANK

Report No:	215102413	Blank ID:	MB1502426
Instrument ID:	ICPMS2	Lab File ID:	2151026B_MS2.b\015SMPL_2151027B_MS2.D
Analyst:	AWG	Analytical Batch:	571111
Analysis Date:	10/27/15 Time: 1332	Analytical Method:	EPA 6020A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Aluminum	0.0050	mg/L	U	0.0050	0.020
Antimony	0.00050	mg/L	U	0.00050	0.0020
Arsenic	0.00025	mg/L	U	0.00025	0.0010
Barium	0.00025	mg/L	U	0.00025	0.0010
Beryllium	0.00025	mg/L	U	0.00025	0.0010
Cadmium	0.00025	mg/L	U	0.00025	0.0010
Calcium	0.13	mg/L	U	0.13	0.50
Chromium	0.00025	mg/L	U	0.00025	0.0010
Cobalt	0.00025	mg/L	U	0.00025	0.0010
Copper	0.00025	mg/L	U	0.00025	0.0010
Iron	0.025	mg/L	U	0.025	0.10
Lead	0.00025	mg/L	U	0.00025	0.0010
Magnesium	0.025	mg/L	U	0.025	0.10
Manganese	0.0013	mg/L	U	0.0013	0.0050
Nickel	0.00050	mg/L	U	0.00050	0.0020
Potassium	0.025	mg/L	U	0.025	0.10
Selenium	0.00025	mg/L	U	0.00025	0.0010
Silver	0.00025	mg/L	U	0.00025	0.0010
Sodium	0.025	mg/L	U	0.025	0.10
Thallium	0.00025	mg/L	U	0.00025	0.0010
Vanadium	0.00025	mg/L	U	0.00025	0.0010
Zinc	0.0050	mg/L	U	0.0050	0.020

FORM III - IN

III
CONTINUING CALIBRATION BLANK

Report No:	215102413	Blank ID:	1900
Instrument ID:	ICPMS2	Lab File ID:	2151026B_MS2.b\031_CCB_2151027B_MS2.D
Analyst:	AWG	Analytical Batch:	571111
Analysis Date:	10/27/15 Time: 1426	Analytical Method:	EPA 6020A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Aluminum	20.0	ug/L	U	5.00	20.0
Antimony	2.00	ug/L	U	0.50	2.00
Arsenic	1.00	ug/L	U	0.25	1.00
Barium	1.00	ug/L	U	0.25	1.00
Beryllium	1.00	ug/L	U	0.25	1.00
Cadmium	1.00	ug/L	U	0.25	1.00
Calcium	500	ug/L	U	125	500
Chromium	1.00	ug/L	U	0.25	1.00
Cobalt	1.00	ug/L	U	0.25	1.00
Copper	1.00	ug/L	U	0.25	1.00
Iron	100	ug/L	U	25.0	100
Lead	1.00	ug/L	U	0.25	1.00
Magnesium	100	ug/L	U	25.0	100
Manganese	5.00	ug/L	U	1.25	5.00
Nickel	2.00	ug/L	U	0.50	2.00
Potassium	100	ug/L	U	25.0	100
Selenium	1.00	ug/L	U	0.25	1.00
Silver	1.00	ug/L	U	0.25	1.00
Sodium	100	ug/L	U	25.0	100
Thallium	1.00	ug/L	U	0.25	1.00
Vanadium	1.00	ug/L	U	0.25	1.00
Zinc	20.0	ug/L	U	5.00	20.0

FORM III - IN

III

INITIAL CALIBRATION BLANK

Report No:	215102413	Blank ID:	1700
Instrument ID:	ICPMS1	Lab File ID:	2151028A_MS1.b\010_ICB.d
Analyst:	LWZ	Analytical Batch:	571189
Analysis Date:	10/28/15 Time: 0954	Analytical Method:	EPA 6020A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Sodium	100	ug/L	U	25.0	100

FORM III - IN

III

CONTINUING CALIBRATION BLANK

Report No:	215102413	Blank ID:	1900
Instrument ID:	ICPMS1	Lab File ID:	2151028A_MS1.b\074_CCB.d
Analyst:	LWZ	Analytical Batch:	571189
Analysis Date:	10/28/15 Time: 1650	Analytical Method:	EPA 6020A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Sodium	100	ug/L	U	25.0	100

FORM III - IN

III

CONTINUING CALIBRATION BLANK

Report No:	215102413	Blank ID:	1900
Instrument ID:	ICPMS1	Lab File ID:	2151028A_MS1.b\092_CCB.d
Analyst:	LWZ	Analytical Batch:	571189
Analysis Date:	10/28/15 Time: 1826	Analytical Method:	EPA 6020A

ANALYTE	RESULT	UNITS	Q	DL	LOQ
Sodium	100	ug/L	U	25.0	100

FORM III - IN

Form IV

Interference Checks

IV
ICPMS INTERFERENCE CHECKS

Report No:	215102413	ICSA \ AB ID:	2000 \ 2100
Instrument ID:	ICPMS2	Analytical Batch:	571111
Analyst:	AWG	Analytical Method:	EPA 6020A
Lab File ID ICSA1:	2151026B_MS2.b\011ICSA_2151027B_MS2.D	Lab File ID ICSAB1:	2151026B_MS2.b\013ICSB_2151027B_MS2.D
Lab File ID ICSA2:		Lab File ID ICSAB2:	

Concentration Units: ug/L

		Analyzed (A/AB):	10/27/15 1317	10/27/15 1324				
ANALYTE	***TRUE A***	***TRUE AB***	***ICSA1***	***ICSAB1***	***%R***	***ICSA2***	***ICSAB2***	***%R***
Aluminum	1000	1000	1030	1050	105			
Antimony	0	0	0.010	0.014				
Arsenic	0	10.0	0.0030	10.4	104			
Barium	0	0	0.023	0.019				
Beryllium	0	0	0.0	0.0010				
Boron	0	20.0	0.84	20.9	104			
Cadmium	0	10.0	0.023	10.5	105			
Calcium	3000	3000	3070	3120	104			
Chromium	0	20.0	0.010	21.3	106			
Cobalt	0	20.0	0.012	21.8	109			
Copper	0	20.0	0.023	21.3	106			
Iron	2500	2500	2540	2560	102			
Lead	0	0	0.0080	0.0080				
Lithium	0	20.0	0.087	21.3	106			
Magnesium	1000	1000	1030	1050	105			
Manganese	0	20.0	0.019	20.1	100			
Molybdenum	20.0	20.0	19.8	20.0	100			
Nickel	0	20.0	0.13	20.8	104			
Potassium	1000	1000	991	1010	101			
Selenium	0	10.0	0.068	10.4	104			
Silicon	0	1000	-5.7	1120	112			
Silver	0	5.00	0.0040	5.13	103			
Sodium	2500	2500	2660	2670	107			
Strontium	0	10.0	0.049	10.3	103			
Thallium	0	0	-0.0010	0.0				
Tin	0	10.0	0.0090	7.60	76			
Titanium	20.0	20.0	20.5	20.1	100			
Vanadium	0	20.0	-0.0080	20.2	101			
Zinc	0	20.0	0.010	20.8	104			
Zirconium	0	20.0	0.0010	19.3	96			

FORM IV - IN

IV
ICPMS INTERFERENCE CHECKS

Report No:	215102413	ICSA \ AB ID:	2000 \ 2100
Instrument ID:	ICPMS1	Analytical Batch:	571189
Analyst:	LWZ	Analytical Method:	EPA 6020A
Lab File ID ICSA1:	2151028A_MS1.b\011ICSA.d	Lab File ID ICSAB1:	2151028A_MS1.b\014ICSB.d
Lab File ID ICSA2:		Lab File ID ICSAB2:	

Concentration Units: ug/L

		Analyzed (A/AB):	10/28/15 0959	10/28/15 1043				
ANALYTE	***TRUE A***	***TRUE AB***	***ICSA1***	***ICSAB1***	***%R***	***ICSA2***	***ICSAB2***	***%R***
Aluminum	1000	1000	1040	1020	102			
Antimony	0	0	0.14	0.032				
Arsenic	0	10.0	0.0080	10.6	106			
Barium	0	0	0.034	0.025				
Beryllium	0	0	0.0020	-0.0010				
Boron	0	20.0	0.72	19.7	98			
Cadmium	0	10.0	0.033	10.1	101			
Calcium	3000	3000	3040	3030	101			
Chromium	0	20.0	0.019	21.1	106			
Cobalt	0	20.0	0.012	21.6	108			
Copper	0	20.0	0.0070	20.5	102			
Iron	2500	2500	2600	2490	100			
Lead	0	0	0.0060	0.0080				
Lithium	0	20.0	0.32	19.7	98			
Magnesium	1000	1000	1030	1020	102			
Manganese	0	20.0	-0.026	20.3	102			
Molybdenum	20.0	20.0	19.3	19.4	97			
Nickel	0	20.0	-0.040	20.4	102			
Potassium	1000	1000	1020	995	100			
Selenium	0	10.0	-0.0050	11.0	110			
Silicon	0	1000	-30	1050	105			
Silver	0	5.00	0.0040	4.83	97			
Sodium	2500	2500	2550	2490	100			
Strontium	0	10.0	0.046	10.1	101			
Thallium	0	0	-0.0030	-0.0060				
Tin	0	10.0	0.0050	9.41	94			
Titanium	20.0	20.0	19.6	19.4	97			
Vanadium	0	20.0	-0.0040	20.3	102			
Zinc	0	20.0	-0.52	19.6	98			
Zirconium	0	20.0	0.037	20.0	100			

FORM IV - IN

Form V1

Matrix Spikes

V1

MS/MSD RECOVERY

Report No:	215102341	Parent Sample ID:	15-151
Prep Method:	3010A	Parent GCAL ID:	21510234102
Prep Date:	10/24/15 Time: 1415	Prep Batch:	570926
Analytical Method:	EPA 1311/6020A	Analytical Batch:	571111

GCAL QC ID:	**1502428 MS**	Instrument ID:	ICPMS2
Analyst:	AWG	Lab File ID:	2151026B_MS2.b\023SMPL_2151027B_MS2.D
Analysis Date:	10/27/15 1359	Dilution:	10

ANALYTE	UNITS	SPIKE ADDED	SAMPLE RESULT	MS RESULT	MS % REC	#	QC LIMITS
Arsenic	mg/L	.5	0	.56	110		80 - 120
Barium	mg/L	.5	.17	.66	99		80 - 120
Cadmium	mg/L	.5	0	.55	109		80 - 120
Chromium	mg/L	.5	.21	.73	103		80 - 120
Lead	mg/L	.5	0	.55	109		80 - 120
Selenium	mg/L	.1	0	.11	113		80 - 120
Silver	mg/L	.5	0	.55	109		80 - 120

GCAL QC ID:	**1502429 MSD**	Instrument ID:	ICPMS2
Analyst:	AWG	Lab File ID:	2151026B_MS2.b\024SMPL_2151027B_MS2.D
Analysis Date:	10/27/15 1402	Dilution:	10

ANALYTE	UNITS	SPIKE ADDED	MSD RESULT	MSD % REC	#	% RPD	#	QC LIMITS %REC	QC LIMITS RPD
Arsenic	mg/L	.5	.56	110		0		80 - 120	0 - 20
Barium	mg/L	.5	.69	104		4		80 - 120	0 - 20
Cadmium	mg/L	.5	.57	115		4		80 - 120	0 - 20
Chromium	mg/L	.5	.75	107		3		80 - 120	0 - 20
Lead	mg/L	.5	.57	113		4		80 - 120	0 - 20
Selenium	mg/L	.1	.12	120		9		80 - 120	0 - 20
Silver	mg/L	.5	.57	114		4		80 - 120	0 - 20

RPD : 0 out of 7 outside limits

Spike Recovery: 0 out of 14 outside limits

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM V (PART 1) - IN

V1

MS/MSD RECOVERY

Report No:	215102413	Parent Sample ID:	15-151
Prep Method:	7470 Prep	Parent GCAL ID:	21510234102
Prep Date:	10/24/15 Time: 1415	Prep Batch:	570927
Analytical Method:	EPA 7470A	Analytical Batch:	571083

GCAL QC ID:	**1502432 MS**	Instrument ID:	HYDRA
Analyst:	LWZ	Lab File ID:	HYDRA
Analysis Date:	10/27/15 1341	Dilution:	1

ANALYTE	UNITS	SPIKE ADDED	SAMPLE RESULT	MS RESULT	MS % REC	#	QC LIMITS
Mercury	mg/L	.005	0	.0051	102		80 - 120

GCAL QC ID:	**1502433 MSD**	Instrument ID:	HYDRA
Analyst:	LWZ	Lab File ID:	HYDRA
Analysis Date:	10/27/15 1349	Dilution:	1

ANALYTE	UNITS	SPIKE ADDED	MSD RESULT	MSD % REC	#	% RPD	#	QC LIMITS %REC	QC LIMITS RPD
Mercury	mg/L	.005	.0053	107		4		80 - 120	0 - 20

RPD : 0 out of 1 outside limits

Spike Recovery: 0 out of 2 outside limits

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM V (PART 1) - IN

Form V2

Post Digestion Spikes

V2

POST DIGEST SPIKE SAMPLE RECOVERY

Report No:	215102413	GCAL PDS ID:	1503085
Matrix:	Solid	Parent Sample ID:	1S-151 (21510234102)
Analyst:	AWG	Instrument ID:	ICPMS2
Analysis Date:	10/27/15 Time: 1406	Lab File ID:	2151026B_MS2.b\025SMPL_2151027B_MS2.D
Analytical Method:	EPA 6020A	Analytical Batch:	571111

ANALYTE	UNITS	SPIKED SAMPLE RESULT	C	SAMPLE RESULT	C	SPIKE ADDED	% R	Q	LCL	UCL
Arsenic	mg/L	5.07		.0099	J	5	101		75	125
Barium	mg/L	4.91		.17		5	95		75	125
Cadmium	mg/L	5.11		0	U	5	102		75	125
Chromium	mg/L	5.27		.21		5	101		75	125
Lead	mg/L	5.01		.005	J	5	100		75	125
Selenium	mg/L	1.06		0	U	1	106		75	125
Silver	mg/L	5.15		0	U	5	103		75	125

FORM V (PART 2) - IN

Form VII

Lab Control Spikes

VII
LABORATORY CONTROL SAMPLE

Report No:	215102413	GCAL LCS ID:	1502427
Matrix:	Water	Instrument ID:	ICPMS2
Analyst:	AWG	Lab File ID:	2151026B_MS2.b\016SMPL_2151027B_MS2.D
Prep Date:	10/24/15 Time: 1415	Analysis Date:	10/27/15 Time: 1335
Prep Batch:		Analytical Batch:	571111
Prep Method:		Analytical Method:	EPA 6020A

ANALYTE	UNITS	TRUE	FOUND	% R	Q	LCL	UCL
Aluminum	mg/L	1.00	1.08	108		80	120
Antimony	mg/L	0.10	0.11	106		80	120
Arsenic	mg/L	0.050	0.051	103		80	120
Barium	mg/L	0.050	0.051	101		80	120
Beryllium	mg/L	0.050	0.053	105		80	120
Cadmium	mg/L	0.050	0.053	105		80	120
Calcium	mg/L	25.0	27.1	108		80	120
Chromium	mg/L	0.050	0.054	108		80	120
Cobalt	mg/L	0.050	0.055	110		80	120
Copper	mg/L	0.050	0.055	110		80	120
Iron	mg/L	5.00	5.45	109		80	120
Lead	mg/L	0.050	0.054	108		80	120
Magnesium	mg/L	5.00	5.59	112		80	120
Manganese	mg/L	0.050	0.054	108		80	120
Nickel	mg/L	0.10	0.11	109		80	120
Potassium	mg/L	5.00	5.18	104		80	120
Selenium	mg/L	0.010	0.0097	97		80	120
Silver	mg/L	0.050	0.053	106		80	120
Sodium	mg/L	5.00	5.53	111		80	120
Thallium	mg/L	0.050	0.054	108		80	120
Vanadium	mg/L	0.050	0.054	107		80	120
Zinc	mg/L	1.00	1.03	103		80	120

FORM VII - IN

VII
LABORATORY CONTROL SAMPLE

Report No:	215102413	GCAL LCS ID:	1502431
Matrix:	Water	Instrument ID:	HYDRA
Analyst:	LWZ	Lab File ID:	HYDRA
Prep Date:	10/24/15 Time: 1415	Analysis Date:	10/27/15 Time: 1312
Prep Batch:	570927	Analytical Batch:	571083
Prep Method:	7470 Prep	Analytical Method:	EPA 7470A

ANALYTE	UNITS	TRUE	FOUND	% R	Q	LCL	UCL
Mercury	mg/L	0.0050	0.0048	97		80	120

FORM VII - IN

Form VIII

Tunes

VIII
ICP-MS TUNE

Report No:	215102413	GCAL QC ID:	1150
Instrument ID:	ICPMS2	Lab File ID:	2151027A_MS2.b\QCTune\2151027A_MS2-QCTu
Analyst:	AWG	Analytical Batch:	571111
Analysis Date:	10/27/15 Time: 0900	Analytical Method:	EPA 6020A

ELEMENT - MASS	***AVG MEASURED MASS (amu)***	***PEAK WIDTH AT PEAK HEIGHT (amu)***	***%RSD***
Be-9	9	.8132	.8138
Mg-24	23.95	.7896	1.014
Mg-25	24.95	.7943	1.1797
Mg-26	25.95	.7899	1.063
Co-59	59	.7881	1.1705
In-115	115.05	.7781	1.8758
Pb-206	206	.7862	.9851
Pb-207	207	.7858	1.2707
Pb-208	208	.8024	.7971

FORM VIII - IN

VIII
ICP-MS TUNE

Report No:	215102413	GCAL QC ID:	1150
Instrument ID:	ICPMS1	Lab File ID:	2151028A_MS1.b\QCTune\2151028A_MS1-QCTu
Analyst:	MAP	Analytical Batch:	571189
Analysis Date:	10/28/15 Time: 0854	Analytical Method:	EPA 6020A

ELEMENT - MASS	AVG MEASURED MASS (amu)	PEAK WIDTH AT PEAK HEIGHT (amu)	%RSD
Be-9	8.95	.7415	.7349
Mg-24	23.9	.7412	.7714
Mg-25	24.95	.7634	.7103
Mg-26	25.9	.7424	.4243
Co-59	58.95	.7743	.3457
In-115	115	.7297	1.7498
Pb-206	205.95	.7869	.9106
Pb-207	206.95	.81	.748
Pb-208	207.95	.7955	.9529

FORM VIII - IN

Form IX

Serial Dilutions

IX
SERIAL DILUTIONS

Report No:	215102413	GCAL SD ID:	1503086
Matrix:	Solid	Parent Sample ID:	1S-151 (21510234102)
Analyst:	AWG	Instrument ID:	ICPMS2
Analysis Date:	10/27/15 Time: 1409	Lab File ID:	2151026B_MS2.b\026SMPL_2151027B_MS2.D
Analytical Method:	EPA 6020A	Analytical Batch:	571111

ANALYTE	UNITS	PARENT SAMPLE RESULT	C	SERIAL DILUTION RESULT	C	% DIFF	Q	LCL	UCL
Arsenic	mg/L	0	U	0	U				
Barium	mg/L	0.17		0	U				
Cadmium	mg/L	0	U	0	U				
Chromium	mg/L	0.21		0	U				
Lead	mg/L	0	U	0	U				
Selenium	mg/L	0	U	0	U				
Silver	mg/L	0	U	0	U				

FORM IX - IN

Form X

MDLs

METHOD DETECTION LIMITS

Lab Name: GCAL

Instrument ID: (MS) ICPMS1/ICPMS2 (AV) HYDRA

Lab Code: LA024

Analyte	*MDL*	*Units*	*Type*
Aluminum	5	ug/L	MS
Antimony	.5	ug/L	MS
Arsenic	.25	ug/L	MS
Barium	.25	ug/L	MS
Boron	2.50	ug/L	MS
Beryllium	.25	ug/L	MS
Cadmium	.25	ug/L	MS
Calcium	125	ug/L	MS
Chromium	.25	ug/L	MS
Cobalt	.25	ug/L	MS
Copper	.25	ug/L	MS
Iron	25	ug/L	MS
Lead	.25	ug/L	MS
Magnesium	25	ug/L	MS
Manganese	1.25	ug/L	MS
Molybdenum	.25	ug/L	MS
Nickel	.5	ug/L	MS
Potassium	25	ug/L	MS
Selenium	.25	ug/L	MS
Silver	.25	ug/L	MS
Sodium	25	ug/L	MS
Thallium	.25	ug/L	MS
Titanium	.25	ug/L	MS
Vanadium	.25	ug/L	MS
Zinc	5	ug/L	MS
Mercury	0.00007	mg/L	AV

FORM X - IN

METHOD DETECTION LIMITS

Lab Name: GCAL

Instrument ID: (MS) ICPMS1/ICPMS2 (AV) HYDRA

Lab Code: LA024

Analyte	*MDL*	*Units*	*Type*
Aluminum	200	ug/kg	MS
Antimony	20	ug/kg	MS
Arsenic	10	ug/kg	MS
Barium	10	ug/kg	MS
Beryllium	10	ug/kg	MS
Cadmium	10	ug/kg	MS
Calcium	5000	ug/kg	MS
Chromium	10	ug/kg	MS
Cobalt	10	ug/kg	MS
Copper	10	ug/kg	MS
Iron	1000	ug/kg	MS
Lead	10	ug/kg	MS
Magnesium	1000	ug/kg	MS
Manganese	50	ug/kg	MS
Nickel	20	ug/kg	MS
Potassium	1000	ug/kg	MS
Selenium	10	ug/kg	MS
Silver	10	ug/kg	MS
Sodium	1000	ug/kg	MS
Thallium	10	ug/kg	MS
Vanadium	10	ug/kg	MS
Zinc	200	ug/kg	MS
Mercury	0.004	mg/kg	AV
Molybdenum	10	ug/kg	MS

FORM X - IN

Form XIII

Preparation Logs

XIII
PREPARATION LOG

Report No: 215102413

Prep Method: EPA 3010A Prep Batch: 570926

CLIENT SAMPLE ID	GCAL SAMPLE ID	PREP DATE	WEIGHT	UNITS	VOLUME	UNITS
1S-151MS	1502428	10/24/15			50	mL
1S-151MSD	1502429	10/24/15			50	mL
305-18MW07	21510241302	10/24/15			50	mL
305-18MW19	21510241303	10/24/15			50	mL
LCS1502427	1502427	10/24/15			50	mL
MB1502426	1502426	10/24/15			50	mL

FORM XIII - IN

XIII
PREPARATION LOG

Report No: 215102413

Prep Method: EPA 7470A Prep Batch: 570927

CLIENT SAMPLE ID	GCAL SAMPLE ID	PREP DATE	WEIGHT	UNITS	VOLUME	UNITS
1S-151MS	1502432	10/24/15			20	mL
1S-151MSD	1502433	10/24/15			20	mL
305-18MW07	21510241302	10/24/15			20	mL
305-18MW19	21510241303	10/24/15			20	mL
LCS1502431	1502431	10/24/15			20	mL
MB1502430	1502430	10/24/15			20	mL

FORM XIII - IN

Form XIV

Run Logs

XIV
ANALYSIS RUN LOG

Report No: 215102413 | Analytical Batch: 571083 | Start Date: 10/27/15

Instrument ID: HYDRA | Analytical Method: EPA 7470A | End Date: 10/27/15

CLIENT SAMPLE ID	GCAL SAMPLE ID	PF	D/F	TIME	Analyte Symbols																														
					Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Li	Mg	Mn	Hg	Mo	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	Ti	V	Zn	Zr
IICALB	1300	*	1	1051																	X														
IICAL1	1301	*	1	1052																	X														
IICAL2	1302	*	1	1054																	X														
IICAL3	1303	*	1	1057																	X														
IICAL4	1304	*	1	1059																	X														
IICAL5	1305	*	1	1102																	X														
ICV	1600	*	1	1105																	X														
ICB	1700	*	1	1108																	X														
CCV	1800	*	1	1251																	X														
CCB	1900	*	1	1253																	X														
MB1502430	1502430	*	1	1310																	X														
LCS1502431	1502431	*	1	1312																	X														
CCV	1800	*	1	1319																	X														
CCB	1900	*	1	1321																	X														
305-18MW07	21510241302	*	1	1333																	X														
305-18MW19	21510241303	*	1	1335																	X														
1S-151MS	1502432	*	1	1341																	X														
CCV	1800	*	1	1343																	X														
CCB	1900	*	1	1346																	X														
1S-151MSD	1502433	*	1	1349																	X														
CCV	1800	*	1	1410																	X														
CCB	1900	*	1	1412																	X														

FORM XIV - IN

XIV
ANALYSIS RUN LOG

Report No: 215102413 | Analytical Batch: 571111 | Start Date: 10/27/15

Instrument ID: ICPMS2 | Analytical Method: EPA 6020A | End Date: 10/27/15

CLIENT SAMPLE ID	GCAL SAMPLE ID	PF	D/F	TIME	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Li	Mg	Mn	Hg	Mo	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	Ti	V	Zn	Zr
					Analyte Symbols																														
ITUNE	1150	*	1	0900	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
IICALB	1300	*	1	1245	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
IICAL2	1302	*	1	1249	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
IICAL4	1304	*	1	1252	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
IICAL5	1305	*	1	1256	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
IICAL6	1306	*	1	1259	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
IICAL1	1301	*	1	1310	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
ICB	1700	*	1	1313	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
ICSA	2000	*	1	1317	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
LLCCV	1803	*	1	1320	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
ICSAB	2100	*	1	1324	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
ICV	1600	*	1	1327	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
MB1502426	1502426	*	1	1332	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
LCS1502427	1502427	*	1	1335	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
305-18MW07	21510241302	*	1	1342	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
305-18MW19	21510241303	*	1	1349	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X			X			X	X	
1S-151MS	1502428	*	10	1359			X	X			X		X				X								X		X								
1S-151MSD	1502429	*	10	1402			X	X			X		X				X								X		X								
1S-151PDS	1503085	*	10	1406			X	X			X		X				X								X		X								
1S-151SD	1503086	*	50	1409			X	X			X		X				X								X		X								
CCB	1900	*	1	1426	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
LLCCV	1803	*	1	1433	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	
CCV	1800	*	1	1436	X	X	X	X	X		X	X	X	X	X	X	X		X	X			X	X	X		X	X		X			X	X	

FORM XIV - IN

XIV
ANALYSIS RUN LOG

Report No: 215102413 | Analytical Batch: 571189 | Start Date: 10/28/15

Instrument ID: ICPMS1 | Analytical Method: EPA 6020A | End Date: 10/28/15

CLIENT SAMPLE ID	GCAL SAMPLE ID	PF	D/F	TIME	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Li	Mg	Mn	Hg	Mo	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	Ti	V	Zn	Zr
					Analyte Symbols																														
ITUNE	1150	*	1	0853																								X							
IICALB	1300	*	1	0923																								X							
IICAL2	1302	*	1	0929																								X							
IICAL4	1304	*	1	0934																								X							
IICAL5	1305	*	1	0939																								X							
IICAL6	1306	*	1	0944																								X							
IICAL1	1301	*	1	0949																								X							
ICB	1700	*	1	0954																								X							
ICSA	2000	*	1	0959																								X							
LLCCV	1803	*	1	1005																								X							
ICSAB	2100	*	1	1043																								X							
ICV	1600	*	1	1048																								X							
LLCCV	1803	*	1	1639																								X							
CCV	1800	*	1	1644																								X							
CCB	1900	*	1	1650																								X							
305-18MW19 DL	21510241303	*	5	1810																								X							
CCB	1900	*	1	1826																								X							
LLCCV	1803	*	1	1831																								X							
CCV	1800	*	1	1836																								X							

FORM XIV - IN

Form XV

Internal Standards

XV (He)

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Report No:	215102413	Start Date:	10/27/15
Instrument ID:	ICPMS2	End Date:	10/27/15
Analytical Method	EPA 6020A	Analytical Batch:	571111

			Internal Standanrds %RI For:													
CLIENT SAMPLE ID	***GCAL SAMPLE ID***	***TIME***	***ISTD1***	***Q***	***ISTD2***	***Q***	***ISTD3***	***Q***	***ISTD4***	***Q***	***ISTD5***	***Q***	***ISTD6***	***Q***	***ISTD7***	***Q***
MB1502426	1502426	1332	97		95		95		97		97		95		97	
LCS1502427	1502427	1335	94		96		94		98		96		96		98	
305-18MW07	21510241302	1342	96		97		96		98		96		96		98	
305-18MW19	21510241303	1349	97		97		96		99		96		97		99	
1S-151MS	1502428	1359	100		102		100		100		100		101		100	
1S-151MSD	1502429	1402	100		101		99		100		99		100		100	
1S-151PDS	1503085	1406	97		100		98		100		98		101		100	
1S-151SD	1503086	1409	101		102		100		100		102		102		101	

ISTD 1: Bismuth (He)
ISTD 2: Germanium (He)
ISTD 3: Indium (He)
ISTD 4: Lutetium (He)
ISTD 5: Rhodium (He)
ISTD 6: Scandium (He)
ISTD 7: Terbium (He)

FORM XV - IN

XV (No Gas)

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Report No:	215102413	Start Date:	10/27/15
Instrument ID:	ICPMS2	End Date:	10/27/15
Analytical Method	EPA 6020A	Analytical Batch:	571111

			Internal Standanrds %RI For:													
CLIENT SAMPLE ID	***GCAL SAMPLE ID***	***TIME***	***ISTD8***	***Q***	***ISTD9***	***Q***	***ISTD10***	***Q***	***ISTD11***	***Q***	***ISTD12***	***Q***	***ISTD13***	***Q***	***ISTD14***	***Q***
MB1502426	1502426	1332	99		97		100		100		97		98		100	
LCS1502427	1502427	1335	98		99		99		101		96		100		101	
305-18MW07	21510241302	1342	94		94		94		95		91		94		95	
305-18MW19	21510241303	1349	100		100		100		101		97		100		102	
1S-151MS	1502428	1359	100		101		101		101		99		101		100	
1S-151MSD	1502429	1402	102		102		102		102		100		104		102	
1S-151PDS	1503085	1406	100		100		101		102		99		102		102	
1S-151SD	1503086	1409	103		103		104		102		103		103		103	

ISTD 8: Bismuth (No Gas)
ISTD 9: Germanium (No Gas)
ISTD 10 Indium (No Gas)
ISTD 11 Lutetium (No Gas)
ISTD 12 Rhodium (No Gas)
ISTD 13 Scandium (No Gas)
ISTD 14 Terbium (No Gas)

FORM XV - IN

XV (He)

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Report No:	215102413	Start Date:	10/28/15
Instrument ID:	ICPMS1	End Date:	10/28/15
Analytical Method	EPA 6020A	Analytical Batch:	571189

			Internal Standanrds %RI For:													
CLIENT SAMPLE ID	***GCAL SAMPLE ID***	***TIME***	***ISTD1***	***Q***	***ISTD2***	***Q***	***ISTD3***	***Q***	***ISTD4***	***Q***	***ISTD5***	***Q***	***ISTD6***	***Q***	***ISTD7***	***Q***
305-18MW19 DL	21510241303	1810	94		95		91		94		95		92		96	

ISTD 1: Bismuth (He)
ISTD 2: Germanium (He)
ISTD 3: Indium (He)
ISTD 4: Lutetium (He)
ISTD 5: Rhodium (He)
ISTD 6: Scandium (He)
ISTD 7: Terbium (He)

FORM XV - IN

XV (No Gas)

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Report No:	215102413	Start Date:	10/28/15
Instrument ID:	ICPMS1	End Date:	10/28/15
Analytical Method	EPA 6020A	Analytical Batch:	571189

			Internal Standanrds %RI For:													
CLIENT SAMPLE ID	***GCAL SAMPLE ID***	***TIME***	***ISTD8***	***Q***	***ISTD9***	***Q***	***ISTD10***	***Q***	***ISTD11***	***Q***	***ISTD12***	***Q***	***ISTD13***	***Q***	***ISTD14***	***Q***
305-18MW19 DL	21510241303	1810	104		100		107		108		102		102		106	

ISTD 8: Bismuth (No Gas)
ISTD 9: Germanium (No Gas)
ISTD 10 Indium (No Gas)
ISTD 11 Lutetium (No Gas)
ISTD 12 Rhodium (No Gas)
ISTD 13 Scandium (No Gas)
ISTD 14 Terbium (No Gas)

FORM XV - IN

ICPMS ICALs

Tune Mode	Mass	Name	ISTD	R	a	b (blank)	DL	BEC	Units
No Gas	7	Li	45 Sc [No Gas]	0.999990877	0.001894211	0.020420264	0.385893683	10.78035107	ppb
No Gas	9	Be	45 Sc [No Gas]	0.999997799	0.00065722	4.27E-06	0.003700946	0.006504422	ppb
No Gas	11	B	45 Sc [No Gas]	0.999999674	0.00043814	8.95E-05	0.025768865	0.204322277	ppb
He	23	Na	45 Sc [He]	0.99999951	0.003921071	0.114696526	1.790582867	29.25132694	ppb
He	24	Mg	45 Sc [He]	0.99999849	0.001771732	0.001242986	0.745876508	0.701565795	ppb
He	27	Al	45 Sc [He]	0.999997645	0.000465849	0.000242482	0.259211821	0.520516224	ppb
He	29	Si	45 Sc [He]	0.999986167	1.54E-05	0.006001185	73.32758671	390.2354269	ppb
He	39	K	45 Sc [He]	0.999998763	0.000964235	0.078031058	15.62500925	80.92531976	ppb
He	44	Ca	45 Sc [He]	0.999998311	5.42E-05	0.002181789	16.02857639	40.24855701	ppb
He	47	Ti	45 Sc [He]	0.999997825	0.000535499	3.30E-06	0.03202375	0.006162974	ppb
He	51	V	72 Ge [He]	0.999995762	0.029625615	0.001917264	0.024158065	0.06471644	ppb
He	52	Cr	72 Ge [He]	0.999999219	0.038468128	0.007144611	0.064303083	0.18572807	ppb
He	55	Mn	72 Ge [He]	0.999999235	0.013846642	0.001310319	0.014179087	0.094630819	ppb
He	57	Fe	72 Ge [He]	0.999999936	0.000710546	0.000406285	1.571051328	0.571793329	ppb
He	59	Co	72 Ge [He]	0.999999961	0.07357453	0.000418503	0.005024094	0.005688151	ppb
He	60	Ni	72 Ge [He]	0.999999834	0.021194461	0.002323096	0.036803254	0.109608629	ppb
He	63	Cu	103 Rh [He]	0.999998289	0.001702515	0.000113811	0.017729719	0.066848538	ppb
He	66	Zn	72 Ge [He]	0.999999942	0.006369673	0.004901476	0.336953978	0.769501973	ppb
He	75	As	72 Ge [He]	0.999998754	0.004410534	5.06E-05	0.002204239	0.011481232	ppb
He	78	Se	45 Sc [He]	0.999999832	0.00013365	2.05E-05	0.085237627	0.153065902	ppb
No Gas	88	Sr	72 Ge [No Gas]	0.999999636	0.028102815	0.000636074	0.009649737	0.022633819	ppb
No Gas	90	Zr	72 Ge [No Gas]	0.999939627	0.019641986	0.000210863	0.005783277	0.010735329	ppb
No Gas	95	Mo	115 In [No Gas]	0.999993742	0.001068575	1.84E-06	0.003550285	0.001721279	ppb
No Gas	107	Ag	115 In [No Gas]	0.999994559	0.002541842	1.58E-05	0.004003154	0.006207767	ppb
No Gas	111	Cd	115 In [No Gas]	0.999996852	0.000516583	1.34E-06	0.003564056	0.002601517	ppb
No Gas	118	[Sn]	115 In [No Gas]	0.999993842	0.001555567	5.79E-05	0.026689352	0.037217296	ppb
He	118	[Sn]	115 In [He]	0.999996689	0.002223623	8.18E-05	0.042990753	0.036788185	ppb
He	120	Sn	115 In [He]	0.999993221	0.003265413	0.000114858	0.013219868	0.035174201	ppb
No Gas	121	Sb	115 In [No Gas]	0.99998954	0.002363346	7.92E-05	0.004526039	0.033525235	ppb
No Gas	137	Ba	115 In [No Gas]	0.999999778	0.000742796	1.35E-05	0.005995495	0.018213317	ppb
He	156	[Se]	115 In [He]						ppb
No Gas	205	Tl	209 Bi [No Gas]	0.999992094	0.005290563	4.90E-05	0.002166029	0.009264289	ppb
No Gas	206	[Pb]	209 Bi [No Gas]	0.999999782	0.001765104	1.87E-05	0.011350183	0.010601933	ppb
No Gas	207	[Pb]	209 Bi [No Gas]	0.999998673	0.001573988	1.33E-05	0.012285366	0.008455618	ppb
No Gas	208	Pb	209 Bi [No Gas]	0.999997217	0.007211859	6.68E-05	0.001570415	0.009264309	ppb
No Gas	45	Sc							ppb
He	45	Sc							ppb
No Gas	72	Ge							ppb
He	72	Ge							ppb
No Gas	103	Rh							ppb
He	103	Rh							ppb
No Gas	115	In							ppb
He	115	In							ppb
No Gas	159	Tb							ppb
He	159	Tb							ppb
No Gas	175	Lu							ppb
He	175	Lu							ppb
No Gas	209	Bi							ppb
He	209	Bi							ppb

Tune Step	Mass	Name	R	a	b (blank)	DL	BEC	Units
1	7	Li	0.999989864	0.002618136	0.024820066	0.209566586	9.480052644	ppb
1	9	Be	0.999997091	0.000764874	5.60E-07	0.002002331	0.000732295	ppb
1	11	B	0.999997995	0.000545784	0.000312415	0.077840421	0.572414326	ppb
2	23	Na	0.999999868	0.004358396	0.065151505	2.357273724	14.94850531	ppb
2	24	Mg	0.999999641	0.002230307	0.000288805	0.18244405	0.12949132	ppb
2	27	Al	0.999999569	0.000757693	0.000460441	0.197390822	0.607687896	ppb
2	29	Si	0.99989446	2.05E-05	0.001572238	13.42126812	76.81832095	ppb
2	39	K	0.999994408	0.001334046	0.053691657	5.865080053	40.24724241	ppb
2	44	Ca	0.999999867	7.40E-05	0.000761141	10.23024119	10.28711523	ppb
2	47	Ti	0.999999962	0.000581852	5.78E-06	0.025833493	0.009942218	ppb
2	51	V	0.999992178	0.031684683	0.000843598	0.013342238	0.026624774	ppb
2	52	Cr	0.999998615	0.04091879	0.002333743	0.023319667	0.05703352	ppb
2	55	Mn	0.999999163	0.019486433	0.000572396	0.018898239	0.029374073	ppb
2	57	Fe	0.999999706	0.000834591	0.000409033	0.67987705	0.490100187	ppb
2	59	Co	0.999999969	0.073497184	0.000327382	0.002978318	0.00445435	ppb
2	60	Ni	0.999995281	0.020671574	0.001306595	0.05118346	0.063207316	ppb
2	63	Cu	0.999987385	0.039805555	0.0012949	0.006720165	0.032530643	ppb
2	66	Zn	0.999999221	0.007149926	0.001773311	0.107042466	0.24801813	ppb
2	75	As	0.999999953	0.004101363	3.29E-05	0.018871688	0.008013013	ppb
2	78	Se	0.999996005	0.00024176	5.23E-05	0.238917378	0.216275224	ppb
1	88	Sr	0.999999904	0.040157527	0.000550682	0.00212716	0.013713034	ppb
1	90	Zr	0.999990576	0.026928907	0.000252487	0.001701429	0.009376066	ppb
1	95	Mo	0.999996531	0.001179252	5.45E-06	0.003153864	0.004617897	ppb
1	107	Ag	0.999998922	0.002787144	2.69E-05	0.002745909	0.009635863	ppb
1	111	Cd	0.999999789	0.000594934	1.26E-06	0.002206253	0.002121487	ppb
1	118	(Sn)	0.999997007	0.00180632	4.51E-05	0.010281897	0.024960559	ppb
2	118	(Sn)	0.999998187	0.002454328	6.92E-05	0.008688516	0.028210773	ppb
2	120	Sn	0.999993994	0.003578555	0.000107538	0.024929708	0.030050728	ppb
1	121	Sb	0.999999532	0.002257664	6.34E-05	0.004898874	0.028094253	ppb
1	137	Ba	0.999978214	0.000904457	1.09E-05	0.002550615	0.012054011	ppb
2	156	[Se]						ppb
1	205	Tl	0.999999147	0.0059788	1.50E-05	0.003273656	0.00251506	ppb
1	206	(Pb)	0.999999237	0.00211189	1.82E-05	0.011312554	0.008603479	ppb
1	207	(Pb)	0.99999997	0.001822173	1.04E-05	0.003829676	0.005681521	ppb
1	208	Pb	0.999999928	0.008392676	7.05E-05	0.004126795	0.008401646	ppb
1	45	Sc						ppb
2	45	Sc						ppb
1	72	Ge						ppb
2	72	Ge						ppb
1	103	Rh						ppb
2	103	Rh						ppb
1	115	In						ppb
2	115	In						ppb
1	159	Tb						ppb
2	159	Tb						ppb
1	175	Lu						ppb
2	175	Lu						ppb
1	209	Bi						ppb
2	209	Bi						ppb

PrepSheets

ICP SAMPLE PREPARATION FORM

EXTRACTION DATE/TIME:	Start: 14:13 End: 16:13	BATCH NO:	570926
MATRIX:	WATER ☑ SOIL ☐ TCLP EXT ☐ ORGANIC ☐	METHOD:	200.0 ☐ 200.7 ☐ 3010A ☑ 3050B ☐ 3051 ☐

	CLIENT	CLIENT ID	GCAL ID	INITIAL VOL/WT mL g	FINAL VOLUME (mL)	SAMPLE TYPE	COMMENTS	REAGENTS/ STANDARDS
1	QC ACCOUNT	MB for HBN 570926 [DIGM/40014]	1502426	50	50	MB		HNO3
2	QC ACCOUNT	LCS for HBN 570926 [DIGM/40014	1502427			LCS		301-1-10
3	4747	MA02MW001D	21510230416			SAMPLE		HCL
4	4747	MA02MW001D-a	21510230417			FLDDUP		2172598
5	4747	MWQ-24	21510230419			SAMPLE		H2O2
6	4760	SS125-WC-03S_1015	21510241006			SAMPLE		
7	4271	DP02	21510241201			SAMPLE		SOLID MATERIAL:
8	4271	DP01	21510241202			SAMPLE		
9	4271	DP03	21510241203			SAMPLE		DPHS Spk 2D172836
10	4476	305-18MW07	21510241302			SAMPLE		
11	4476	305-18MW19	21510241303			SAMPLE		DPHSA Spk 2D172836
12	4154	VB-042515	21510234101	5mL		SAMPLE		
13	4154	1S-151	21510234102	5mL		SAMPLE		DPHSC Spk 2D172848
14	QC ACCOUNT	1S-151(1502210MS)	1502428			MS		
15	QC ACCOUNT	1S-151(1502210MSD)	1502429			MSD		DPHSSL Spk 2D172453
16	4423	14F-622 HTU2	21510234401	5mL		SAMPLE		
17	4423	14F-201-HTU2	21510234402	5mL		SAMPLE		SPIKING SOLUTIONS (LCS/MS)
18	4423	14F-101 HTU2	21510234403	5mL		SAMPLE		
19	4423	HTU1-CHLO ABS CAT	21510234404	5mL		SAMPLE		GCALI-1 - 250uL
20								
21								GCALI-2 - 250uL
22								
23								ORGANOMETALLIC ICP SPIKE 0.025g
24								
25								
26								
27								
28								

COMMENTS:

BALANCE ID: _____ TEMP: 93°

BLOCK ID	TECHNICIAN	DATE
47 1514	JEL	10-24-15
REPIPET BOTTLES VERIFIED	REVIEW	DATE
N/A	AWG	10/27/15

Revision 1, 08/10/2010

HG SAMPLE PREPARATION FORM

EXTRACTION DATE/TIME:	Start: 14:13 End: 16:15	BATCH NO:	570927
MATRIX:	WATER ☑ SOIL ☐ TCLP EXT ☐ ORGANIC ☐	METHOD:	245.2 ☐ 7470A ☑ 7471B ☐

	CLIENT	CLIENT ID	GCAL ID	INITIAL VOL/WT mL g	FINAL VOLUME (mL)	SAMPLE TYPE	COMMENTS	REAGENTS/ STANDARDS
1	QC ACCOUNT	MB for HBN 570927 [DIGM/40015]	1502430	20	20	MB		HNO3
2	QC ACCOUNT	LCS for HBN 570927 [DIGM/40015	1502431			LCS		7124371
3	4271	LB-3M	21510234601			SAMPLE		H2SO4
4	4747	MA02MW001D	21510230416			SAMPLE		7173058
5	4747	MA02MW001D-a	21510230417			FLDDUP		Aqua Regia
6	4747	MWQ-24	21510230419			SAMPLE		
7	4271	DP02	21510241201			SAMPLE		KMN04
8	4271	DP01	21510241202			SAMPLE		726203
9	4271	DP03	21510241203			SAMPLE		K2S2O6
10	4476	305-18MW07	21510241302			SAMPLE		726204
11	4476	305-18MW19	21510241303			SAMPLE		Hg Calib ID
12	4154	VB-042515	21510234101			SAMPLE		
13	4154	1S-151	21510234102			SAMPLE		0.1 ppm CCV Working Solution
14	QC ACCOUNT	1S-151(1502210MS)	1502432			MS		
15	QC ACCOUNT	1S-151(1502210MSD)	1502433			MSD		0.1 ppm ICV Working Solution
16	4423	14F-622 HTU2	21510234401			SAMPLE		
17	4423	14F-201-HTU2	21510234402			SAMPLE		Hg ICV
18	4423	14F-101 HTU2	21510234403			SAMPLE		
19	4423	HTU1-CHLO ABS CAT	21510234404	✓	✓	SAMPLE		SPIKE SOLUTIONS (LCS/MS)
20								
21								Hg Spike 1000uL/ 1500ul 726-03
22								
23								ORGANOMETALLIC HG SPIKE 0.025g
24								
25								SOLID MATERIAL:
26								

Hg Solid Calibration

Calib Blk	Conc (ug/L)	0.1ppm Spk Added	Final Volume
Standard 1	0.20	60 uL	30mL
Standard 2	0.50	150 uL	30 mL
Standard 3	2.00	600 uL	30 mL
Standard 4	5.00	1500 ul	30 mL
Standard 5	10.0	3000 uL	30 mL
ICV	5.00	1500 uL	30 mL

Hg Water Calibration

Calib Blk	Conc (ug/L)	0.1ppm Spk Added	Final Volume
Standard 1	0.20	40 uL	20 mL
Standard 2	0.50	100 uL	20 mL
Standard 3	2.00	400 uL	20 mL
Standard 4	5.00	1000 ul	20 mL
Standard 5	10.0	2000 uL	20 mL
ICV	5.00	1000 uL	20 mL

BLOCK ID	TECHNICIAN	DATE
A2 B0B0L9	JCL	10-24-15
REPIPET BOTTLES VERIFIED	**REVIEW**	**DATE**
N/A	AWG	10/27/15

BALANCE ID: _____ TEMP: 93°

Revision 1, 08/10/2010

GCAL ANALYTICAL LABORATORIES, LLC

CHAIN OF CUSTODY RECORD

7979 Innovation Park Dr., Baton Rouge, LA 70820-7402
Phone: 225.769.4900 • Fax: 225.767.5717 • www.gcal.com

Client ID: 4476 - Parsons
SDG: 215102413
PM: RCH2

Report to:
Client: PARSONS
Address: 3577 PARKWAY LANE S-100
NORCROSS, GA 30092
Contact: ANGIE WELCH
Phone: 404-803-3791
E-mail: Angie.Welch@parsons.com

Bill to:
Client: PARSONS
Address:
Contact: STEPHANIE BLISS
Phone: 801-572-5999
E-mail: Stephanie.Bliss@parsons.com

P.O. Number:
Project Name/Number: FT. BRAGG - SITE 305
Sampled By: HUGH / MANGLONA / TOPLY

GCAL use only:
Custody Seal used ☐ yes ☐ no
intact ☐ yes ☐ no
Temperature °C 1.1 E24
3.3, 5.3
☐ Dissolved Analysis Requested
☐ Field filtered
☐ Lab filtered

Analytical Requests & Method

Matrix[1]	Date	Time (2400)	Comp	Grab	Sample Description	No Containers	VOCs SW8260B (HCL)	TAL METALS (HNO3)									Preservative
W	10/23/15	07:30		X	TB-102315-04	3	X										
W	10/23/15	14:25		X	305-18MW07	4	X	X									
W	10/23/15	14:05		X	305-18MW19	4	X	X									

Air Bill No: 8053 1078 4829

Turn Around Time (Business Days): ☐ 24h* ☐ 48h* ☐ 3 days* ☐ 1 week* ☒ Standard (Per Contract/Quote)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
[signature]	10/23/15	15:00	FEDEX	10/23/15	15:00
FedEx	10/24/15	1000	[signature]	10/24/15	1000

Note:
By submitting these samples, you agree to GCAL's terms and conditions contained in our most recent schedule of services.

Matrix[1]: W = water, S = solid, L = liquid, T = tissue
*Requires prior approval, rush charges may apply.
We cannot accept verbal changes. Please email written changes to your PM.

WHITE: CLIENT FINAL REPORT - CANARY: CLIENT

GCAL ANALYTICAL LABORATORIES, LLC

SAMPLE RECEIVING CHECKLIST

215102413

SAMPLE DELIVERY GROUP 215102413

Client PM RCH2 4476 - Parsons	**Transport Method** FEDEX
Profile Number 243150	**Received By** Saucier, Charlotte M.
Line Item(s) 6 - Water RCRA	**Receive Date(s)** 10/24/15

CHECKLIST	YES	NO	NA
Were all samples received using proper thermal preservation?	☑	☐	☐
When used, were all custody seals intact?	☑	☐	☐
Were all samples received in proper containers?	☑	☐	☐
Were all samples received using proper chemical preservation?	☑	☐	☐
Was preservative added to any container at the lab?	☐	☑	☐
Were all containers received in good condition?	☑	☐	☐
Were all VOA vials received with no head space?	☑	☐	☐
Do all sample labels match the Chain of Custody?	☑	☐	☐
Did the Chain of Custody list the sampling technician?	☑	☐	☐
Was the COC maintained i.e. all signatures, dates and time of receipt included?	☑	☐	☐

COOLERS

Airbill	Thermometer ID: E24	Temp(°C)
8053 1078 4829		1.1
		3.3
		5.3

DISCREPANCIES

None

LAB PRESERVATIONS

None

NOTES

APPENDIX C
GROUNDWATER SAMPLING RECORDS

GROUNDWATER SAMPLING RECORD

SWMU / Site Number: 305
Well/Sample ID: 305-18MW07
Project Number: 748776
Sampling Crew: HUEY

Project: Fort Bragg Remediations Services

Weather: SUNNY LOW 70's
Background PID: 0 (ppm) Well Headspace: 0 (ppm)

Depth to Water: 21.19
Total Depth: 32.50
Depth to LNAPL: NA
Date Purged: 10-23-15

Datum for Measurement: TOC
Casing Diameter: 2"
Casing Volume:
Purge Method: Bailer, (Peristaltic Pump) Bladder Pump, other (circle)

Direct-Reading Meter Measurements:

Time	Vol. Purged (liters)	Pumping Rate (mL/min	Temp (°C)	pH (SU)	Electrical Conductivity (µs/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)	Visual Appearance	Water Level
13:54	1.5	180	23.68	5.06	224	4.62	109.5	1.78	CLEAR	21.21
13:59	2.4	180	23.30	4.81	220	4.21	109.9	1.13	"	21.23
14:04	3.3	180	23.11	4.80	219	4.00	107.5	0.91	"	21.25
14:09	4.2	180	23.05	4.80	219	3.90	107.1	0.96	"	21.26
14:14	5.1	180	22.94	4.85	219	3.68	104.7	1.56	"	21.28
14:19	6.0	180	22.95	4.91	220	3.62	105.3	1.23	"	21.29
14:24	6.9	180	22.94	4.92	220	3.57	105.2	1.19	"	21.30

Date Sampled: 10-23-15
MS/MSD Collected? NO
Duplicate Sample ID: NO

Time Sampled: 14:25
Parameters: —
Duplicate Date/Time: —

Laboratory Analytical Methods:

VOCs (SW8260B)	3	(3-40 ml VOA vials w/ HCL)
SVOCs (8270C)		(2-1L Amber)
EPH		(2-1L Amber w/ HCL)
VPH		(2-40ml VOA w/ HCL)
PAHs (8310)		(2-1L Amber)
TNL ~~RCRA~~ Metals (6010B/7470)	1	(1-500 mL poly w/HNO3)
Pesticides/PCB (8081/8082)		(2-1L Amber)
Chloride & Sulfate (E300.1)		(1-250 poly)
Methane, Ethane, Ethene (AM-20)		(3-40mL VOA vials w/HCL)
Nitrate + Nitrite as N (E353.2)		(1-250mL poly)
Total Organic Carbon (SW9060)		(2-40 mL VOA amber vials w/HCL)
Total Containers:	4	

Field Geochemistry:	**Results:**	**Method/Comments:**
Ferrous Iron:		
Sulfide:		
CO_2:		
Alkalinity:		
Manganese:		
Nitrite:		
Other:		

Notes (i.e. Wellhead Condition, Repairs, etc.):

GROUNDWATER SAMPLING RECORD

SWMU / Site Number: 305
Well/Sample ID: 305-MW4-01
Project Number: 748776
Sampling Crew: HUEY

Project: Fort Bragg Remediations Services

Weather: SUNNY LOW 70's
Background PID: 0 (ppm) Well Headspace: 0.1 (ppm)

Depth to Water: 17.41
Total Depth: 31.20
Depth to LNAPL: NA
Date Purged: 10-22-15

Datum for Measurement: TOC
Casing Diameter: 2"
Casing Volume:
Purge Method: Bailer, Peristaltic Pump, Bladder Pump, other (circle)

Direct-Reading Meter Measurements:

Time	Vol. Purged (liters)	Pumping Rate (mL/min	Temp (°C)	pH (SU)	Electrical Conductivity (µs/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)	Visual Appearance	Water Level
13:55	0.9	180	22.62	6.06	81	1.21	102.0	8.97	CLEAR	17.49
14:00	1.8	180	22.43	6.03	77	0.91	92.7	8.85	"	17.50
14:05	2.7	180	22.66	6.07	78	0.80	39.8	8.01	"	17.51
14:10	3.6	180	22.65	6.09	78	0.80	36.8	7.45	"	17.51
14:15	4.5	180	22.60	6.13	79	0.74	33.6	7.47	"	17.52
14:20	5.4	180	22.66	6.20	81	0.71	30.9	6.97	"	17.53
14:25	6.3	180	22.61	6.22	82	0.70	29.4	6.85	"	17.54
14:30	7.2	180	22.63	6.25	83	0.67	28.4	6.33	"	17.54
14:35	8.1	180	22.65	6.30	83	0.66	~~26.9~~ 27.9	6.95	"	17.55

Date Sampled: 10-22-15
MS/MSD Collected? NO
Duplicate Sample ID: NO

Time Sampled: 14:37
Parameters: —
Duplicate Date/Time: —

Laboratory Analytical Methods:

VOCs (SW8260B)	3	(3-40 ml VOA vials w/ HCL)
SVOCs (8270C)		(2-1L Amber)
EPH		(2-1L Amber w/ HCL)
VPH		(2-40ml VOA w/ HCL)
PAHs (8310)		(2-1L Amber)
TAL ~~RCRA~~ Metals (6010B/7470)	1	(1-500 mL poly w/HNO3)
Pesticides/PCB (8081/8082)		(2-1L Amber)
Chloride & Sulfate (E300.1)		(1-250 poly)
Methane, Ethane, Ethene (AM-20)		(3-40mL VOA vials w/HCL)
Nitrate + Nitrite as N (E353.2)		(1-250mL poly)
Total Organic Carbon (SW9060)		(2-40 mL VOA amber vials w/HCL)
Total Containers:	4	

Field Geochemistry:	Results:	Method/Comments:
Ferrous Iron:		
Sulfide:		
CO_2:		
Alkalinity:		
Manganese:		
Nitrite:		
Other:		

Notes (i.e. Wellhead Condition, Repairs, etc.):

GROUNDWATER SAMPLING RECORD

SWMU / Site Number: 305
Well/Sample ID: 305-MW4-13
Project Number: 748776
Sampling Crew: Huey

Project: Fort Bragg Remediations Services

Weather: SUNNY LOW 60's
Background PID: 0 (ppm) Well Headspace: 0 (ppm)

Depth to Water: 20.12
Total Depth: 27.60
Depth to LNAPL: NA
Date Purged: 10-22-15

Datum for Measurement: TOC
Casing Diameter: 2"
Casing Volume:
Purge Method: Bailer, Peristaltic Pump, Bladder Pump, other (circle)

Direct-Reading Meter Measurements:

Time	Vol. Purged (liters)	Pumping Rate (mL/min	Temp (°C)	pH (SU)	Electrical Conductivity (µs/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)	Visual Appearance	Water Level
1055	0.9	180	23.32	5.62	152	3.53	124.4	7.59	CLEAR	20.15
11:00	1.8	180	23.47	5.62	155	3.27	123.4	5.66	"	20.16
11:05	2.7	180	23.53	5.71	149	2.91	122.2	5.12	"	20.16
11:10	3.6	180	23.60	5.75	147	2.37	121.5	4.64	"	20.17
11:15	4.5	180	23.70	5.77	147	2.28	121.4	4.51	"	20.17
11:20	5.4	180	23.71	5.82	146	2.22	121.0	3.87	"	20.18

Date Sampled: 10-22-15
MS/MSD Collected? NO
Duplicate Sample ID: NO

Time Sampled: 11:22
Parameters: —
Duplicate Date/Time: —

Laboratory Analytical Methods:

VOCs (SW8260B)	3	(3-40 ml VOA vials w/ HCL)
SVOCs (8270C)		(2-1L Amber)
EPH		(2-1L Amber w/ HCL)
VPH		(2-40ml VOA w/ HCL)
PAHs (8310)		(2-1L Amber)
TAL ~~RCRA~~ Metals (6010B/7470)	1	(1-500 mL poly w/HNO3)
Pesticides/PCB (8081/8082)		(2-1L Amber)
Chloride & Sulfate (E300.1)		(1-250 poly)
Methane, Ethane, Ethene (AM-20)		(3-40mL VOA vials w/HCL)
Nitrate + Nitrite as N (E353.2)		(1-250mL poly)
Total Organic Carbon (SW9060)		(2-40 mL VOA amber vials w/HCL)

Total Containers: 4

Field Geochemistry:	**Results:**	**Method/Comments:**
Ferrous Iron:		
Sulfide:		
CO_2:		
Alkalinity:		
Manganese:		
Nitrite:		
Other:		

Notes (i.e. Wellhead Condition, Repairs, etc.): VERIFIED pH READINGS WITH OTHER METER 11:05 pH - 5.7
11:15 pH - 5.8

GROUNDWATER SAMPLING RECORD

SWMU / Site Number: 305
Well/Sample ID: 305-MW4-14
Project Number: 748776
Sampling Crew: HUGY

Project: Fort Bragg Remediations Services

Weather: SUNNY LOW 50°
Background PID: 0 (ppm) Well Headspace: 0 (ppm)

Depth to Water: 20.25
Total Depth: 27.00
Depth to LNAPL: NA
Date Purged: 10-22-15

Datum for Measurement: TOC
Casing Diameter: 2"
Casing Volume:
Purge Method: Bailer, Peristaltic Pump, Bladder Pump, other (circle)

Direct-Reading Meter Measurements:

Time	Vol. Purged (liters)	Pumping Rate (mL/min	Temp (°C)	pH (SU)	Electrical Conductivity (µs/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)	Visual Appearance	Water Level
08:20	0.9	180	20.46	7.20	~~cb~~ 597	5.31	89.6	0.52	CLEAR	20.27
08:25	1.8	180	21.15	7.20	565	5.08	91.3	0.29	"	20.27
08:30	2.7	180	21.03	7.27	524	2.85	90.8	1.28	"	20.28
08:35	3.6	180	21.11	7.30	516	2.79	84.3	1.33	"	20.28
08:40	4.5	180	21.15	7.37	500	2.69	88.6	1.26	"	20.28
08:45	5.4	180	21.24	7.38	497	2.61	89.2	1.12	"	20.29
08:50	6.3	180	21.26	7.39	496	2.60	87.2	1.19	"	20.29

Date Sampled: 10-22-15
MS/MSD Collected? NO
Duplicate Sample ID: 305-MW4-140

Time Sampled: 08:52
Parameters: —
Duplicate Date/Time: 10/22/15 09:10

Laboratory Analytical Methods:

VOCs (SW8260B)	3 + 3	(3-40 ml VOA vials w/ HCL)
SVOCs (8270C)		(2-1L Amber)
EPH		(2-1L Amber w/ HCL)
VPH		(2-40ml VOA w/ HCL)
PAHs (8310)		(2-1L Amber)
TAL ~~RCRA~~ Metals (6010B/7470)	1 + 1	(1-500 mL poly w/HNO3)
Pesticides/PCB (8081/8082)		(2-1L Amber)
Chloride & Sulfate (E300.1)		(1-250 poly)
Methane, Ethane, Ethene (AM-20)		(3-40mL VOA vials w/HCL)
Nitrate + Nitrite as N (E353.2)		(1-250mL poly)
Total Organic Carbon (SW9060)		(2-40 mL VOA amber vials w/HCL)

Total Containers: 8

Field Geochemistry:	Results:	Method/Comments:
Ferrous Iron:		
Sulfide:		
CO_2:		
Alkalinity:		
Manganese:		
Nitrite:		
Other:		

Notes (i.e. Wellhead Condition, Repairs, etc.):

GROUNDWATER SAMPLING RECORD

SWMU / Site Number: 305
Well/Sample ID: 305-18MW16
Project Number: 748776
Sampling Crew: HUEY

Project: Fort Bragg Remediations Services

Weather: SUNNY HIGH 70's
Background PID: 0 (ppm) Well Headspace: 0.2 (ppm)

Depth to Water: 17.79
Total Depth: 28.10
Depth to LNAPL: NA
Date Purged: 10-22-15

Datum for Measurement: TOC
Casing Diameter: 2"
Casing Volume:
Purge Method: Bailer, (Peristaltic Pump), Bladder Pump, other (circle)

Direct-Reading Meter Measurements:

Time	Vol. Purged (liters)	Pumping Rate (mL/min	Temp (°C)	pH (SU)	Electrical Conductivity (µs/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)	Visual Appearance	Water Level
15:16	0.9	180	23.39	5.67	203	4.27	150.3	50.1	CLOUDY	17.84
15:21	1.8	180	23.30	5.66	204	4.10	147.6	16.3	SLIGHTLY CLEARER	17.85
15:26	2.7	180	23.11	5.73	200	3.30	128.7	21.0	"	17.86
15:31	3.6	180	23.15	5.72	200	3.12	126.2	18.5	"	17.86
15:36	4.5	180	23.16	5.76	200	3.15	125.9	18.6	"	17.88
15:41	5.4	180	23.17	5.80	200	3.19	124.1	17.8	"	17.89
15:46	6.3	180	23.19	5.81	200	3.16	124.0	17.3	"	17.90

Date Sampled: 10-22-15
MS/MSD Collected? NO
Duplicate Sample ID: NO

Time Sampled: 15:48
Parameters: —
Duplicate Date/Time: —

Laboratory Analytical Methods:

VOCs (SW8260B)	3+3	(3-40 ml VOA vials w/ HCL)
SVOCs (8270C)		(2-1L Amber)
EPH		(2-1L Amber w/ HCL)
VPH		(2-40ml VOA w/ HCL)
PAHs (8310)		(2-1L Amber)
TAL ~~RCRA~~ Metals (6010B/7470)	1+1	(1-500 mL poly w/HNO3)
Pesticides/PCB (8081/8082)		(2-1L Amber)
Chloride & Sulfate (E300.1)		(1-250 poly)
Methane, Ethane, Ethene (AM-20)		(3-40mL VOA vials w/HCL)
Nitrate + Nitrite as N (E353.2)		(1-250mL poly)
Total Organic Carbon (SW9060)		(2-40 mL VOA amber vials w/HCL)

Total Containers: 4+4=8

Field Geochemistry:	**Results:**	**Method/Comments:**
Ferrous Iron:		
Sulfide:		
CO_2:		
Alkalinity:		
Manganese:		
Nitrite:		
Other:		

Notes (i.e. Wellhead Condition, Repairs, etc.): EQUIPMENT BLANK COLLECTED BEFORE PURGING THIS WELL EB-102215-03 @ 14:55

GROUNDWATER SAMPLING RECORD

SWMU / Site Number: 305
Well/Sample ID: 305-18MW19
Project Number: 748776
Sampling Crew: MANGLONA

Project: Fort Bragg Remediations Services

Weather: SUNNY LOW 70's
Background PID: 0 (ppm) Well Headspace: 0 (ppm)

Depth to Water: 7.86
Total Depth: 21.20
Depth to LNAPL: NA
Date Purged: 10-23-15

Datum for Measurement: TOC
Casing Diameter: 2"
Casing Volume:
Purge Method: Bailer, (Peristaltic Pump), Bladder Pump, other (circle)

Direct-Reading Meter Measurements:

Time	Vol. Purged (liters)	Pumping Rate (mL/min	Temp (°C)	pH (SU)	Electrical Conductivity (µs/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)	Visual Appearance	Water Level
13:25	2.0	200	19.28	5.21	118	2.06	186.5	36.7	clear	7.86
13:35	3.0	↓	19.12	4.62	115	1.59	202.7	21.2	"	"
13:45	4.0		19.02	4.59	112	1.43	203.5	12.0	"	7.86
13:50	5.0		18.96	4.58	110	1.36	204.1	9.0	"	"
13:55	6.0		18.94	4.59	109	1.31	205.9	8.75	"	"
14:00	7.0	↓	18.92	4.58	108	1.26	207.0	6.58	"	"

Date Sampled: 10.23.15
MS/MSD Collected? NO
Duplicate Sample ID: NO

Time Sampled: 1405
Parameters: —
Duplicate Date/Time: —

Laboratory Analytical Methods:

VOCs (SW8260B)	3	(3-40 ml VOA vials w/ HCL)
SVOCs (8270C)		(2-1L Amber)
EPH		(2-1L Amber w/ HCL)
VPH		(2-40ml VOA w/ HCL)
PAHs (8310)		(2-1L Amber)
FAL ~~RCRA~~ Metals (6010B/7470)	1	(1-500 mL poly w/HNO3)
Pesticides/PCB (8081/8082)		(2-1L Amber)
Chloride & Sulfate (E300.1)		(1-250 poly)
Methane, Ethane, Ethene (AM-20)		(3-40mL VOA vials w/HCL)
Nitrate + Nitrite as N (E353.2)		(1-250mL poly)
Total Organic Carbon (SW9060)		(2-40 mL VOA amber vials w/HCL)
Total Containers:	4	

Field Geochemistry:	Results:	Method/Comments:
Ferrous Iron:		
Sulfide:		
CO_2:		
Alkalinity:		
Manganese:		
Nitrite:		
Other:		

Notes (i.e. Wellhead Condition, Repairs, etc.):